MCMI Personality Subtypes for Male and Female Alcoholics

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Alcohol-dependent outpatients were clustered on the basis of their responses on the Millon Clinical Multiaxial Inventory (MCMI; Millon, 1983) personality disorder scales; male and female patients were clustered separately. The clusters were compared with respect to self-reported psychiatric, interpersonal, and drinking problems. The results, along with those of previous cluster analyses with male inpatients, suggest several reliable personality subtypes. One type (more common in inpatient settings) scores high on Negativistic and Avoidant/Schizoid or Dependent scales and reports numerous problems and intense distress. A second type (more common in outpatient settings) reports few problems and scores highest on Compulsive or Histrionic/Narcissistic scales. A third group (found in all and only male samples) scores high on Narcissism and Antisocial scales, readily admits substance problems, and may be interpersonally controlling and distancing.

Although there may be high rates of personality problems within the alcoholic population (Koenigsberg, Kaplan, Gilmore, & Cooper, 1985), there does not appear to be a single personality pattern shared by all alcoholics. Nevertheless, certain personality subtypes may reliably recur within the alcoholic population. For example, cluster analyses suggest that Minnesota Multiphasic Personality Inventory (MMPI) profiles of alcoholics may tend to fall into certain reliable clusters, each with different patterns of drinking and socioemotional adjustment (Nerviano & Gross, 1983). An understanding of the nature and consequences of different personality styles within the alcoholic population may help clinicians to decrease attrition and improve treatment outcome.

The Millon Clinical Multiaxial Inventory (MCMI; Millon, 1983) was designed to assess personality pathology in a manner consistent with (but not identical to) the Diagnostic and Statistical Manual of Mental Disorders (3rd ed.; American Psychiatric Association, 1980) nosological system. Six previous studies used cluster analyses of the MCMI to construct typologies of patients with a primary diagnosis of alcohol abuse or dependence. Two studies used patients' scores on the 11 MCMI personality disorder scales to determine cluster membership (Donat, Walters, & Hume, 1991; Mayer & Scott, 1988), four used scores on both the 11 personality disorder scales and the 9 clinical syndrome scales (Bartsch & Hoffman, 1985; Corbisiero & Reznikoff, 1991; Craig, Verinis, & Wexler, 1985; Donat, 1988). Table 1 shows the clusters that have emerged and shows that the same clusters have tended to recur across the different studies.

The patients in these different clusters reported different levels of adjustment and patterns of alcohol use. The patients in the first two columns of Table 1 (no clinical elevations on the MCMI personality scales) reported relatively low levels of all types of pathology. In contrast, the patients in the last three columns (clinical elevations on the Negativistic, Avoidant, Schizoid, and/or Dependent scales) reported high levels of pathology (Mayer & Scott, 1988), including elevations on MMPI Scales 2(D), 7(Pt), and 8(Sc)(Bartsch & Hoffman, 1985) and MCMI Anxiety, Dysthymia, Somatization, and Psychotic Depression scales (Bartsch & Hoffman, 1985; Corbisiero & Reznikoff, 1991; Craig et al., 1985). The patients in these disturbed clusters also reported the most severe alcohol dependence and drinking consequences (Bartsch & Hoffman, 1985; Corbisiero & Reznikoff, 1991; Donat et al., 1991; Mayer & Scott, 1988). Patients in the middle column (clinical elevations on Narcissistic and Antisocial scales) reported more problems than the subclinical patients and fewer than the highly disturbed patients (Bartsch & Hoffman, 1985; Mayer & Scott, 1988) and tended to be particularly prone to problems relating to drug abuse and poor impulse control (Corbisiero & Reznikoff, 1991; Craig et al., 1985).

The studies just described used only inpatient populations. Therefore, the degree to which their results will generalize to outpatient settings is uncertain. Moreover, only two of the six samples included female patients (Donat, 1988; Donat et al., 1991), and in those two instances female patients constituted on average 26.7% of the samples and were not examined separately. Therefore, the degree to which the results of the preceding studies will generalize to female patients is uncertain as well. This study was designed to fill in these gaps in the research by (a) using a sample of alcoholics being treated in an outpatient setting and (b) performing two separate cluster analyses on the male and female patients within that setting. We compare the results from our male and female samples with each other and with the results from previous inpatient samples.

TABLE 1
Percentages of Patients in Each Type of Cluster for Each Study

Clinical Elevations- Subclinical Elevations (mean base rates ≥ 65)		none- COM	none- NAR/HIS	HTS/NA.R- COM	HIS/NAR- NAR/ANTJ- COM HIS		NEG- NEG/AVO/SCH- DEP/AVO/SCH- BOR DEP/BOR NEG	DEP/AVO/SCH- NEG
Study Rartech & Hoffman								
(1985)	125 male subjects	15%	14%		18%	28%		25%
Craig, Verinis,	•							
& Wexler (1985)	106 male subjects	22%			25%	2.7%		26%
Donat (1988)	109 male and							
	female subjects	15%	9/46		6%	40%		29%
Mayer & Scott (1988)	126 male subjects	17%			22%	38%	12%	
Corbisiero & Reznikoff								
(1991)	250 male subjects		10%		23%		670%	
Donat, Walters, &								
Hume (1991)	148 male and							
	female subjects	1.7%			17%	25%	19%	23%
Current study,								
male subjects	116 male subjects	55%			20%		25%	
Current study,								
female subjects	84 female subjects		46%	23%		31%		
Mean		18%	10%	3 %	17%	24%	15%	13%

Note. AVO = Avoidant, SCH = Schizoid Asocial, HIS = Histrionic, ANTI = Antisocial, COM = Compulsive-Conforming, NEG = Negativistic-Passive-Aggressive, BOR = Borderline.

METHOD

Subjects

The sample consisted of 200 subjects (116 male, 84 female) selected from consecutive admissions to the Stanford Alcohol and Drug Treatment Center (an outpatient facility). The sole criterion was a primary diagnosis of alcohol dependence. Diagnoses were made at intake according to the criteria outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; American Psychiatric Association, 1987).

The subjects ranged in age from 17 to 83 years, with a mean of 42.4 (SD=13.6); male and female subjects did not differ in age, t(198)=.95, p>.25. Eighty-eight percent were White. 3% were Hispanic, 3% were African American, 2% were Indian or Asian, and 4% did not report their ethnicity. As soon as the subjects were deemed to be alcohol free or to have completed detoxification, they were administered the following measures.

Measures

MCMI. The MCMI is a self-report diagnostic inventory designed for use with patients undergoing psychiatric assessment or treatment. Studies supporting its psychometric adequacy are described in Millon (1983) and Wetzler (1990). Composed of 175 items to which patients respond "true" or "false," the MCMI yields scores for 8 personality disorder scales, 3 severe personality disorder scales, and 9 clinical syndrome scales. MCMI raw scores are converted into base rate scores by using normative data for each scale. A base rate score of 75 or more is diagnostic of the presence of that personality trait or clinical syndrome. There are different sets of base rate norms for male and female patients; thus, a score of 75 on a particular scale is equally diagnostic for a male patient and a female patient.

Profile Inventory-Alcohol Use (Pl-A). The PI-A (currently under development at our treatment center) is a 34-item self-report instrument designed to assess aspects of patients' alcohol use history. Four 8-item scales measured quantities consumed, symptoms of dependence, physical effects, and cognitive effects. Quantities Consumed items included "Have you had a drink on at least half of the last 30 days?" and "On a typical day you drank, did you drink more than 4 cans of beer, or 4 glasses of wine, or 4 shots of hard liquor?" Symptoms of Dependence Items included "Do you almost constantly think about drinking and alcohol?" and "After taking one or two drinks, can you usually stop?" Physical Effects items

included "Do you get physically sick as a result of drinking?" and "Have you had the shakes when sobering up?" Cognitive Effects items included "As a result of drinking have you seen things that were not really there?" and "After drinking heavily, has your thinking been fuzzy or unclear?" Two additional items asked: "How old were you when you first started drinking?" and "How old were you when your drinking first started to cause problems?" For most items, subjects simply indicated whether or not that item was *true* (1) or *false* (0) for them. The PI-A was administered to a random subset (134; 77 male, 57 female) of the patients who received the MCMI.

Inventory of Interpersonal Problems (IIP). Because previous research has shown reliable relationships between personality disorder symptoms and interpersonal problems (Soldz, Budman, Demby, & Merry, 1993) and because interpersonal problems are crucial in treatment planning and outcome, we were also interested in exploring interpersonal correlates of MCMI cluster membership.

The IIP (Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988) asks subjects to rate (on scales of 0 to 4) how distressed they have been by each of 127 interpersonal problems. The problems are things that subjects either "find hard to do" or "do too much"; for example, "It is hard for me to feel close to other people" or "I am too independent." The IIP yields overall scores on the bipolar dimensions of overly cold versus overly nurturant (LOV) and overly domineering versus overly unassertive (DOM).

LOV and DOM scores are computed from subjects' standardized scores on the IIP circumplex scales (Alden, Wiggins, & Pincus, 1990) using the following formulae (Wiggins, Phillips, & Trapnell, 1989). LOV = .3 [nurturant - cold + (.707) (exploitable + intrusive - avoidant - vindictive)]. DOM = .3 [domineering - nonassertive + (.707)(vindictive + intrusive - avoidant - exploitable)]. The IIP was administered to a random subset (n = 177; 103 male, 74 female) of the patients in our sample.

Data Analysis

Through agglomerative hierarchical cluster analysis (using an SPSS-X program with a Euclidean distance metric), subgroups of alcoholics were identified on the basis of their scores on the 11 personality disorder scales of the MCMI. Following Mayer and Scott (1988), the nine clinical syndrome scales were not included in the cluster analysis because they measure constructs that are conceptually distinct from those measured by the personality scales. Analyses of variance were used to compare the subgroups of alcoholics with respect to their responses on the MCMI, PI-A, and IIP.

RESULTS

Mean MCMI Profiles for the Sample and for Each Gender

Table 2 shows the mean scores on the 20 MCMI scales for the entire sample as well as for male and female subjects separately. Looking at the entire sample, the highest elevation was (not surprisingly) on the Alcohol Abuse Scale, followed by Anxiety, Drug Abuse, and Dysthymia. In contrast to previous studies using inpatients (for a review, see Craig & Weinberg, 1992), no personality disorder scales were elevated (mean base rates all less than 62).

The use of separate base rate norms for male and female subjects implies that any differences between male and female subjects in our sample reflect sex differences beyond those found in the normative treatment population. Overall, the sex differences were few in number and weak in magnitude. However, there was evidence that female alcoholics report more symptoms associated with Borderline-Cycloid, Anxiety, Somatoform, and Psychotic-Depressive disorders and that male alcoholics report more symptoms associated with Drug Abuse.

TABLE 2

Mean Scores on Each of the MCMI Scales for the Sample and for Each Gender

	Tot	ai	Ma	le	Fem	ale	
Scale	Mean	SE	Mean	SE	Mean	SE	t(198)
Schizoid-Asocial	48.2	1.8	47.5	2.6	49.2	2.5	0.46
Avoidant	52.2	1.9	51.0	2.6	53.9	2.8	0.77
Dependent	54.1	2.0	52.0	2.7	57.0	3.1	1.22
Histrionic	61.7	1.8	62.1	2.2	61.2	3.1	-0.24
Narcissistic	61.5	1.6	62.7	2.0	59,7	2.4	-0.95
Antisocial	57.6	1.5	59.7	1.8	54.7	2.5	-1.63
Compulsive	55.2	1.3	54.4	1.5	56.2	2.2	0.69
Negativistic	59.2	2.0	58.8	2.5	59.6	3.3	0.18
Schizotypal	52.4	1.4	51.5	1.8	53.6	2.0	0.76
Borderline	60.8	1.6	58.0	1.9	64.8	2.6	2.10*
Paranoid	53.3	1.4	54.5	1.7	51.7	2.3	- 0.99
Anxiety	67.4	2.0	63.6	2.5	72,7	3.0	2.32*
Somatoform	52.6	1.4	50.1	1.7	56.0	2.4	2.01*
Hypomania	45.4	2.3	45.1	3.0	46.0	3.7	0.19
Dysthymia	62.0	2.0	59.9	2.4	64.9	3.3	1.22
Alcohol Abuse	74.8	1.5	73.8	1.9	76.2	2.3	0.79
Drug Abuse	64.8	1.6	67.9	1.8	60.6	2.8	-2.19*
Psychotic Thinking	55.8	0.9	55.1	1.2	56.9	1.4	1.03
Psychotic Depression	56.0	0.9	54.3	1.1	58.3	1.6	2,08*
Psychotic Delusion	52.0	1.4	50.8	1.9	53.7	2.1	1.02

^{*}p < .05.

Cluster Analyses on the MCMI

The male and female patients were clustered according to whether they scored similarly on the 11 MCMI personality scales. We selected the three largest male and three largest female clusters for comparison because (a) the majority of patients showed a good fit with one of three clusters (only 11 of the 116 male subjects, 9%, and 6 of the 84 female subjects, 7%, did not) and (b) further divisions did not yield sizable, clinically distinct clusters. Table 3 shows the mean scores on the 20 MCMI scales for each cluster. Univariate analyses were performed on each of the 20 scales; there were significant main effects for each of the 11 personality disorder scales (used to create the clusters) and the 9 clinical syndrome scales, all Fs(5, 177) > 4.0, ps < .002.

Among male subjects, those in Cluster 1 (55% of the sample) showed no clinical elevations but had subclinical high points on the Narcissistic and Histrionic scales. Those in Cluster 2 (25%) showed elevations on numerous scales. On the personality disorder scales they showed mean elevations of 75 or more on the Avoidant, Schizoid, Negativistic, and Borderline scales. On the clinical syndrome scales they showed mean elevations above 90 on Anxiety and above 80 on Dysthymia and Alcohol Abuse. The male subjects

TABLE 3
Mean Base Rate Scores for Each MCMI Scale for Each Cluster

		Male Clusters		F	Female Clusters		
Scale	1	2	3	1	2	3	
Schizoid-Asocial	29.5	81.7 _e	52.1 _b	55.3 _b	53.7 _b	19.4	
Avoidant	31.2 _a	85.2 _c	52.9 _b	56.4 _b	67.1 _b	18.5 _a	
Dependent	44.6 _a	67.9 _b	36.0 _a	59.1 _{a,b}	56.5 _{a,b}	43.1 _{a,b}	
Histrionic	67.5 _c	30.9 _e	74.0 _c	52.9 _b	66.5 _{b,c}	82.1 _c	
Narcissistic	68.1 _c	36.0a	80.7 _c	51.4 _b	66.4 _c	77.9°	
Antisociai	58.9 _{a,b}	49.2a	77.8°	47.0 _a	69.5 _{b,c}	59.3 _{a,b,c}	
Compulsive	63.4 _b	51.8	45.5	64.6 _b	40.3 _a	68.2 _b	
Negativistic	37.1 _e	79.8	76.1 _c	50.6 _b	89.0	27.4	
Schizotypal	39.4a	73.2°	50.3 _b	55.1 _b	59.0 _b	31.2 _a	
Borderline	43.0g	75.6 _{c,d}	64.3 _{b,c}	58.85	84.1	40.3	
Paranoid	46.3 _{a,b}	58.5 _{b,c,d}	65.0 _{c,d}	43.2	65.8°	47.1 _{b,c}	
Anxiety	43.5	90.7 _c	70.1 _b	68.0 _b	94.2	42.4	
Somatoform	38.7	61.6 _{b,c}	52.5 _b	52.1 _b	68.3 _c	36.4°	
Hypomania	39.5 _{a,b}	27.4 _a	60.0 _{b,c}	32.4	65.5°	45.6 _{a,b,c}	
Dysthymia	40.7 _b	86.5 _d	$68.4_{c}^{0.0}$	64.0°	86.6	24.6 _a	
Aicohol Abuse	61.8°	82.2 _{b,c}	84.1 _{b,c}	71.6 _{a,b}	90.0 _c	61.7°	
Drug Abuse	61.0 _e	62.8 _{z,b,c}	80.7°	48.7	77.8 _{5.c}	58.7 _{a,b}	
Psychotic Thinking	46.8 _a	67.2 _e	58.1 _{c,d}	53.7 _{b,c}	62.4 _{d,e}	47.8 _{a,b}	
Psychotic Depression	45.6	65.0 _c	59.7 _{b.c}	56.5 _b	67.3 _c	42.8	
Psychotic Delusion	45.0 _a	58.0 _{a,b}	56.7 _{a,b}	46.9 _{a,b}	61.1 _b	54.0 _{a,b}	

Note. Within rows, means with different subscripts differ at p < .05 by Scheffé tests. The mean standard error of the scores in the table was 3.1.

in Cluster 3 (20%) showed elevations above 75 on the Narcissistic, Antisocial, and Negativistic personality scales and on Alcohol and Drug Abuse scales

Among female subjects, those in Cluster 1 (46%) showed no clinical elevations but had subclinical high points on the Compulsive-Conforming (65), Alcohol Abuse (72), and Anxiety (68) scales. Those in Cluster 2 (31%) showed significant elevations on a number of scales. On the personality disorder scales, they showed mean elevations of 80 or more on Negativistic and Borderline-Cycloid scales. On the clinical syndrome scales, they showed mean elevations of 90 or more on Anxiety and Alcohol Abuse and above 75 on Dysthymia and Drug Abuse. The female subjects in Cluster 3 (23%) showed elevations above 75 on the Narcissistic and Histrionic personality scales but were relatively low on most of the other scales.

PI-A

Table 4 shows the mean scores on the PI-A for the sample and for each gender. The male and female alcoholics generally reported similar alcohol use histories, although male alcoholics did report consuming greater quantities than did female alcoholics. Table 5 shows the mean scores on the PI-A for each cluster. The numbers of patients who completed the PI-A in each cluster were, respectively, 36, 19, and 15 for the male clusters, and 27, 16, and 10 for the female clusters. Examination of the clusters shows that the difference in consumption by male and female alcoholics is due to the relatively heavy usage by Narcissistic/Antisocial and Avoidant/Schizoid (Clusters 3 and 2) male subjects, who consumed significantly more than the subclinical (Cluster 1) male subjects.

The clusters also differed in the age when their drinking first started to cause problems, with Avoidant/Schizoid (Cluster 2) male alcoholics report-

TABLE 4

Mean Scores on the Profile Inventory-Alcohol Use (PI-A) for the Sample and for Each Gender

***************************************	Sam	pie	Ма	ile	Female		
Scale	Mean	SE	Mean	SE	Mean	SE	t(132)
Age first drinking	18.07	0.61	17.22	0.67	19.23	1.08	-1.65
Age first problems	28.93	0.91	28.14	1.22	29.98	1.36	-1.00
Quantities consumed	5.49	0.14	5.76	0.18	5.12	0.23	2.21*
Dependency symptoms	4.78	0.17	4.56	0.22	5.07	0.27	-1.47
Physical effects	3.91	0.16	3.78	0.23	4.08	0.23	-0.92
Cognitive effects	3.24	0.14	3.17	0.20	3.33	0.20	-0.55

Note. The PI-A scales could range from 0 to 8.

^{*}p < .05.

			T	ABLE 5			
Mean Scores	on	the	Profile	Inventory-Alcohol	Use	by	Cluster

		Male Cluste	ers	Female Clusters			
Scale	I	2	3	I	2	3	
Age first drinking	18.0,	16.8 _a	17.1 _a	20.4 _a	16.9 ₅	18.8 _a	
Age first problems	32.2 _b	24.2 _a	26.4 _{a,b}	33.0 _b	25.4 _{a,b}	29.1 _{a,b}	
Quantity consumed	5.3	6.3 _b	6.5 _b	5.0 _a	5.0 _{a.b}	4.8 _{a,b}	
Dependency symptoms	3.8	5.2	4.5 _e	4.9	5.0 _a	4.8	
Cognitive effects	2.8	3.2 _n	3.15	3.2 _a	3.7 _a	$2.7_{\rm a}$	
Physical effects	3.4 _s	3.9 _a	3.3 _a	4.1 _a	4.2 _a	3.6 _a	

Note. Within rows, means with different subscripts differ at p < .05 by Newman-Keuls tests. The mean standard errors of age first drinking and age first problems were 1.5 and 2.3. The mean standard error of the scale scores was 0.4.

ing problems at younger ages than the subclinical (Cluster 1) male and female alcoholics. Mayer and Scott (1988) similarly found that patients in their subclinical cluster started drinking and having drinking problems at a later age. The clusters did not differ with respect to dependency symptoms, cognitive problems, and physical problems.

IIP

Table 6 shows the mean scores on the IIP for the sample and for each gender. The mean IIP score indicates how distressed the patients were by the interpersonal problems described on the IIP. The sample mean of 1.16 (on a scale of 0 to 4) is less than that of a typical psychiatric sample and is similar to that of nonpsychiatric samples (L. Horowitz, personal communication, April 21, 1993).

Women reported being more distressed by interpersonal problems than men. Table 7 shows the mean scores on the HP for each cluster. The numbers of patients who completed the HP in each cluster were, respectively, 50, 22, and 20 for the male clusters, and 33, 22, and 13 for the female clusters. Patients with Histrionic/Narcissistic as their highest scales (male Cluster 1 and female Cluster 3) reported being less bothered by interpersonal problems than other patients; the fact that there were so many of such men and so few of such women explains the tendency for men to score lower on the HP on average.

Men and women also reported different types of interpersonal problems. Whereas women tended to report problems with being overly concerned with getting positive reactions from others and having a hard time setting limits and boundaries (positive LOV scores), men were more likely to report problems with being too guarded and distant and having a hard time being open, close, and loving (negative LOV scores). Moreover, whereas women

tended to report problems with being too easily persuaded and embarrassed and having a hard time being confident and assertive (negative DOM scores), men were more likely to report problems with being too controlling, independent, argumentative, and having a hard time listening to or caring about others (positive DOM scores).

Examination of the clusters shows that the difference between male and female alcoholics on the LOV dimension was due to differences between the relatively distant Avoidant/Schizoid and Narcissistic/Antisocial (Clusters 2 and 3) male subjects and the relatively open subclinical and Histrionic/Narcissistic (Clusters 1 and 3) female subjects. The subclinical (Cluster 1) male subjects and Negativistic/Borderline (Cluster 2) female subjects, being less distant than other male subjects and less open than other female subjects, were in the middle on the LOV dimension.

There were also significant differences among the clusters on the DOM dimension. The Narcissistic/Antisocial (Cluster 3) male subjects and, to a lesser extent, the Negativistic/Borderline (Cluster 2) female subjects and subclinical (Cluster 1) male subjects reported problems with being too domineering. In contrast, the subclinical (Cluster 1) female subjects and, to a

TABLE 6
Mean Scores on the IIP for the Sample and for Each Gender

	Sam	iple	Ma	le	Fem	ale		
Measure	Mean	SE	Mean	SE	Mean	SE	t(175)	
IIP	1.16	0.07	1.03	0.09	1.33	0.09	2.21*	
LOV	0.00	0.05	-0.14	0.07	0.20	0.08	3.13**	
DOM	0.00	0.05	0.15	0.06	-0.21	0.08	-3.73**	

Note. IIP = Inventory of Interpersonal Problems, LOV = overly cold versus overly nurturant, DOM = overly domineering versus overly unassertive. Because the LOV and DOM vectors are composites of standardized scores on the IIP octant scales, the sample means are necessarily zero.

TABLE 7
Mean Scores on the IIP by Cluster

		Maie Clusters	3	1	Female Clusti	ers
Measure	1	2	3	1	2	3
HP	0.76 _a	1.23 _b	1.24 _{a,b}	1.34 _b	1.44 _b	0.72 _{s,b}
LOV	-0.02_{b}	-0.53_a	$-0.35_{a,b}$	0.27 _c	0.02 _b	$0.37_{\rm c}$
DOM	0.13_{c}	$-0.30_{a,b}$	0.56 _a	-0.53_{s}	$0.27_{\mathrm{c,d}}$	$-0.06_{b,c}$

Note. IIP = Inventory of Interpersonal Problems, LOV = overly cold versus overly nurturant, DOM = overly domineering versus overly unassertive. Within rows, means with different subscripts differ at p < .05 by Newman-Keuls tests. The mean standard errors for the IIP, LOV, and DOM scores were, respectively, 0.16, 0.14, and 0.11.

^{*}p < .05. **p < .005.

lesser extent, the Avoidant/Schizoid (Cluster 2) male subjects reported problems with being too unassertive.

DISCUSSION

Comparisons of the Clusters

In general, the clusters differed more with respect to interpersonal and affective symptoms than alcohol use symptoms. One explanation is that personality disorder symptoms are more predictive of interpersonal and affective style than of drinking style and drinking consequences. An alternate explanation is that because the patients were all diagnosed with alcohol dependence, there was a restricted range of responding on the alcohol use questions.

Comparisons of the male and female clusters revealed both similarities and differences. There were clusters of male subjects and female subjects who reported relatively high levels of interpersonal, alcohol, and psychological problems, including high levels of negativism and extreme levels of Anxiety and Dysthymia. However, there were differences between these distressed male and female subjects. The male subjects reported significantly more Schizoid–Asocial, Avoidant, and Schizotypal symptoms and significantly fewer Histrionic, Narcissistic, Antisocial, and Hypomanic symptoms than did the female subjects. Moreover, in direct contrast to the overall sex differences, the distressed, negativistic male subjects described themselves as too unassertive, and the distressed, negativistic female subjects described themselves as too domineering.

For both male and the female subjects, the largest clusters were those whose mean MCMI scores were subclinical. However, the profiles of the subclinical male and female subjects were different. The subclinical female subjects generally reported only slightly less psychopathology than the normative psychiatric population, whereas the subclinical male subjects generally reported significantly less psychopathology. The profile for subclinical male subjects was similar to that for Histrionic/Narcissistic (Cluster 3) female subjects. Both groups had high points on the Histrionic, Narcissistic, and Compulsive scales and relatively low scores on all other measures, even measures of alcoholism. Given that the patients had just entered treatment with a diagnosis alcohol dependence, these scores may suggest defensiveness.

Finally, the Narcissistic/Antisocial (Cluster 3) male subjects reported levels of pathology similar to the psychiatric norms on most scales and relatively high levels of alcohol and drug abuse symptoms; there was no analogous cluster of female subjects.

Comparisons of This Study and Previous Studies

Table 1 shows that the clusters derived from our sample were generally similar to those derived from previous samples. First, there appears to be a superordinate cluster of patients (columns 5 through 7) that report relatively high levels of psychiatric, interpersonal, and drinking problems and very high levels of Anxiety and Dysthymia. Whereas these distressed patients comprised approximately 60% of inpatient samples, they comprised only 27% of our outpatient sample.

Second, there appears to be a cluster of patients (column 4) who report generally intermediate levels of pathology and relatively high levels of Narcissistic. Antisocial, and Alcohol and Drug Abuse symptoms. These patients comprised an average of 19% of the male samples. No comparable cluster appeared in our female sample.

Conversely, our female sample contained a cluster of Histrionic/Narcissistic patients for which there was no comparable male cluster. However, these female subjects could be considered part of a superordinate cluster of patients (columns 1 through 3) who report relatively low levels of all types of problems and high points on the Histrionic and Narcissistic or Compulsive scales. Whereas this superordinate cluster comprised only 20% of the inpatient samples, they comprised 61% of our outpatient sample.

Comparisons of Male and Female Alcoholics

Overall, there were few differences between male and female alcoholics beyond those found in nonalcoholic populations. On the MCMI, female subjects reported more Borderline-Cycloid, Anxiety, and Somatoform symptoms and fewer Drug Abuse symptoms. Previous studies of alcoholics have similarly found more Anxiety symptoms in women (as well as more Antisocial symptoms in men) but no differences in overall levels of psychopathology (Ross, Glaser, & Stiasny, 1988). On the PI-A, women reported drinking less than men but did not differ in terms of age of drinking. dependency symptoms, and physical or cognitive consequences. Other studies have similarly found differences in amounts consumed and social and occupational consequences but not in loss of control, dependence, or medical consequences (although they have found evidence that men start abusing alcohol earlier than women; Hasin, Grant, & Weinflash. 1988; Moos, Finney, & Cronkite, 1990; Ross, 1989). Finally, the IIP showed the traditional differences in interpersonal self-image: Women reported having more problems with being too open and unassertive, and men reported having more problems with being too distant and controlling.

Implications for Treatment

In summary, although alcoholics are a heterogeneous group, they may be usefully sorted into one of a small number of personality types, each requiring different treatment strategies. First, there appears to be a cluster of alcoholics (more common in outpatient than inpatient settings) who report relatively few problems. Of these patients, those with Histrionic/Narcissistic (as opposed to Compulsive) high points may be especially prone to other ego-protective defenses. With these patients, the first goal of treatment may be to break through their denial, especially with respect to their chronic alcoholism.

Second, there appears to be a cluster of Narcissistic/Antisocial male patients. These patients readily admit their alcohol and drug problems. However, they report problems with being too distant, independent, and controlling, which may make it difficult for them to surrender control to a treatment regimen or to a higher power in Alcoholics Anonymous. Treatment may focus on helping these patients become more comfortable with openness and dependency.

Finally, there appears to be a cluster of alcoholics (more common in inpatient than outpatient settings) who report extreme levels of distress. For these patients, easing their distress may be the first goal of treatment. However, interpersonal conflicts may interfere with the therapeutic relationships necessary to achieve this goal. Schizoid/Avoidant features (especially common in distressed male patients) may lead to ambivalence around connecting with counselors and other patients; Negativistic/Borderline features (especially common in distressed female patients) may lead to angry and unstable relationships throughout treatment.

Directions for Future Research

The limitations of this study suggest several directions for future research. First, cross-validation on independent samples of male and female outpatients may increase confidence in the generalizability of our results. Second, existing cluster analyses have used the MCMI-I; replications using the MCMI-II may increase the perceived robustness and utility of the findings. Finally, future research needs to show empirically that cluster membership predicts responsiveness to treatment and thus provides a basis for treatment planning.

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REFERENCES

- Alden, L. E., Wiggins, J. S., & Pincus, A. L. (1990). Construction of circumplex scales for the inventory of interpersonal problems. *Journal of Personality Assessment*, 55, 521-536.
- American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). Washington, DC: Author.
- American Psychiatric Association. (1987). Diagnostic and statistical manual of mental disorders (3rd ed., rev.). Washington, DC: Author.
- Bartsch, T. W., & Hoffman, J. J. (1985). A cluster analysis of Millon Clinical Multiaxial Inventory profiles: More about a taxonomy of alcoholic subtypes. *Journal of Clinical Psy*chology, 41, 707-713.
- Corbisiero, J. R., & Reznikoff, M. (1991). The relationship between personality types and style of alcohol use. *Journal of Clinical Psychology*, 47, 291-298.
- Craig, R. J., Verinis, J. S., & Wexler, S. (1985). Personality characteristics of drug addicts and alcoholics on the Millon Clinical Multiaxial Inventory. *Journal of Personality Assessment*, 49, 156-160.
- Craig, R. J., & Weinberg, D. (1992). Assessing alcoholics with the Millon Clinical Multiaxial Inventory: A review. Psychology of Addictive Behaviors, 6, 200-208.
- Donat, D. C. (1988). Millon Clinical Multiaxial Inventory (MCMI) clusters for alcohol abusers: Further evidence of validity and implications for medical psychotherapy. Medical Psychotherapy, 1, 41-50.
- Donat, D. C., Walters, J., & Hume, A. (1991). Personality characteristics of alcohol dependent inpatients: Relationship of MCMI subtypes to self-reported drinking behavior. *Journal of Personality Assessment*, 57, 335-344.
- Hasin, D. S., Grant, B. F., & Weinflash, J. (1988). Male/female differences in alcohol-related problems: Alcohol rehabilitation patients. The International Journal of Addictions, 23, 437-448.
- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureno, G., & Villasenor, V. S. (1988). Inventory of Interpersonal Problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, 56, 885-892.
- Koenigsberg, H. W., Kaplan, R. D., Gilmore, M. M., & Cooper, A. M. (1985). The relationship between syndrome and personality disorder in DSM-III: Experience with 2.462 patients. *American Journal of Psychiatry*, 142, 207-212
- Mayer, G. S., & Scott, K. J. (1988). An exploration of heterogeneity in an inpatient male alcoholic population. *Journal of Personality Disorders*, 2, 243-255.
- Millon, T. (1983). Millon Clinical Multiaxial Inventory manual (3rd ed.). Minneapolis. National Computer Systems.
- Moos, R. H., Finney, J. W., & Cronkite, R. C. (1990). Alcoholism treatment: Context, process. and outcome. New York: Oxford University Press.
- Nerviano, V., & Gross, W. (1983). Personality types of alcoholics on objective inventories. Journal of Studies on Alcohol, 44, 837-851.
- Ross, H. E. (1989). Alcohol and drug abuse in treated alcoholics: A comparison of men and women. Alcoholism: Clinical and Experimental Research, 13, 810-816.
- Ross, H. E., Glaser, F. B., & Stiasny, S. (1988). Sex differences in the prevalence of psychiatric disorders in patients with alcohol and drug problems. *British Journal of Addiction*, 83, 1179-1192.
- Soldz, S., Budman, S., Demby, A., & Merry, J. (1993). Representation of personality disorders in a circumplex and five-factor space: Explorations with a clinical sample. *Psychological Assessment*, 5, 41-52.
- Wetzler, S. (1990). The Millon Clinical Multiaxial Inventory: A review. Journal of Personality Assessment, 55, 445-464.

264 MATANO, LOCKE, SCHWARTZ

Wiggins, J. S., Phillips, N., & Trapnell, P. (1989). Circular reasoning about interpersonal behavior: Evidence concerning some untested assumptions underlying diagnostic classification. Journal of Personality and Social Psychology, 56, 296-305.

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