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DETERMINING A 16 PF PROFILE AND FOUR-POINT CODES FOR MENTAL-HEALTH CENTER CLIENTS[1]

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ABSTRACT

This study was designed to determine the incidence of 16PF four-point codes and overall 16 PF profile for clients assigned to the adult outpatient department in a comprehensive community mental-health clinic. Subjects consisted of 282 clients who were seen for intake during a four-month time period. Form A of the 16 PF was administered to clients at the time of intake. The incidence of four-point codes was determined, and means and standard deviations were computed for the sample. The mean scores of this mental-health center group were compared to the means reported by Reuter, Wallbrown, and Wallbrown (1985) for a private-practice group, as well as the means for the standardization sample.

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In a recent work, Cattell (1986, pp. 116-121) calls attention to the need for collecting descriptive data for clients in different diagnostic categories, different clinical settings, and at different stages in the process of counseling/psychotherapy. Specifically, R.B. Cattell (1986, p. 121) proposes a "three-file system" which includes a "third-file" consisting of "... behavioral specification equations, type profiles (as implied in DSM), age curves and other bases of practical prediction and diagnosis emanating from research." Cattell (1986) acknowledges that such a "third file" can be achieved only through the collaboration of researchers and practitioners who work together in the collection and dissemination of research data. A considerable amount of research data are gradually

accumulating (see Cattell, Eber, & Tatsuoka, 1970; Krug, 1981; H.. Cattell, 1989), but thus far the Sixteen Personality Factor Questionnaire (16 PF) scores are not available for clients seen for counseling/psychotherapy in a comprehensive community mental health center. Collecting data for such clients should provide a noteworthy contribution to the "third-file" proposed by Cattell (1986). Consequently, the present study was designed to obtain a profile of 16 PF scores for clients assigned to the adult outpatient department of a comprehensive community mental health center. Another aspect of the present study involved determining four-point codes based on the Krug (1981) system for classifying clients based on their scores for the four most thoroughly validated 16 PF secondaries (Extraversion, Anxiety, Tough Poise, and Independence). Determining the incidence of Krug (1981) four-point codes was included in the analysis since this provides the basis for establishing linkage between 16 PF scores and a wide range of research data. The usefulness of the Krug (1981) system is such that one can justify its inclusion in the overall rubric of the "third-file." A supplementary analysis was also performed to compare the present sample of mental health center clients with a previous sample of clients seen in a private practice setting.

METHOD

SUBJECTS

Subjects consisted of 282 clients (111 men and 171 women) who were seen for intake in a comprehensive community mental-health clinic during a four-month time period. The total number of clients seen for intake and assigned to the adult outpatient department during this time period was 307, but 25 clients either chose not to participate or were excluded because of psychiatric disturbances requiring hospitalization and/or inability to read or comprehend test materials. The racial composition of the sample consisted of 206 whites and 76 nonwhites. The exact racial/ethnic breakdown of the nonwhite clients is not available, but one can safely assume that they are predominatly black given racial/ethnic composition of the urban area served by the clinic. Provisional diagnoses, made at the time of intake, resulted in 254 diagnoses on Axis I and 71 diagnoses on Axis II of Diagnostic and Statistical Manual for Mental Disorders (American Psychiatric Association, 1980). Twenty-eight clients had diagnoses only on Axis I, and 43 clients had diagnoses on both Axis I and Axis II. The Axis I results were as follows: dysthymic disorders (n= 108) adjustment disorders (n=86), general anxiety disorders (n=22), alcohol and substance-related disorders (n= 11), schizophrenic disorders (n= 10), other affective (n= 8), control disorders (n=5), and one each in four other diagnostic categories (n=4). Axis II personality disorders were as follows: atypical (n= 34), dependent (n= 17), antisocial (n= 17), passive-aggressive (n= 5), borderline (n= 3), schizotypal (n= 2), and schizoid (n= 1).

INSTRUMENTATION

Form A of the Sixteen Personality Factor Questionnaire (Cattell, Eber, & Tatsuoka, 1970) was administered and scored in accordance with the standardized procedures described in the test manual. Sten scores for the two validity scales

(Faking Good and Faking Bad) were determined, and sten scores on the primaries were corrected for faking good and/or bad using the standard procedures described in the test manual (IPAT Staff, 1970). Sten scores for the four more thoroughly validated secondaries (Extraversion, Anxiety, Tough Poise, and Independence) were also obtained and four-point codes were determined using the procedures described by Krug (1981).

PROCEDURE

All adult clients requesting service at this comprehensive community mental-health center were seen for an intake interview by a therapist in the Intake and Emergency Unit. Client responses were recorded on a standardized intake assessment form. This intake procedure is fairly typical of what is routinely used in adult outpatient facilities. Aside from the exclusions noted earlier, all clients assigned to the Adult Outpatient Department received form A of the 16 PF. In this regard, it is important to note that low-functioning clients with a history of chronic mental disability were routinely assigned to the Aftercare Unit as a matter of agency policy. These clients were automatically excluded from the study.

RESULTS AND DISCUSSION

OVERALL PATTERN

In order to provide an overall picture of personality characteristics of individuals who seek services at a mental-health center, means (Ms) and standard deviations (SDs) were computed for 282 subjects on sixteen primary factors and four second-order factors. Two-tailed t-tests ($p. < 05$) were performed to determine whether subjects in the mental-health center group differed significantly from persons in the standardization sample. The results are summarized in Table 1.

The present sample (mental-health center) differed significantly from the standardization sample on thirteen of the sixteen primary factors. Examination of Table 1 indicates that the following thirteen factors showed statistical significance: Q4 ($t = 11.99$), O ($t = 11.66$), L ($t = 10.22$), M ($t = -9.48$), C ($t = -8.83$), Q2 ($t = 7.16$), I ($t = 5.66$), A ($t = -3.40$), H ($t = -3.28$), N ($t = 3.16$), Q3 ($t = -2.77$), G ($t = -2.54$), and Q1 ($t = 2.05$). When compared with the standardization sample, the present sample may be described as having more free-floating anxiety (Q4+), more guilt proneness (O+), more suspiciousness (L+), more practicality (M-), less ego strength (C-), more reserve (A-), more shyness (H-), more shrewdness (N+), less ability to bind anxiety (Q3-), more expedience (G-), and more radicalness (Q1+).

On the second-order factors, the present sample differed from the standardization sample on three of the four secondaries: Anxiety (QII, $t = 14.13$), Extraversion (QI, $t = -3.17$), and Independence (QIV, $t = -3.11$).In other words, the present sample, when compared with the standardization sample, tended to be more anxious, less independent, and more intraverted.

Further examination of Table 1 indicates that the present sample (mental health center group) and the private-practice sample showed no significant

TABLE 1

COMPARISON OF A MENTAL HEALTH CENTER GROUP WITH STANDARDIZATION
Sample and Private Practice Sample — 16 PF Profile

Variable	Present Sample (Mental Health Clinic N=282)		Private Practice Sample (Reuter, Wallbrown & Wallbrown, N=132)		Comparison with Standardization Sample M=5.5, SD=2.0; N=2,984)				Comparison with Private Practice Sample			
	M	SD	M	SD	diff	SE_D	t	p<	diff	SE_D	t	p<
A) Reserved vs. Outgoing	5.10	1.88	4.8	1.9	-.40	.118	-3.40	.01	.30	.20	1.50	NS
B) Concrete vs. Abstract Thinking	5.52	1.70	6.3	1.8	.02	.108	.19	NS	-.78	.187	-4.18	.01
C) Weak vs. Strong Ego	4.47	1.86	4.6	2.1	-1.03	.117	-8.83	.01	-.13	.214	-.61	NS
E) Submissive vs. Dominant	5.46	1.94	5.7	2.1	-.04	.121	-.33	NS	-.24	.216	-1.11	NS
F) Serious vs. Impulsive	5.25	2.16	5.2	2.4	-.25	.134	-1.87	NS	.05	.245	.20	NS
G) Expedient vs. Conscientious	5.18	2.02	5.3	1.8	-.32	.126	-2.54	.05	-.12	.198	-.61	NS
H) Shy vs. Bold	5.05	2.22	5.1	2.2	-.45	.137	-3.28	.01	-.05	.233	-.21	NS
I) Tough-Minded vs. Emotionally Sensitive	6.09	1.64	5.6	1.6	.59	.104	5.66	.01	.49	.170	2.88	.01
L) Trusting vs. Suspicious	6.71	1.89	6.4	2.1	1.21	.118	10.22	.01	.31	.215	1.44	NS
M) Practical vs. Imaginative	4.41	1.83	4.9	1.9	-1.09	.115	-9.48	.01	-.49	.198	-2.47	.05
N) Naive vs. Shrewd	5.89	1.98	5.4	2.0	.39	.123	3.16	.01	.49	.210	2.33	.05
O) Secure vs. Guilt Prone	6.88	1.89	6.3	2.2	1.38	.118	11.66	.01	.58	.222	2.61	.01
Q1) Conservative vs. Radical	5.74	1.87	5.2	1.8	.24	.117	2.05	.05	.54	.192	2.81	.01
Q2) Group Dependent vs. Self-Sufficient	6.36	1.92	6.3	2.0	.86	.120	7.16	.01	.06	.208	.29	NS
Q3) Low vs. High Ability to Bind Anxiety	5.18	1.84	5.4	1.7	-.32	.116	-2.77	.01	-.22	.184	-1.19	NS
Q4) Low vs. High Free-Floating Anxiety	6.94	1.92	7.0	2.0	1.44	.120	11.99	.01	-.06	.208	-.29	NS
I Extraversion	5.1	2.03	5.2	2.0	-.40	.126	-3.17	.01	-.1	.212	-.47	NS
II Anxiety	7.1	1.8	6.8	1.9	1.6	.113	14.13	.01	.3	.197	1.52	NS
III Tough Poise	5.7	2.0	6.0	2.2	.2	.125	1.61	NS	-.3	.226	-1.33	NS
IV Independence	5.2	1.5	5.5	1.8	-.3	.097	-3.11	.01	-.3	.180	-1.66	NS

difference on eight of the sixteen factors, thus suggesting that there is a good deal of similarity betweenthose who seek services of a mental-health center and those who seek the services of a private practitioner.

Significant differences were found on the following six primary factors: B (t = -4.18), I (t = 2.88), Q1 (t = 2.81), O (t = 2.61), M (t = -2.47), and N (t = 2.33). Thus, the mental-health center group may be described as more concrete in thinking (B-), more emotionally sensitive (I+), more radical (Q1+), more guilt prone (O+), more practical (M-), and more shrewd (N+) than the private-practice group. Conversely, the private-practice group might be compared with the mental-health group as more abstract in thinking, less emotionally sensitive, more conservative, less guilt-prone, more imaginative, and more socially naive.

FOUR-POINT CODES

Four-point codes for the second-order factors were determined for the 282 subjects in this study according to Krug (1981, p. 17). This resulted in 47 different four-point codes for the sample. These codes, their ranks, frequency, and incidence (percentage) are shown in Table 2. A criterion level of 3% incidence was set for purposes of interpretation and discussion. This criterion level results in selection and description of the following nine four point codes: 2322, 2222, 1222, 1322, 2232, 2332, 1321, 1312, 2321. Interpretation of these codes is based upon Krug's (1981) formulations.

2322. Thirty-four individuals obtained this code, accounting for 12% of the sample. Code 2322 is characterized by average scores on three of the four second-order factors with an elevation on Anxiety. Krug (1981, pp. 122-123) found incidences of 6.1% for normal population and 8.2% for clinical population. Although a cursory glance at this code might suggest much similarity with an all-average code, examination of primary-factor deviations which lead to this coding suggest otherwise. Trends in the modal type for this code lie in the direction of C-, L+, O+, Q3-, and Q4+ and suggest considerable difficulty in terms of ego strength (C-), suspicion (L+), guilt (O+), the presence of free-floating anxiety (Q4+), and in the in ability to bind this anxiety (Q3+).

2222. This code is characterized by average scores on all four second-order factors. It was found for 26 subjects in this study and with an incidence of 9.2%. Krug (1981, pp. 104-105) found a higher incidence rate for this code inboth normal (13.2%) and clinical (12.6%) populations. Krug cautions against interpretation of this code and suggests that alternative methods be used to determine if the individual is truly average or is perhaps defensive, depressed, or has reading difficulties.

1222. The third code was found for 16 individuals in the mental-health center group and showed a 5.6% incidence. Incidence in Krug's (1981, pp. 50-51) findings for this code were 2.8% for normal population and 3.4% for clinical population. This code is characterized by only one deviation from normality on Extraversion. Individuals who obtain this code would probably avoid the company of others. Although schizoid features may be present, they are generally not excessive.

1322. Sixteen subjects obtained this code and also accounted for 5.6% incidence. Krug (1981, pp. 68-69) found incidences of 2.1% for normal subjects and 4.3% for clinical subjects. With average scores on Tough Poise and Independence,

high score on Anxiety, and low score on Extraversion, the individual obtaining a 1322 code would probably experience much fear and tend to have little interaction with others. Common diagnoses for those having this code include personality disorder, neuroses, or narcotics addition. Depression may also be found among the 1322 codes.

2232. The present sample incidence for this code was 5.3% and was obtained by 15 individuals. Krug's (1981, pp. 110-111) incidence was 4.3% for both normal and clinical populations. Three of the second-order scales are average, and only Tough Poise is elevated. This code suggests individuals who may be insensitive and have difficulty in relating to others.

2332. This code was found for 14 of the sample and comprised 4.0% of the sample. Krug's (1981, pp. 128-129) rate of incidence was 1.8% for normal and 2.4% for clinical populations. The elevations on Anxiety and Tough Poise suggest a good deal of tension, instability, and insecurity. Aggressive behavior is possible, and an early history of poor family relationships may interfere with later development of interpersonal relationships.

1321. Twelve individuals obtained this code with an incidence of 4.2%. Krug's (1981, pp. 66-67) findings for this code were 1.6%for normal and 4.1% for clinical populations. This code is characterized by an average score only on Tough Poise, with an elevation for Anxiety and lowered scores on Extraversion and Independence. Individuals who obtain this four-point code often score high on a neuroticism scale, and a diagnosis of avoidant personality disorder is relatively common. This code is characterized by social withdrawal, low self-esteem, hypersensitivity to rejection, and need for emotional support from others. There may be a long history of unsatisfactory relationships, probably stemming from early-childhood family dysfunction.

1312. This code was found for 11 individuals in the sample and had an incidence of 3.9%. Incidence in Krug's (1981, pp. 62-63) research was 1.2% for normal and 4.6% for clinical populations. Individuals with this code often need much emotional support from others and often show dependency needs. Common diagnoses include neurosis, personality disorder, and narcotics addiction.

2321. The final code to be considered was found for 11 subjects with an incidence of 3.9%. Krug's (1981, 120-121) findings were slightly higher for a clinical population (4.1%) and lower for a normal population (2.5%). Anxiety, passivity, submissiveness, and emotional dependence tend to be evident for persons with this code.

Table 2 also includes four-point code data for a group of 131 individuals from the private-practice group described by Reuter, Wallbrown, & Wallbrown (1985). Rank, frequency, and incidence (percentage) are included with the code designations. Cursory examination of Table 2 suggests considerable similarity of four-point codes for these two groups. More specifically, the mental-health center group and the private-practice group had thirty-eight four-point codes in common. The private-practice group had three codes (3223, 1122, 3231) not found in the mental-health group. However, the incidence of these three codes was relatively small (1.5%, .8%,and .8%, respectively). Similarly, the mental-health center group had ten codes not found in theprivate-practice group. All of these ten codes had relatively small incidence (1.1% or less).

TABLE 2

COMPARISON OF FOUR-POINT CODES FOR
MENTAL HEALTH GROUP AND PRIVATE PRACTICE GROUP

Four-Point	Mental Health Center Group, n=282			Private Practice Group, n=132		
Code	Rank	f	%	Rank	f	%
2322	1	34	12.0	1	12	9.0
2222	2	26	9.2	5.5	7	5.3
1222	3.5	16	5.6	7.5	4	3.0
1322	3.5	16	5.6	7.5	4	3.0
2232	4	15	5.3	5.5	7	5.3
2332	5	14	7.9	3	11	8.3
1321	6	12	4.2	6	6	4.5
1312	7.5	11	3.9	4	8	6.1
2321	7.5	11	3.9	7.5	4	3.0
1311	8.5	8	2.8	8.5	3	2.3
2312	8.5	8	2.8	9.5	2	1.5
3332	8.5	8	2.8	9.5	2	1.5
1212	9.5	7	2.5	9.5	2	1.5
2212	9.5	7	2.5	9.5	2	1.5
2221	9.5	7	2.5	8.5	3	2.3
2322	9.5	7	2.5			
1211	10.5	5	1.8	7.5	4	3.0
2122	10.5	5	1.8	9.5	2	1.5
2233	10.5	5	1.8	8.5	3	2.3
3222	10.5	5	1.8	9.5	2	1.5
3232	10.5	5	1.8	9.5	2	1.5
2223	11.5	4	1.4	10.5	1	.8
2311	11.5	4	1.4			
1223	12.5	3	1.1	10.5	1	.8
2333	12.5	3	1.1	10.5	1	.8
3122	12.5	3	1.1			
3233	12.5	3	1.1	3	10	7.6
3312	12.5	3	1.1			
3333	12.5	3	1.1	7.5	4	3.0
1232	13.5	2	.7			
2133	13.5	2	.7			
2231	13.5	2	.7	10.5	1	.8
3132	13.5	2	.7	10.5	1	.8
3221	13.5	2	.7			
3323	13.5	2	.7			
1221	14.5	1	.4	10.5	1	.8
1231	14.5	1	.4	10.5	1	.8
1233	14.5	1	.4	10.5	1	.8
2112	14.5	1	.4			
2121	14.5	1	.4			
2123	14.5	1	.4	10.5	1	.8
2132	14.5	1	.4	10.5	1	.8
2211	14.5	1	.4	10.5	1	.8
2213	14.5	1	.4	10.5	1	.8
2323	14.5	1	.4	7.5	4	3.0
2331	14.5	1	.4	8.5	3	2.3
3331	14.5	1	.4			
1323				9.5	2	1.5
2311				9.5	2	1.5
3223				9.5	2	1.5
1122				10.5	1	.8
3231				10.5	1	.8

The nine four-point codes of the mental-health center group discussed above had incidence of 3% or more. Although the ranking of these nine four-point codes for the two groups is somewhat different, only the third-ranked code (3233, 7.6%) for the private-practice group is missing in the mental-health center group. The similarity of the incidence and ranking of four-point codes for the two groups provides further evidence that individuals who seek services of a mental-health center have much in common with individuals who seek counseling/psychotherapy from a private practitioner.

The findings from the present study are instructive in that they show that clients who seek counseling/psychotherapy in a comprehensive community mental-health center show a pattern of personality characteristics which can be dinguished from normals in the 16 PF standardization sample. The most noteworthy differences (more than one sten-score point) are evident in the form of elevations on the Anxiety secondary (QII), Free-Floating Anxiety (Q4), Guilt Proneness (O), and Suspiciousness (L), along with lower scores on Ego Strength (C) and Imagination (M). One would anticipate significant differences between mental-health center clients and normals on measures of psychopathology, but the findings from the present study go beyond this truism and indicate differences on normal personality dimensions which are both significant and substantial. This finding clearly supports the need for including a measure of normal personality development as well as a measure of psychopathology in the assessment battery used with adult outpatient clients.

Some significant differences between the 16 PF scores for the present sample of mental-health center clients and the private-practice sample (Reuter, Wallbrown, & Wallbrown, 1985) were evident, but the overall pattern for the two groups shows a remarkable degree of similarity. The largest mean difference (-.78) was on B, with the mental-health center group scoring in the average range of the concrete vs. abstract reasoning dimension and the private practice group scoring above average toward the abstract end of the continuum. Both groups scored substantially above average on Guilt Proneness (O), but the mental-health center group showed even more elevated scores than the private-practice group. Both groups scored significantly lower than normals on Imagination (M), but the scores for the mental-health center group were significantly more depressed than the scores for the private-practice group. The private-practice group scored in the average range on I (Tender Minded) in comparison with the mental-health center group, who were above average in the direction of emotional sensitivity. The private-practice group was slightly below average on Shrewdness (N) in contrast with the mental-health center group, which was above average in the direction of increased social sensitivity. Finally, the private-practice group was below average on Q1 (Radicalism), and the mental-health center group was above average on this dimension.

Despite the differences between these two groups, the following pattern of 16 PF scores — QII+, Q4+, O+, L+, C-, and M- still holds and provides the basis for some interesting hypotheses about why individuals seek counseling/psychotherapy. The work of Karson and O'Dell (1976) provides a rich source for such hypotheses, and all of the group differences except M-are suggested by their clinical insights. This finding for M suggests that some minimum degree of creative imagination is necessary for coping with emotional stress. One might surmise that when M- persons encounter a traumatic event they find it difficult to restructure their lives

and/or develop a new coping strategy. According to this hypothesis, one would suspect that an important aspect of counseling/psychotherapy with M- clients would involve helping them reframe traumatic events and/or develop new strategies or coping with stressful events.

Caution should be observed in interpreting the comparison between the scores reported by Reuter, Wallbrown, and Wallbrown (1985) with those for the present sample of mental-health center clients. Some of the differences between these two groups may be due to socio-economic factors. As a rule, clients seen by private practitioners tend to be from higher socio-economic strata than those from community facilities. Direct comparison between these two samples is difficult, since the clients from the Reuter, Wallbrown, and Wallbrown (1985) study were described in terms of presenting problems rather than DMS-III diagnosis.

A reasonable degree of restraint should be observed in attempting to generalize the findings from the present study to other clinical settings. As a rule, the greater the dissimilarity from the present sample, the more caution one should observe in attempting to draw generalizations. Of course, the safest basis for generalization consists of replication in a wide range of different clinical settings. Thus, the need for further research designed to replicate and refine the results from the present study is clearly indicated.

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FOOTNOTES

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