

## Some Rorschach Data Comparing Schizophrenics With Borderline and Schizotypal Personality Disorders

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The Rorschach data from 84 borderline personality disorders and 76 schizotypal personality disorders, both groups diagnosed using DSM-III criteria, were compared with each other and with two sets of Rorschach protocols collected from 80 first admission schizophrenics, one being administered shortly after admission and the second taken shortly before discharge. The data indicate that the borderline group is markedly different in both organization and functioning from both other groups; however, there are many similarities between the records of the schizotypals and schizophrenics. It is suggested that nomenclatures such as *borderline schizophrenia* or *latent schizophrenia* might be more appropriate to designate the schizotypal group and that the once used, but now discarded, nomenclature of *inadequate personality* offers a more fitting description of the borderlines.

During the past decade, there has been considerable discussion about the psychological characteristics of borderline and schizotypal personality disorders and their relation to schizophrenia. Some (e.g., Liebowitz, 1979) have argued that although the borderline appears to be distinct clinical entity, it may or may not be separate from the older concept of borderline schizophrenia. Others (e.g., Gunderson & Kolb, 1979; Kernberg, 1979; Masterson, 1976) have posited that the borderline reflects a form of personality organization marked by an abnormally greater predisposition to inappropriate and pathological patterns of behavior that are easily evoked by stress. Spitzer and Endicott (1979) have offered a strong argument for differentiating the borderline schizophrenic from the borderline personality disorder, and that view is generally reflected in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) published by the American Psychiatric Association (1980).

The DSM-III reserves the category of schizotypal personality disorder for those features commonly associated in the past with the concept of borderline schizophrenia and defines the borderline in a way that clearly differentiates it

from schizophrenia and schizophreniform disorders, a differentiation that is very important in the formulation of treatment planning. The origins of the definition of the schizotypal are in the Danish adoption study of Kety et al. (Kety, Rosenthal, Wender, & Schulsinger, 1968; Kety, Rosenthal, Wender, Schulsinger, & Jacobsen, 1975) in which Bleuler's description of *latent schizophrenia* was influential as a guideline. Kety (1985) suggested that the schizotypal may reflect a "first approximation" of the Bleuler latent schizophrenic and has argued for an expansion and refinement of the category. Some have attempted to make a case for a genetic relationship between the schizotypal and schizophrenic. For instance, Gunderson and Siever (1985) argued that the schizotypal diagnosis is intended to reflect that link, noting a striking similarity between residual schizophrenia and the schizotypal personality disorder. They have called for a broadening of the category to reflect this linkage. Some support for that view is offered by Kendler (1985) in his review of familial and clinical studies of the schizotypal, and Torgerson (1985) presented a review of family, adopted, and twin studies. Conversely, Frances (1985) has argued that the schizotypal category should not be contingent on a direct linkage to genetic origin because it is designed to be used for clinical purposes.

Under the schemata adopted in DSM-III, the schizotypal personality disorder is marked by magical thinking, ideas of reference, social isolation, recurring illusions, odd speech, inappropriate rapport, and undue social anxiety. Conversely, the majority of variables that are identified as marking the borderline condition do not include emphasis on peculiarity in thinking. Instead, features given major emphasis for the diagnosis of the borderline include impulsiveness and unpredictability in behavior, unstable and intense interpersonal relationships, lack of emotional control, a marked disturbance in identity, intolerance of isolation, chronic feelings of emptiness and/or boredom, and a high potential for physically damaging acts.

Although the intent to differentiate the borderline and schizotypal personality disorders, seems worthwhile at first glance, it tends to sidestep the notion that the borderline may constitute a form of personality organization as contrasted with a form of disorder. In particular, it ignores the arguments of many authorities who have addressed the concept of the borderline personality in ways that denote the presence of a high potential for active psychosis or psychoticlike behavior. Some (e.g., Gunderson & Kolb, 1978) have suggested that the differentiation between the borderline and the schizotypal may not be nearly as discrete in reality as postulated in the classification format, although Gunderson appears to have abandoned that position by an intriguing suggestion that the schizotypal may fall into some organizational continuum that includes the schizoid style as well as the schizophrenic, whereas the borderline is posited to fall into an organizational continuum that includes the hysteroid style and the depressive disorders.

Following from the logical postulate of Spitzer and Endicott (1979), the DSM-III does allow for the possibility of a mixed or secondary diagnosis such as borderline personality disorder with schizotypal features. Unfortunately, the compromise solution tends to cloud the issue of whether the borderline condition is truly different from the schizotypal, either as forms of personality organization or forms of disorder. Widiger, Frances, Warner, and Bluhm (1986) evaluated the 81 symptoms described for the 11 personality disorders listed in DSM-III by using data from 84 inpatients. They did find a 40% overlap of the schizotypal and borderline diagnoses, but also found that none of the borderline and only two of the schizotypal symptoms correlated with the other disorder's criteria set.

Exner (1978) compared the Rorschach data from 21 borderline cases, selected using the Kernberg criteria, with 25 outpatient schizophrenic cases. Some similarities were noted; however, the borderline group gave significantly fewer *M*-responses and critical special scores, more popular answers and texture responses, and higher egocentricity indices. In addition, the borderline group included a significantly higher number of records showing underincorporation in organizing activity and in which the adjusted *D* score is less than zero. Both groups had low mean  $X+s$ , but the borderlines tended to give more unusual responses, whereas the schizophrenic group gave a significantly higher frequency of minus answers. Although the findings suggest that the borderline is clearly different in many ways from the schizophrenic, the limited sample sizes mandate caution in accepting that position, especially because the study fails to include subjects diagnosed as schizotypal personality disorder.

Singer and Larson (1981) used a special scoring format, derived from the Becker (1956) modification of Friedman's (1953) developmental quality scoring, to study aspects of ego functioning in the Rorschachs of 114 subjects. The group included normals, neurotics, borderlines, acute schizophrenics, and chronic schizophrenics. Unfortunately, the borderline sample included a majority of subjects who "would have met the schizotypal criteria [whereas] the remainder would have fit the DSM-III 'borderline' criteria" (Singer & Larson, 1981, p. 695). Singer and Larson found that a discriminant functions analysis involving 11 variables correctly classified 20 of the 25 borderlines and 35 of 44 schizophrenics. Furthermore, a similar analysis, using 8 of the 11 variables, correctly differentiated 24 of the 25 borderlines and 17 of 25 "acute" schizophrenics. They concluded that the findings support the contention that borderlines do manifest cognitive slippage problems and that schizotypal thought processes are found within a segment of the borderline group. Although these findings are difficult to apply to the current DSM-III differentiation between the borderline and the schizotypal, they do suggest that the psychological organization of the schizotypal is different from that of the schizophrenic.

The present study was designed to compare the psychological organization and operations of patients diagnosed as either, but not both, borderline person-

ality disorder or schizotypal personality disorder and to compare both groups to two groups of schizophrenic records, one taken shortly after a first admission and the second collected from the same subjects shortly before discharge. The logic for using two sets of protocols from schizophrenics for comparison is that the first, taken shortly after admission, might contain considerable "data noise" created by the disorganization generated by a recent psychotic episode, whereas the second set should provide a more stable picture of the personality organization of the subject.

## METHOD

The 1982 and 1983 issues of the Rorschach Workshops Alumni Newsletter were used as a vehicle to solicit Rorschach protocols for the borderline and schizotypal target samples. It is an annual publication sent to approximately 4,000 professionals who have attended continuing education programs offered by Rorschach Workshops. This was done for two purposes: (a) to attempt to insure a broad demographic representation in the samples and (b) to generate reasonably large samples more quickly than might be readily available using other methods.

The criteria for accepting a record for a target group's data pool (borderline or schizotypal) are:

1. The patient should be between 19 and 30 years of age.
2. The patient must be a first admission inpatient or a first contact outpatient (if an inpatient, prior outpatient care has not exceeded 30 visits totally).
3. Presenting characteristics of the patient must include some form of marked disorganization.
4. DSM-III diagnosis must meet the criteria for either borderline personality disorder or schizotypal personality disorder, but not both, and must not be complicated by the assignment of other major diagnoses such as schizophrenia or affective disorder.
5. The Rorschach must be administered within the first 12 days of contact, and the cover sheet of the structural summary blank must be completed.

## Subjects

During the interval from September 1982 through June 1984, a total of 176 protocols were submitted for the project by 138 alumni of Rorschach Workshops. Because of problems of legibility or incomplete structural summary cover sheets, 16 protocols were discarded. The remaining 160 consist of 84 subjects diagnosed as borderline personality disorder and 76 diagnosed as schizotypal personality disorder. No more than three records were submitted by one person or installa-

tion, and the geographic demography includes 18 states. Of the 160 subjects, 126 maintain residence in urban or suburban areas that have populations of 100,000 or more.

The group of borderline patients ( $N = 84$ ) is comprised of 49 females and 35 males with a mean age of 22.3 ( $SD = 4.7$ , range 19–28). Of these patients, 46 are, or have been married, and 11 nonmarried subjects live or have lived with a person of the opposite sex. Their average years of completed education are 13.4 ( $SD = 2.1$ , range 10–17).

The group of schizotypal patients ( $N = 76$ ) consists of 44 males and 32 females with a mean age of 20.9 ( $SD = 4.4$ , range 19–27). Of these patients, 20 are or have been married, and 9 nonmarried subjects live or have lived with a person of the opposite sex. Their average years of completed education are 12.8 ( $SD = 1.9$ , range 11–15).

The group of schizophrenics used for comparison consists of 80 subjects, 40 males and 40 females. Each subject was tested twice, once shortly after a first hospitalization and again shortly before discharge to a halfway house or outpatient care. The group was selected by a computer-directed stratified random draw from the pool of schizophrenic records available at Rorschach Workshops ( $N = 1,327$ ). Each draw was stratified to insure that all subjects selected would fall within the required age range, that the average years of completed education for the group would not differ significantly from the two target groups, that the sex distribution would be equal, and that two records were available for each subject, one administered between the 8th and 15th days after admission and the second collected between 4 and 8 days prior to discharge. The average length of hospitalization for the group is 42.3 days ( $SD = 12.1$ , range 27–68). The average elapsed interval between tests is 30.7 days ( $SD = 7.9$ , range 14–46 days). Of these subjects, 32 are or have been married, and 7 nonmarried subjects live or have lived with a person of the opposite sex. The geographic demography of the group includes 12 states, and 67 maintain residence in urban or suburban areas that have populations of 100,000 or more. The average age for the group is 23.2 ( $SD = 4.1$ , range 20–30), and the average years of completed education are 12.6 ( $SD = 3.7$ , range 10–16 years). Diagnosis for all subjects was accomplished using the research diagnostic criteria.

## RESULTS

Descriptive data concerning 49 basic Rorschach scores or codes for the schizotypal and borderline groups are presented in Table 1. As the distributions for most of the variables in Table 1, with the exception of  $R$ ,  $W$ ,  $D$ ,  $DQ_0$ , and  $FQ_0$ , tend to approximate J curves rather than normal curves, the groups were compared using a series of chi-squares to determine if the proportions of subjects giving at least one of a particular kind of answer were different across the two

TABLE 1  
Descriptive Statistics for 49 Rorschach Variables from Schizotypal and  
Borderline Subjects

Variable	Schizotypal (n = 76)			Borderline (n = 84)		
	Freq.	Mean	SD	Freq.	Mean	SD
TOTAL R	76	17.53	4.68	84	18.57	7.25
W	72	6.68	3.14	84	7.71	3.39
D	76	7.74	4.46	82	7.83	5.48
Dd	68	3.11	2.76	65	3.00	3.54
SPACE	56	2.03	2.29	67	2.30	2.25
DQ+	76	6.05	2.15	84	5.73	2.86
DQv/+	12	0.24	0.63	8	0.11	0.35
DQo	76	10.18	4.72	84	11.06	7.10
DQv	40	0.89	1.10	62*	1.64	1.62
FQx + and o	76	11.78	2.88	84	12.69	5.18
FQx u	64	2.16	1.51	68	2.90	2.68
FQx -	70	3.45	2.37	70	2.26	1.80
FQx none	10	0.13	0.34	39*	0.61	0.76
MQual + and o	70	3.24	1.72	76	2.35	1.58
MQual u	18	0.45	1.02	35	0.63	0.89
MQual -	38	0.95	1.18	27	0.45	0.81
MQual none	2	0.03	0.16	4	0.05	0.21
M	76	4.74	2.34	83	3.06	2.10
FM	72	2.63	1.50	78	3.44	2.24
m	48	1.00	1.13	71	1.83	1.48
FC	52	1.11	1.08	53	1.67	1.81
CF	46	1.00	1.01	70*	1.89	1.37
C+CN	12	0.16	0.37	37**	0.63	0.62
COL-SHD BL	24	0.37	0.59	46*	0.85	0.96
FC'+CF+C'	42	1.00	1.29	69*	2.14	2.26
FT+TF+T	20	0.39	0.71	49*	1.35	1.25
FV+VF+V	16	0.26	0.55	34*	0.83	1.03
FY+YF+Y	34	0.63	0.85	48	1.50	2.03
Fr+rF	8	0.16	0.49	31**	0.76	0.97
FD	50	1.18	1.32	56	1.24	1.46
F	76	6.97	3.73	81	5.82	4.04
(2)	76	7.68	3.41	84	7.92	3.31
P	74	5.16	1.74	84	5.40	1.67
Zf	76	10.47	3.52	84	10.20	4.21
H+(H)+Hd+(Hd)	76	5.13	3.19	83	4.98	2.47
DV	58*	2.37	2.56	34	1.01	1.87
DR	10	0.50	1.53	19	0.41	0.86
INCOM	54	1.37	1.31	47	1.11	1.34
FABCOM	40	0.79	1.01	29	0.62	1.06
ALOG	20	0.55	1.10	11	0.17	0.49
CONTAM	0	0.00	0.00	3	0.03	0.28
AG	30	0.75	0.80	44	1.32	1.27
CP	0	-	-	0	-	-
MOR	46	1.05	1.24	47	1.29	1.52
PER	44	1.16	1.25	46	1.05	1.27
PSV	4	0.05	0.22	8	0.10	0.30

\*Significantly different proportional frequency,  $p < .05$ .

\*\*Significantly different proportional frequency,  $p < .01$ .

groups. A total of nine differences were discovered, of which six (*CF*, *C+Cn*, *Color-Shading Blend*, *C*, *T*, *Y*) involve variables related to the experience or discharge of affect. Two of the remaining three (*DQo*, *FQx*, none) concern the use of blot contours, and the third (*Fr+rF*) relates to self-image.

Similar descriptive data concerning the 49 variables for the two testings of the schizophrenic group are presented in Table 2. As with the data for the two target groups, the frequencies for the two tests were analyzed using a series of chi-squares. Those analyses failed to reveal any significant differences between the two tests. This finding is not particularly surprising in light of reliability data concerning the retest of schizophrenics (Exner, 1982). These findings support the postulate that the schizophrenic organization does not alter substantially, especially during relatively brief intervals, even though intervention by pharmacological and other therapeutic tactics aids the newly hospitalized subject to reenter his or her social environment.

Descriptive data concerning 21 other Rorschach variables, ratios, percentages, and derivations from the two schizophrenic testings are presented in the first half of Table 3. These variables, which tend to have a broader and more normal distribution, were studied using a series of analyses of variance, with mean comparisons conducted using Sheffe's procedure ( $p < .05$ ).

Only one significant difference between the two testings was detected for this group of variables. A significant increase in the value for lambda occurred in the second test, indicating a greater use of pure *F* answers in lieu of those involving other features of the blots. Generally, elevations in lambda signify an effort to minimize complexity and increase capacity for control. In light of this finding, it was decided to include the data from both tests of the schizophrenics in a comparison with the schizotypal and borderline groups for these 21 variables. First, a multivariate analysis of variance was conducted and yielded an overall significant multivariate *F* (Wilks' lambda = 3.06,  $p < .001$ ). Mean comparisons were studied using the Sheffe procedure. Table 3 includes the comparison data for the 21 variables for the schizotypal and borderline groups, plus indications of those instances in which the group value for a variable differs significantly from the schizophrenic group on either or both of the tests.

Examination of Table 3 reveals that the borderline group differs significantly from both tests of the schizophrenics for 11 of the 21 variables, and from Test 2 of the schizophrenics for 2 additional variables. The borderline group also differs significantly from the schizotypal group for 8 of the 21 variables. Conversely, the schizotypal group differs significantly from the two tests of the schizophrenic subjects for only 3 variables and for 1 additional variable from the second testing. These findings suggest that although many of the psychological characteristics and/or operations of the borderline subjects are quite different than those of schizophrenics, the differences between schizotypal and schizophrenic subjects are considerably fewer or much more subtle. Some clarification regarding these findings may be gleaned from a review of frequency data for the

TABLE 2  
 Descriptive Statistics for 49 Rorschach Variables from Two Testings of  
 80 Schizophrenic Subjects, One Shortly After a First Admission and the  
 Second Shortly Before Discharge

Variable	Test 1			Test 2		
	Freq.	Mean	SD	Freq.	Mean	SD
TOTAL R	80	19.38	7.69	80	19.45	7.54
W	80	8.44	4.14	79	8.21	4.80
D	75	7.68	5.93	76	7.44	5.56
Dd	67	3.25	3.70	67	3.78	4.01
SPACE	65	2.26	1.86	61	2.26	2.03
DQ+	76	5.74	3.49	75	5.66	3.82
DQv/+	21	0.41	0.79	9	0.20	0.62
DQo	80	11.40	6.65	80	11.70	6.27
DQv	63	1.75	1.78	59	1.80	1.76
FQx + and o	80	10.33	4.65	80	9.86	4.44
FQx u	73	2.49	1.81	74	2.54	2.18
FQx -	78	6.13	4.27	79	6.52	3.58
FQx none	32	0.54	0.75	32	0.54	0.75
MQual + and o	65	2.31	1.86	63	2.15	1.79
MQual u	30	0.50	0.75	29	0.51	0.90
MQual -	62	1.71	1.78	60	1.69	1.47
MQual none	5	0.06	0.24	2	0.02	0.16
M	77	4.65	3.23	72	4.46	3.15
FM	67	2.63	2.51	61	2.54	2.53
m	58	1.50	1.44	53	1.40	1.53
FC	50	1.21	1.32	48	1.16	1.32
CF	59	1.60	1.45	57	1.50	1.40
C+CN	31	0.56	0.84	30	0.49	0.71
COL-SHD BL	30	0.49	0.71	26	0.51	0.94
FC+CF+C'	58	1.54	1.47	44	1.09	1.25
FT+TF+T	22	0.32	0.59	23	0.40	1.09
FV+VF+V	18	0.36	0.92	20	0.56	1.05
FY+YF+Y	44	1.21	1.79	51	1.58	1.93
Fr+rF	8	0.15	0.51	8	0.13	0.40
FD	37	0.79	1.09	37	0.74	1.03
F	80	7.35	5.52	80	7.99	5.51
(2)	77	6.60	4.73	76	6.66	4.70
P	80	4.27	1.93	80	3.96	1.89
Zf	80	11.02	3.74	80	10.98	4.76
H+(H)+Hd+(Hd)	79	5.41	2.98	79	5.55	3.62
DV	52	1.49	1.79	56	1.82	2.13
DR	48	1.31	2.09	40	0.98	1.74
INCOM	62	1.76	1.66	59	1.65	1.82
FABCOM	58	1.58	1.60	62	1.83	1.74
ALOG	33	0.79	1.31	31	0.73	1.21
CONTAM	12	0.22	0.62	10	0.15	0.45
AG	18	0.56	0.76	16	0.39	0.68
CP	3	0.04	0.19	1	0.01	0.11
MOR	54	1.75	1.86	51	1.32	1.48
PER	45	1.75	2.82	25	0.95	2.12
PSV	8	0.11	0.36	11	0.19	0.53

TABLE 3  
Descriptive Statistics for 21 Rorschach Ratios, Percentages, and Derivations from Two Testings of 80 Schizophrenic, 76 Schizotypal, and 84 Borderline Subjects

Variable	Schiz. Test 1		Schiz. Test 2		Schizotypal		Borderline	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Zd	1.30	4.16	1.24	4.63	1.29	4.14	2.15	3.43
EA	7.64	4.14	7.18	3.98	6.53	2.56	6.36	6.08
es	7.56	4.86	7.66	5.90	5.92	2.47	10.87**	6.53
D Score	0.00	1.69	-0.20	1.65	0.16	0.94	-1.46**	2.09
Adjusted D Score	0.43	1.45	0.36	1.20	0.34	0.99	-0.89**	1.20
Sum Active	5.52	3.81	4.81	3.77	4.39	2.30	5.31	2.91
Sum Passive	3.24	2.39	3.44	2.53	3.97	3.10	3.02	2.32
S-CON	4.96	1.96	5.19	1.71	3.89	1.38	5.00	1.71
Afr	0.48	0.17	0.49	0.16	0.52	0.18	0.66**	0.19
(3r+(2))/R	0.37	0.21	0.35	0.18	0.42	0.17	0.49 <sup>a</sup>	0.17
LAMBDA	0.93	1.47	1.36	1.38	0.71 <sup>b</sup>	0.46	0.57 <sup>a</sup>	0.49
BLENDS	3.66	2.53	3.80	3.09	3.08	2.04	5.04*	3.17
SUM SHADING	3.44	3.01	3.72	3.98	2.29	1.65	5.80***	3.77
WGTD SUMC	2.99	2.07	2.72	1.83	1.79	1.32	3.89***	1.86
X+ %	0.54	0.18	0.51	0.17	0.69 <sup>a</sup>	0.15	0.69 <sup>a</sup>	0.13
X- %	0.31	0.15	0.34	0.15	0.18 <sup>a</sup>	0.10	0.13 <sup>a</sup>	0.10
F+ %	0.57	0.26	0.53	0.24	0.69	0.21	0.71 <sup>b</sup>	0.27
SUM6 SP SC	7.30	4.11	7.17	3.82	5.58	3.72	3.44**	3.37
WGTD SUM6 SPS	19.21	9.81	18.59	9.04	12.53 <sup>a</sup>	8.90	7.57**	5.96
SCZI	3.86	1.21	4.07	0.98	2.87	1.43	1.95 <sup>b</sup>	1.47
DEPI	1.34	1.07	1.26	1.02	0.87	0.96	1.63 <sup>b</sup>	1.16

<sup>a</sup>Significantly different from both schizophrenia testings,  $p < .01$ .

<sup>b</sup>Significantly different from schizophrenic Test 2,  $p < .01$ .

\*Significantly different from schizotypal,  $p < .05$ .

\*\*Significantly different from schizotypal,  $p < .01$ .

directionality of some ratios and critical cutoff values for other structural variables. These are key data points in the structural summary of the test that often provide critical information concerning psychological organization and functioning. Table 4 includes the frequency and percentage data for 19 variables for the two target groups plus the two tests from schizophrenic subjects. These data were compared using a series of chi-square procedures and setting  $p < .01$  as the acceptable confidence limit.

As can be noted from Table 4, the borderline group differs significantly from the other three data sets for 9 of the 19 variables. In addition, the borderline group differs from the two tests of schizophrenic subjects for 4 other variables. Thus, in all, the borderline groups differs from the schizophrenic subjects on 13 of the 19 variables and from the schizotypal group on 10 of the 19 variables. The schizotypal group is significantly different from all other groups on 4 variables, from both of the tests of schizophrenics on 3 variables, and from the second test

TABLE 4  
 Frequencies and Percentages of 19 Rorschach Variables for 80 Schizophrenics Tested Twice,  
 and 76 Schizotypals and 84 Borderlines Each Tested Once

Variable	Schizophrenic				Schizotypal		Borderline	
	Test 1		Test 2		Freq.	%	Freq.	%
	Freq.	%	Freq.	%				
<b>EB STYLE</b>								
Introversive (M-WSUMC > 1.5)	48	60.0	47	58.7	50	68.5	15	17.9*
Ambitient (M-WSUMC = +1.5 to -1.5)	24	30.0	27	33.7	24	31.6	28	33.3
Extrantensive (WSUMC-M > 1.5)	8	10.0	6	7.5	2	2.6	41	48.8*
<b>FC:CF+C Ratio</b>								
FC-CF+C > 1	10	12.5	8	10.0	8	10.5	20	23.8*
CF+C-FC > 1	32	40.0	31	38.8	10	13.2*	29	34.5
<b>EA-es Difference</b>								
D Score < 0	24	30.0	20	25.0	10	13.2*	48	57.1*
Adjusted D < 0	12	15.0	14	17.5	6	7.9 <sup>b</sup>	38	45.2*
<b>Form Quality</b>								
X+% < .70	71	88.8	74	92.5	38	50.0 <sup>a</sup>	36	42.9 <sup>a</sup>
F+% < .70	56	70.0	62	77.5	44	57.9 <sup>b</sup>	36	42.9*
X-% > .15	70	87.5	72	90.0	48	63.2*	23	27.4*
S-CON > 7	9	11.3	9	11.3	2	2.6	9	10.7
<b>Schizophrenia Index</b>								
SCZI = 5	35	43.8	34	42.5	10	13.2 <sup>a</sup>	5	5.9 <sup>a</sup>
SCZI = 4	31	38.8	28	35.0	18	23.7	6	7.1*
<b>Depression Index</b>								
DEPI = 5	1	1.3	0	—	0	—	0	—
DEPI = 4	1	1.3	1	1.3	0	—	4	4.8
<b>Miscellaneous Variables</b>								
Zd > +3.0	24	30.0	27	33.8	20	26.3	34	40.5
Zd < -3.0	16	20.0	18	22.5	10	13.2	5	6.0 <sup>a</sup>
FM+m < SUM SHADE	22	27.5	25	31.3	16	21.1	37	44.0 <sup>c</sup>
Passive > Active	19	23.8	21	26.3	30	39.5	4	4.8*
Mp > Ma	22	27.5	25	31.3	36	47.4*	19	22.6
(3r+(2))/R < .30	34	42.5	35	43.8	10	13.2 <sup>a</sup>	11	13.1 <sup>a</sup>
Afr < .60	61	76.3	62	77.5	52	68.4	65	77.4
L > = 1.5	9	11.3	15	18.8	8	10.5	8	9.5
Pure H < 2	36	45.0	43	53.8	30	39.5	32	38.1

<sup>a</sup>Significantly different proportion from both schizophrenic groups,  $p < .01$ .

<sup>b</sup>Significantly different proportion from schizophrenic Test 2,  $p < .01$ .

<sup>c</sup>Significantly different proportion from schizotypal group,  $p < .01$ .

\*Significantly different proportion from other three groups,  $p > .01$ .

of schizophrenics on 2 other variables. This pattern of significant differences is generally consistent with those noted in Table 3.

## DISCUSSION

It seems very clear that the data support a conclusion that the borderline subjects, as a group, are markedly different in operations and organization than either of the other groups. On the other hand, there are some striking similarities between the schizotypal and schizophrenic groups. Like the schizophrenic subjects, a substantial majority of the schizotypals shows a preference for an introverted coping style, which involves a strong commitment to delay and ideation in formulating decisions and behaviors. Only a small handful of subjects in each of these two groups manifest a preference for the more trial-and-error, affectively influenced intuitive approach to decision making that marks nearly half of the borderline subjects. Conversely, less than 20% of the borderline subjects appear to prefer the ideational-delay tactic of the introverted when in coping situations. Interestingly, the schizotypal group also shows a significantly lower frequency of subjects who appear to have some difficulties modulating affective displays than do either of the other groups. More than 33% of the borderline and schizophrenic subjects manifest this feature, whereas only slightly more than 10% of the schizotypals have this potential problem. This is not surprising if studied in relation to the data concerning the *D* scores.

In Test 1, 57% of the borderlines and 30% of the schizophrenics had *D* scores of less than zero as contrasted with only 10 of the 76 schizotypals (13%). This indicates the presence of stimulus overload; that is, more experiences of demand for response are occurring than the subject is able to contend with easily. People in overload are more vulnerable to a disorganization and/or disruption of functions, especially in situations that are more complex and/or less familiar. Thus, the substantial majority of schizotypal subjects is less likely to become easily overwhelmed and propelled into impulsivelike patterns of thought or behavior. The opposite is true for the majority of borderline subjects and nearly one third of the schizophrenics. Possibly one of the most important findings about the borderlines is that a large proportion show an adjusted *D* score of less than zero. In other words, even when this index of capacity for control is adjusted to account for the presence of situationally related stress, nearly half of the borderline subjects continue to appear somewhat inept in this respect. When the adjusted *D* score is less than zero, it usually reflects immaturity in psychological development or the presence of some deterioration in functions. The adjusted *D* score data for the schizotypal group are quite different. Less than 8% of the schizotypals have adjusted *D* scores of less than zero. This suggests that, in spite of what other problems may mark the psychological organization of the schizotypal, lack of control or inadequate control is not ordinarily one of them. This finding, plus

the data for the  $FC:CF+C$  ratio, suggests that affect-control failures will tend to occur far less frequently for this group than for either of the other two groups. The data concerning the  $FC:CF+C$  ratio indicate that the problem of control is probably magnified for many of the borderlines because of difficulties in modulating affect displays. More than one third have values in the ratio in which  $CF+C$  exceeds  $FC$  by more than 1.

The schizophrenic group seems to be different from the other groups for this general issue. A significantly lower proportion of schizophrenics than borderlines have adjusted  $D$  scores of less than zero in each of the tests, although proportionally more have adjusted  $D$ s in the minus range than schizotypals at the second test. However, an even greater proportion of the schizophrenics than borderlines show the affect modulation problem indicated by a larger right-side value in the  $FC:CF+C$  ratio. Thus, although many more borderlines than schizophrenics are vulnerable to disorganization because of limited capacity for control, a similar proportion of schizophrenics will tend to display affective control problems because they do not modulate affect very effectively. Data for some of the variables related to the characteristics of ideation and issues of perceptual accuracy and mediational conventionality appear to provide some clarification concerning these differences.

The borderlines averaged significantly fewer of the six critical special scores than either of the other groups, with a mean of 3.4 as contrasted with means of 5.6 for the schizotypals and 7.3 for the schizophrenics on Test 1. Normative data for nonpatient adults show a mean of 1.6. These special scores provide some information about cognitive slippage or disordered thought. When these scores are weighted for magnitude of the slippage ( $WSUM6$ ), the difference across the groups is considerable. The borderlines show a mean of 7.6, the schizotypals a mean of 12.5, and the Test 1 schizophrenics a mean of 19.2. Furthermore, although 27 of the 84 borderlines (32%) gave at least one  $M-$  response, that kind of answer appeared at least once in 50% of the schizotypal records and 77% of the Test 1 protocols of the schizophrenics.  $M-$  responses also provide some information concerning strained or disordered thinking. In other words, the borderlines, as a group, show little evidence from which to argue a case for disordered thinking. The opposite is true for both the schizotypals and schizophrenics. The thinking operations of the schizotypals are marked by much more strangeness and slippage than the borderlines, although not nearly as much as is characteristic of the schizophrenics who, as a group, manifest evidence for very serious thinking problems. This is not surprising in light of the criteria by which each of the groups are defined, but it does provide some input concerning the features that predispose episodes of dysfunction and/or maladjustment that occur frequently among these kinds of subjects.

Two other variables that are quite important to an understanding of the functioning of these groups are the  $X+$  % and the  $X-$  %. The  $X+$  % is an index of the extent to which a subject translates stimuli in conventional ways, whereas the

$X-$  % offers information concerning the presence of perceptual inaccuracy or distortion. Nonpatient adults have a mean  $X+$  % of 80% ( $SD = 9$ ). The borderline group and schizotypal groups both have a mean  $X+$  % of 69%, and the schizophrenics have a mean  $X+$  % in Test 1 of 54% and in Test 2 of 51%. About 43% of the borderlines and 50% of the schizotypals have  $X+$  %s that are less than 70%. The data for the schizophrenics are more extreme with 89% of the Test 1 records and 92% of the Test 2 records showing an  $X+$  % less than 70%. Obviously, all three groups tend to make many more unconventional translations of stimuli than nonpatients; however, the extent to which those unconventional translations involve inaccurate perception and/or mediational distortion differs considerably across the three groups. The mean  $X-$  % for nonpatients is 6% ( $SD = 5$ ). The mean  $X-$  % for the borderline sample is 13% ( $SD = 10$ ), and for the schizotypals it is 18% ( $SD = 10$ ). The schizophrenics are again at the extreme, showing a mean  $X-$  % of 31% in Test 1 and 34% in Test 2 with  $SD$ s of 15 in both. Usually, an  $X-$  % greater than 15% indicates that problems in perceptual-mediational operations are of a magnitude sufficient to interfere frequently with effective functioning. Slightly more than one fourth of borderline subjects (27%) show this problem; however, significantly more of the schizotypals (63%) manifest this difficulty, and it is present in 87% of the Test 1 and 90% of the Test 2 records given by schizophrenics. The borderlines averaged slightly more than two minus responses per record, and 14 of the 84 subjects gave no minus responses. The schizotypal group average about three-and-one-half minus answers, and only 6 of the 76 subjects gave none. The schizophrenics averaged more than six minus answers in each test, and only 2 of the 80 subjects failed to give at least one minus answer in Test 1 and only one failed to do so in Test 2. In other words, although most subjects in all three groups make many unconventional translations of stimuli, those of the borderlines are less likely to involve distortion, whereas distortion occurs much more often among the schizotypals, and with a frequency among schizophrenics that portends serious impairment.

Data for two other variables also appear to cast some light on the differences between the three groups. The first is the proportion of "passive" human movement answers ( $Mp$ ) to "active" human movement answers ( $Ma$ ). Normative data for nonpatients reveal that most adults give about twice as many  $Ma$  responses as  $Mp$  responses. Exner (1978, 1986) has found that when  $Mp$  exceeds  $Ma$ , it signifies an abuse of fantasy, that is, a tendency to take flight into fantasy under stress and passively rely on the decisions and directions of others for solutions to problems. A sizeable proportion of subjects in all three groups manifest this characteristic; however, it is most prevalent among the schizotypals (47%). Thus, not only do they tend to rely on an ideational style in much of their coping behavior, but they also tend to abuse that style by using it as a tactic of avoidance rather than confrontation with presenting issues.

The second variable is the Egocentricity Index,  $[(3r + (2)) / R]$ , which provides some information about one's sense of personal value as related to significant

others in the environment. The mean for nonpatient adults is .36 for the index ( $SD = .06$ ). Generally, when the index falls below .30, it indicates a negative sense of self-worth. If the value is greater than .42, it suggests an excess of focusing on the self at the expense of concerns with the social environment. The means for the Egocentricity Index fall within normal limits for the schizophrenics and schizotypals; however, more than 40% of the schizophrenics do have indices of less than .30. Conversely, the mean for the borderline group is .49, suggesting that, as a group, there is much more concern with the self than with the social world.

### AN OVERVIEW OF THE GROUPS

If the array of significant differences across and between these three groups is considered, three relatively distinct pictures of psychological organization and functioning evolve. There is considerable overlap between the schizotypal and schizophrenic groups for organizational characteristics, but considerably less so for functioning. The borderline group appears to be very different from the other two in both organization and functioning. In fact, the differences are so extensive that it seems reasonable to question the DSM-III notion that the diagnoses of both borderline and schizotypal personality disorders could be used to identify the same patient.

As a group, the borderlines are not very sophisticated in psychological organization and functioning. Most are affect oriented, that is, prone to experience and/or discharge affect in relation to most operations. Although that personality style is not usually a liability, being characteristic of about 40% of nonpatient adults, it can pose substantial hazards to adjustment if problems in capacity for control and/or frequent failures to modulate affect discharge effectively exist also. Both of these problems are distinctive characteristics of the borderline group, and both appear related to some form of developmental lag. The general problem in control creates a vulnerability to becoming overwhelmed by stresses much more easily than is typical for the adult. At best, the product is less effective patterns of behavior; at worse, it is extensive disorganization.

If affect-modulation failure is also present, the potential for impulsive and volatile behaviors is considerable. The borderlines also appear to be much more self-concerned or self-centered than most adults. This feature probably contributes to their tendency to perceive reality in less conventional ways, although usually not involving significant distortions of reality. The unique mixture of their many liabilities makes it somewhat likely that, on occasion, patterns of behavior that are formulated while in stimulus overload can include some psychoticlike features. The fact that 11 of the 84 subjects in this group (13%) have positive values of 4 or 5 on the Schizophrenia Index (SCZI) suggests that a few may present schizophreniclike pictures at the onset of the disruption. This false positive rate is

similar to that reported for first admission affective disorders. It is more probably, however, that the majority of the severe disruptions will be marked by considerable affective disarray, particularly in those subjects who have chronic problems in affect modulation. In those cases, the psychoticlike characteristics will tend to appear because the composite of control and modulation failures creates a form of helplessness in which affects become the dominant forces in commanding and/or directing functions and behavior with little regard for the circumstances or consequences. In effect, it is the product of an organizational structure that might best be described as immature and/or inadequate.

As noted earlier, the organizational and functional characteristics of the schizophrenics and schizotypals are very different from those of the borderlines, but they are very similar to each other in many ways. In that context, the data lend some support to the positions of Kety (1985) and Gunderson and Siever (1985) that there may be some linkage between the groups. Both groups are markedly prone to the use of an ideational style in the majority of coping activities. They prefer to delay decisions until they have been able to think through the potential consequences of responses. As with the affectively dominated style of the borderline, there are no liabilities specific to this personality style. It is common in about 40% of the adult nonpatient population; however, the effectiveness of the style is largely contingent on clarity of thought and adequacy of reality testing. Unfortunately, both the schizotypals and the schizophrenics are handicapped in these areas. Each group manifests significant problems in thinking, the schizotypals to a smaller extent than the schizophrenics, but both of a magnitude from which to predict frequently impaired judgment and reasoning. In addition, neither group processes information with consistent effectiveness. Instead, both groups often tend to process and/or mediate information in distorted ways. As a result, their reality testing is limited at best, and obviously becomes so impaired at times that detachments are created. When this problem merges with disordered thought, the end product can only become disastrous to efforts at adaptation.

It is important to note that the frequencies and magnitudes with which these features of impairment occur among schizotypals are substantially less than those found among schizophrenics. This is probably best illustrated by the values in the Schizophrenia Index. About 82% of the Test 1 and 78% of the Test 2 records given by the schizophrenic group show positive SCZI values of 4 or 5 as contrasted with only 37% of the schizotypal group. Nonetheless, a 37% false positive rate is more than three times that found in any other psychiatric group and indicates that the kinds of impairments that are commonplace among schizophrenics appear with a sufficient frequency among schizotypals to predict that many of their behaviors will be marked by schizophreniclike features.

The data also suggest at least two reasons why schizotypals are less likely to experience major disruption with a frequency similar to that occurring among schizophrenics. First, they tend to use their ideational world much more for pur-

poses of avoidance of, or escape from stress. Many are strongly committed to an inner life that permits them to ignore, or replace through fantasy, the demands of their environment. In doing so, they tend to adopt a more passive attitude toward the world through which they develop an expectation that others will make decisions and solve problems. This tends to neutralize many stresses, although it leaves them vulnerable to the impact of decisions of others that may have negative consequences. It is probably under those circumstances that they become most prone to disruption. Second, they appear to attempt to keep a tight rein on their emotional displays. Very few appear to have problems in modulating emotion, and about 22% have adjusted *D* scores in the range from +1 to +3 as contrasted with 21% of the schizophrenics but only 2% of the borderlines. The elevated adjusted *D* indicates easy access to resources for forming and directing behaviors, regardless of whether the choice of response will be effective or adaptive, and a more sturdy tolerance of stress than is common among adults. As a result, fewer behavior patterns of the schizotypal are likely to be marked by a loss of control and/or the kinds of intense expressions of affect that often cause others to identify the presence of maladjustment.

In effect, the schizotypal probably lives a semidetached existence, often concealing the strangeness of thought and/or distortions of reality that are present. In contrast, the schizophrenic can do this less easily because the frequency and magnitude of disturbance are more pervasive in behavior. If a linkage does exist between the schizotypal and the schizophrenic, a more appropriate label for the schizotypal might be that of *borderline schizophrenic* or *latent schizophrenic*, both of which have been used in the past to acknowledge that link and the potential consequences of it for treatment planning. Similarly, the current label *borderline* seems overly general and potentially misleading. Quite possibly, by reverting to the older category of *inadequate personality*, the label would be more appropriately descriptive.

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