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M.P.I. (Short Form) Applied To Egyptian Diabetics

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ABSTRACT

In 130 established diabetics and 61 non-diabetic controls, the Arabic version of a short form of the Maudsley Personality Inventory((M.P.I.) has been applied to asses the two personality dimensions: Neuroticism and Extraversion. There was a tendency towards low scoring on the extraversion scale, indicating introversion. As far as the studied personality traits are concerned, positive correlation between clinical and psychometric assessment was found. Male diabetics were found to be more neurotic than females which probably reflects a higher degree of insecurity in the male as to the known effects of the illness on productivity and efficiency.

Various studies on psychosomatic disorders have shown that neuroticism and extraversion are affected by disturbances of mood. The presence of symptoms was associated with a marked increase in neuroticism and a less marked decrease in extraversion; changes in the opposite direction occurred on recovery. The extraversion dimension appears to represent a more stable aspect of personality which is less liable to be affected by illness.

The Maudsley Personality Inventory (M.P.I.) has been shown to demonstrate a relatively clear distinction between normal controls and neurotic patients (Eysenck, 1959; Ingham and Robinson, 1964).

The M.P.I. was designed to give a rough and ready measure of two important personality dimensions: Neuroticism or emotionality, and Extraversion. Neuroticism refers to the general emotional lability of a person, his emotional overresponsiveness, and his liability to neurotic breakdown under stress. Extraversion as opposed to introversion, refers to the outgoing, uninhibited, sociable proclivities of a person. The two dimensions are conceived of as being quite independent. However, according to Eysenck (1957), neurotic patients suffering from anxiety

states, neurotic depression or obsessional neurosis (dysthymic patients) have low extraversion scores, while patients with hysteria or psychopathic personality have normal or raised extraversion scores.

MATERIAL AND METHOD

130 established diabetics (100 females and 30 males) attending Kasr El-Aini diabetic clinic for treatment were psychometrically assessed given the Arabic version of the M.P.I. A short form of the M.P.I. had been prepared ; this consists of two scales of six items each, taken from the long form of the scales. The test forms were individually applied by the same interviewer. Each question answered "Yes" was scored two points, each "Not sure" answer was scored one point and no points were given for a negative answer.

A control group consisted of 61 non-diabetics of the same socio-economic standard. They were selected at random (37 females and 24 males). They were treated in the same way as regards administration of the test.

Out of the 130 diabetics mentioned above, 104 (24 males and 80 females) were clinically assessed on the two dimensions! (a) extraversion-introversion which includes paranoid and cyclothymic traits and (b) stability-neuroticism which includes anxiety, hysteria, and obsessive traits. The remaining 26 patients could not be classified under any of these two dimensions.

RESULTS

1 — Diabetics :

A) **Extraversion scale :** The frequency distribution of extraversion scores is given in table (1), and is graphically represented in Fig. (1). The number of cases scoring 6 and less are 86 (66.15%), while those scoring above 6 are 4 (33.9%). The mean extraversion score is 6.32. Thus there is a tendency towards low scoring on the extraversion scale, indicating introversion.

B) **Neuroticism scale :** The frequency distribution of neuroticism scores is given in table (2), and is graphically represented in Fig. (1). The number of cases scoring 6 and less are 21 (16.15%), while those scoring above 6 are 109 (83.9%). The mean neuroticism score is 10.29. Thus, there is a tendency towards high scoring on the neuroticism scale indicating neurotic disposition.

TABLE I

Frequency Distribution of Extroversion Scores.

Extraversion scores.	Diabetics			Controls		
	M.	F.	Total	M.	F.	Total
0 & 1	1	4	5	0	0	0
2	2	13	15	1	0	1
3	2	11	13	0	2	2
4	3	18	21	1	1	2
5	3	2	5	0	3	3
6	5	22	27	3	5	8
7	2	3	5	0	8	8
8	3	11	14	6	1	7
9	0	2	2	0	4	4
10	6	7	13	11	2	13
11	0	3	3	0	9	9
12	3	4	7	2	2	4
Total	30	100	130	24	37	61

TABLE II

Frequency Distribution of Extroversion Scores.

Neuroticism scores.	Diabetics			Controls		
	M.	F.	Total	M.	F.	Total
0 & 1	0	0	0	1	2	3
2	0	1	1	4	1	5
3	0	0	0	0	0	0
4	1	4	5	3	1	4
5	0	1	1	0	0	0
6	4	10	14	4	6	10
7	1	0	1	1	0	1
8	4	13	17	4	7	11
9	3	1	4	0	0	0
10	3	25	28	5	10	15
11	0	5	5	0	0	0
12	14	40	54	2	10	12
Total	30	100	130	24	37	61

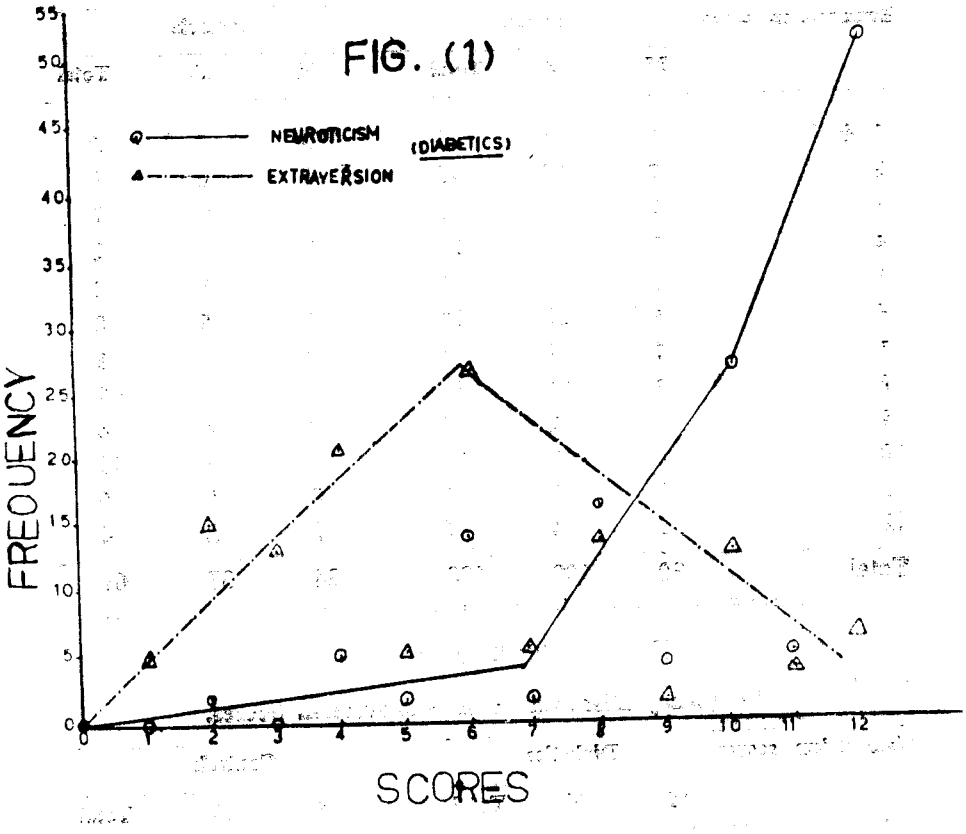

Fig. (1) Diabetics

Extraversion Scores .

1. Mean Score ... ... = 6.32
2. No. of cases scoring 6 and less ... ... = 86 (66.15%)
3. No. of cases scoring above 6 ... ... = 44 (33.85%)

Neuroticism Scores :

1. Mean Score ... ... = 10.29
2. No. of cases scoring 6 and less ... ... = 21 (16.15%)
3. No. of cases scoring above 6 ... ... = 109 (83.85%)

TABLE III

Clinical Assessment of Personality Dimensions

Personality Dimension.		Extraversion-Introversion.		Stability — Neuroticism.		
Personality	Rating	Paranoid	Cyclothymic	Anxiety	Hysteria	Obsession
Diabetics	No. of Cases.	18	8	54	18	6
	%	25%		75%		
Controls	No. of Cases.	12	30	11	3	5
	%	68.8%		31.2%		
Statistical difference.		Z = 5.54**		Z = 5.54**		

1. There is a statistically significant difference at 0.01 level between diabetics and controls in both dimensions.
2. Diabetics show more neuroticism than controls.
3. Diabetics show more introversion than controls.

TABLE (4)

Maudsley Personality Inventory

Group / Dimension		Diabetics No.	Mean	SD	T.	Controls. No.	Mean	SD	T.	T value
Neuroticism	Male	30	10.23	2.46	3.77**	24	7.08	3.31	2.84**	3.94**
	Female	100	8.31	2.46		37	9.47	3.03		2.28*
	Total	130	10.29	2.46		61	8.34	3.34		4.54**
Extraversion	Male	130	10.29	2.46	1.90—	24	9.08	2.34	0.79—	2.37*
	Female	100	6.05	2.92		37	8.55	2.58		3.37**
	Total	130	6.32	3.01		61	8.76	2.50		5.55**

A. **Sex differences :**

1. In diabetics, mean score of neuroticism for males is statistically increased than for females at 0.01 level and vice versa in controls.
2. In both groups the difference between mean scores of extraversion for males and females is not significant.

B. **Group differences :**

Neuroticism: 1. Mean score for diabetics is significantly higher than that for controls.

2. Mean score for female controls is higher than that for female diabetics and vice versa for males.

Extraversion : Mean score for controls is significantly higher than that for diabetics in both sexes and in the group as a whole.

TABLE (5)

Correlation Between Clinical Assessment and M.P.I.

Group	Dimension	Clinical assessment	M P I	Z
Diabetics	a. Extraversion	25%	33.9%	1.45—
	b. Neuroticism	75%	83.9%	1.67—
Controls	a. Extraversion	68.8%	73.8%	0.62—
	b. Neuroticism	31.2%	64.5%	3.74**

1. **Diabetics :** No significant difference between clinical assessment and MPI in both dimensions.
2. **Controls :** No significant difference between clinical assessment and MPI in extraversion and vice versa in neuroticism.

C) **Clinical assessment :** The results of the clinical assessment of 104 patients are given in table (3). 26 patients (25%) were rated high on the extraversion-introversion dimension, which corresponds to 33.9% scoring high on the extraversion scale, while 78 patients (75%) were rated high on the stability-neuroticism dimension, which corresponds to 83.9% scoring high on the neuroticism scale.

These results show positive correlation between clinical and psychometric assessment as far as the studied personality traits are concerned (table 5).

II — Control Group :

A) **Extraversion scale :** The frequency distribution of extraversion scores is given in table (1), and is graphically represented in Fig. (2). The number of cases scoring 6 and less are 16 (26.2%), while those scoring above 6 are 45 (73.8%). The mean extraversion score is 8.76. Thus there is a tendency towards high scoring on the extraversion scale indicating extraversion.

B) **Neuroticism scale :** The frequency distribution of neuroticism scores is given in table (2), and is graphically represented in Fig. (2). The

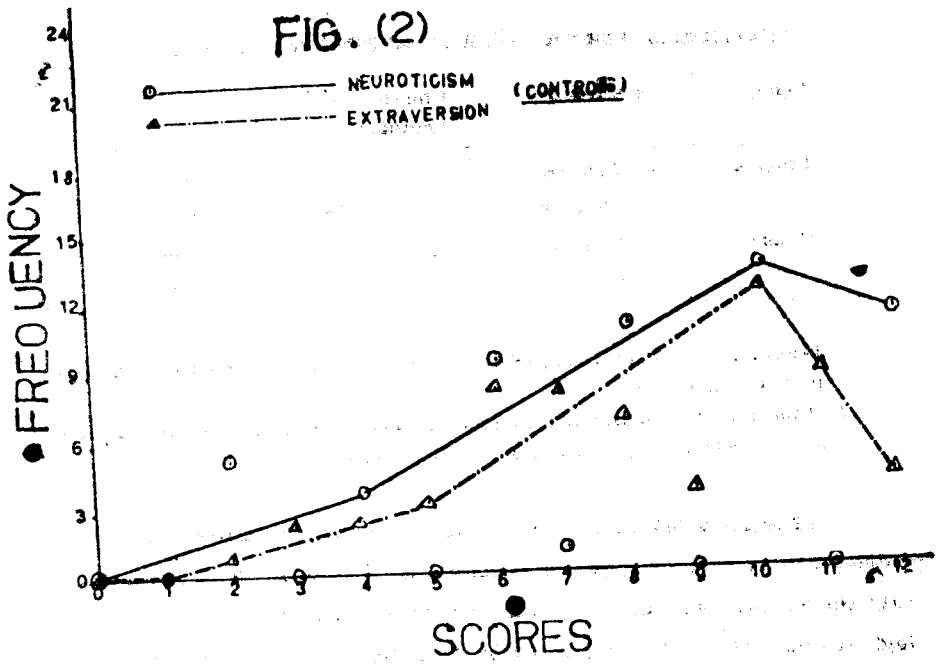

Fig. (2) Controls

Extraversion Scores :

1. Mean Score ... ... = 8.76
2. No.of cases scoring 6 and less ... ... = 16 (26.2%)
3. No of cases scoring above 6 ... ... = 45 (73.8%)

Neuroticism Scores :

1. Mean Score ... ... = 8.34
2. No. of cases scoring 6 and less ... ... = 22 (35.5%)
3. No. of cases scoring above 6 ... ... = 39 (64.5%)

number of cases scoring 6 and less are 22 (35.5%), while those scoring above 6 are 39 (64.5%). The mean neuroticism score is 8.34.

C) **Clinical assessment :** The results of the clinical assessment of the control group are given in table (3). 42 patients (68.8%) were rated high on the extraversion-introversion dimension, which corresponds to 73.8% scoring high on the extraversion scale ; while 19 patients (31.2%) were rated high on the stability-neuroticism dimension. which corresponds to (64.5%) scoring high on the neuroticism scale. These results show positive correlation between clinical and psychometric assessment on the extraversion scale, but discrepancy on the neuroticism scale (table 5).

This discrepancy between clinical rating and psychometric assessment could be due to the limited number of neurotic traits included under the stability-neuroticism dimension.

III — Sex Differences :

A) **Extraversion scale :** The difference between males and females in both diabetics and controls is not significant (table 4).

B) **Neuroticism scale :** In the diabetic group the mean neuroticism score for males is significantly higher than that for females, contrary to what we observe in the control group where the mean score for females is significantly higher than that for males (table 4).

DISCUSSION

Kelly and Walter (1968) observed that only patients with a chronic anxiety state had N (neuroticism) scores higher than the common average of all other diagnostic categories. They concluded that neuroticism as far as clinical diagnosis is concened is primarily a measure of anxiety.

A significant fall in N scores after improvement or recovery from depressive illness, has been reported by Coppen and Metcalfe (1965). Garside et al., (1970) studied the relation of the M.P.I. scores at follow-up with the symptomatology of the original illness of one hundred depressed patients. They found that the mean N score of symptom free patients was significantly lower than the remainder. Thus to some extent, the N score appears to measure depression as well as neuroticism, or else neuroticism increases during depression (depression is a component of the general trait of neuroticism). The extraversion score, however, was not significantly related.

Kendell and Discipio (1967) used the Eysenck Personality Inventory (E.P.I.) instead of the M.P.I. to study patients with depressive illness before and after recovery there is a close similarity between the two tests with high mutual correlation. While depressed, they obtained spuriously high N scores spuriously low E scores because patients tended to rate their current state of mind rather than their normal selves. The scores obtained by patients after recovery differed from those quoted for the normal population in the expected ways. Neurotic depressives were more neurotic and introverted than normals or psychotic depressives; psychotic depressives were more neurotic than normals but neither more nor less extraverted, and were less neurotic and more extraverted than neurotic depressives.

In this investigation, the majority of our diabetics (80%) seem to have reacted to the discovery of their diabetic state by mood change in the form of neurotic depression and/or anxiety. Thus, there is a statistically significant increase in the mean neuroticism scores in diabetics than controls at 0.01 level (T=4.54). On the other hand, our diabetics proved to be less extraverted than controls, the difference is also statistically significant at 0.01 level (T=5.55). These two findings — raised N and lowered E scores — are quite in line with many other reports mentioned above. So, one can deduce from this investigation that our diabetics are, on the whole, more neurotic and more introverted than controls as regards personality disposition. However it is still difficult to tell whether

this emotional and personality maladjustment might have played a role in producing physiologic dysfunction resulting in a psychosomatic disorder, namely diabetes.

It is interesting to note the sex difference in reaction to the presence of the diabetic state; thus, male diabetics are significantly more neurotic than females (T=3.77). This may be explained by the feeling of social insecurity and lowered efficiency in various aspects of life experienced more by male diabetics chosen from a less privileged class of population particularly as regards socioeconomic requirements. In the control group, females are more neurotic (T=2.84); this is also in harmony with the majority of investigations in this respect. On the other hand there is no significant sex difference either in diabetics or controls as regards extraversion (T=1.90 and 0.79 respectively).

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الملـــوجز

اختبار « مودسلى » للشخصية (الصورة المختصرة) مطبقا على عينة من مرضى البول السكرى

فى هذا البحث طبقت النسخة العربية المعـــدلة من اختبار مودسلى للشخصية (الصورة المختصرة) على عينة مكونة من ٦١ شخصا من مرضى السكر ، وذلك لقياس بعدين فى الشخصية هما العصابية والانبساطية ، وقد أظهرت النتائج قلة درجات الانبساطية مما يدل على الميل للانطواء ، وكذلك اتضح ـ على قدرة سمات الشخصية التى درست ـ أن هنـــاك ارتباطا بين الصورة الكلينيكية والتقويم السيكومترى ، كذلك أظهرت النتائج أن المرضى الرجال أكثر عصابية من النساء ، ومن المحتمل أن يكون ذلك انعكاسا لدرجة أكبر من عدم الأمان عند الرجال ناتجة عن الوعى بتأثير مرض السكر على الكفاءة والانتاج ٠

ABSTRAIT

L'Application d'une Forme Brève du (M.P.I.) aux Malades Egyptiens Diabétiques

La version arabe d'une forme brève du M.M.P.I. (Minnesota Multiphasic Personality Inventory) a été appliquée à 130 cas de malades diabétiques et à 61 cas non-diabetiques pris comme contrôle groupe, pour évaluer deux profils de la personalité : le caractère nevrosé et l'extraversion. Il y eut une tendance vers un score élevé sur l'échelle du caractère nevrosé. Aussi, il y eut une tendance vers un score bas sur l'échelle de l'extraversion, signalant l'introversion. A l'égard des traits de la personalité, il y eut une correlation positive entre l'évaluation clinique et l'étude psychométrique. De plus les malades diabétiques mâles ont montré un caractère névrose plus élevé que les malades femelles, ceci reflète une plus grande insécurité, ceci est expliqué à l'égard des hommes si nous considérons les effects de cette maladie sur leur rendement et leur efficacité.