Egypt. J. Psychiat. (1983) 6 : 239–261

Ego Functions in Schizophrenia : Clinical Assessment

By Y. T. Rakhawy, R. Makfoux, O. EL-Sherbini, M. Howaidi, E. Hamdi and Y. Amin

ABSTRACT

The present study represents an evaluation of the extent and the manner of impairment of ego functions in schizophrenic patients, and whether it is even or uneven. The clinical interview was used to assess 12 functions by five senior raters using a 10-point scale along the adaptive- maladaptive dimension.

The study came forth with the following : (1) Ego functions are severely impaired in schizophrenia. (2) Severe impairments in ARISE, synthetic functioning and object relations perhaps represent the main disorders in schizophrenia. (3) Marked disturbances in judgement, reality testing and regulation and control may indicate acuteness or relapse of the schizophrenic process. (4) Intercorrelations among ego functions are present.

INTRODUCTION

Quantitative assessment of ego functions could be reliable and would prove that it is useful in clinical psychiatric settings (Bellak et al., 1973; Bellak and Sheehy, 1976; Sharp and Bellak, 1978; Rakhawy et al., 1983). According to Strauss (1975), ego function assessment constitutes a bridge between the descriptive and dynamic approaches in psychiatry.

It was Hartmann (1953) who explicitly pointed out that while ego weakness is characteristic of schizophrenics, there was still a need

to specify which ego functions are impaired in any given ego weakness. According to many authors (e.g. Hartmann, 1950; Beres, 1956; Arlow and Brenner, 1964), ego function deficits are discrete rather than global. Bellak et al. (1973) have suggested that this issue depends upon three factors, viz. the level of personality differentiation, the level of psychopathology and the individual's unique characteristics. They assessed 12 ego functions in 50 schizophrenics and found that severe impairment of ego functions is present, and that different schizophrenics definitely have different ego function patterns (Bellak et al., 1973).

In a previous paper (Rakhawy et al., 1983), we have published the results of an initial examination of the process of quantitative assessment of ego functions and the possible factors which may influence the reliability of such a process. The aim of the present work is an evaluation of the extent and the manner of impairment of ego functions in schizophrenic patients, and whether it is even or uneven. The assumption is that ego functions are grossly impaired in schizophrenia but not to the same extent nor of the same relative importance.

MATERIAL AND METHOD

(1) Sample of the Study :

The sample of the present study consisted of 20 schizophrenic patients : 17 were inpatients, and 3 were outpatients. Identification data of these patients are presented in Table (1). Table (2) shows the data of diagnosis and duration of illness. Diagnoses (current) were made according to the Diagnostic Manual of Psychiatric Disorders-DMP-I (Egyptian Psychiatric Association, 1975). The duration of illness in the sample ranged from 3 months to 18 years with a mean of 6 years.

(2) Method of Study :

We selected the list of ego functions elaborated by Bellak and associates (1973). This list includes the following 12 functions : reality testing; judgement; sense of reality of the world and self; re-

TABLE I

Characteristics of the Sample
(NO = 20 cases)

	No	Percent
Age (years) :		
16 — 20	3	15%
21 — 25	7	35%
26 — 30	4	20%
31 — 35	3	15%
36 — 40	3	15%
Sex :		
male	13	65%
female	7	35%
Marital status :		
single	18	90%
married	1	5%
divorced	1	5%
Education :		
fin. high. ed.	3	15%
fin. sec. sch.	10	50%
fin. prep. sch.	4	20%
fin. prim.sch.	1	5%
can read & write	2	10%
Occupation :		
employee	4	20%
labourer	1	5%
student	8	40%
housewife	1	5%
no work	6	30%

gulation and control of drives, affects and impulses; object relations; thought processes; adaptive regression in the service of the ego (ARISE); defensive functioning; stimulus barrier; autonomous functioning; synthetic-integrative functioning; and mastery competence.

The clinical interview was used to assess these functions. Interview questions composed of 12 sets were prepared. Each set aimed at eliciting information about a particular ego function.

Five senior raters of various clinical experience (four psychiatrists and one clinical psychologist) independently rated the patients' current level of ego functioning on the basis of the information revealed during a semi-structured interview using a 10-point scale along the adaptive-maladaptive dimension; where 10 means optimal functioning and 1 means extreme disturbance. The raters were allowed to modify their scores after discussion of the ratings in each case.

TABLE II

Diagnostic Breakdown and Duration of Illness

	No	Percent
Schizophrenic subcategory :		
acute undifferentiated	1	5%
incipient	2	10%
schizoaffective	4	20%
manic 2		
depressive 2		
paranoid	4	20%
chronic undifferentiated	5	25%
hebephrenic	1	5%
others	3	15%
Total	20	100%
Duration of illness (mean = 6 years) :		
less than 5	8	40%
5 — 10	10	50%
more than 10	2	10%
Total	20	100%

RESULTS

(I) Ego Function Mean Scores

Table (3) shows the mean score on each ego function and its standard deviation in the studied twenty schizophrenic patients. Each mean score represents the average of the scores given by the five raters for a given funcion in all the sample. These scores are rank-ordered from highest to lowest. The table reveals that the mean scores on eleven functions are below 4 scale points. It shows relatively high ratings on stimulus barrier (4.07), autonomous functioning (3.97) and thought processes (3.90). Whereas it shows poor ratings on ARISE (1.31), synthetic functioning (1.45) and object relations (2.53). The table also shows that the mean of the twenty schizophrenics on all ego functions together is 3.09 with a range from 1.31 to 4.07 (SD = 1.08).

(II) Interrelationships among Ego Functions

Correlations between scores for pairs of ego functions, based on the averages (means) of scores given by the five raters, were calculated. The mean correlation is found to be 0.72 with a range from 0.25 to 0.98 and the median is 0.77. The highest correlation (0.98) is that between reality testing and judgement, whereas the lowest correlation (0.25) is that between stimulus barrier and ARISE.

(III) The Ego Function Profile

The presentation of ego function patterns in form of profiles serve to give a quick overall view. The profiles of 7 patients in our sample, representing various schizophrenic subtypes, are figured here. For the sake of comparison, Profile (1) of a normal subject and Profile (2) of a subacute paranoid state patient are also presented. All of these 9 profiles are based on the means of the scores given by the five raters.

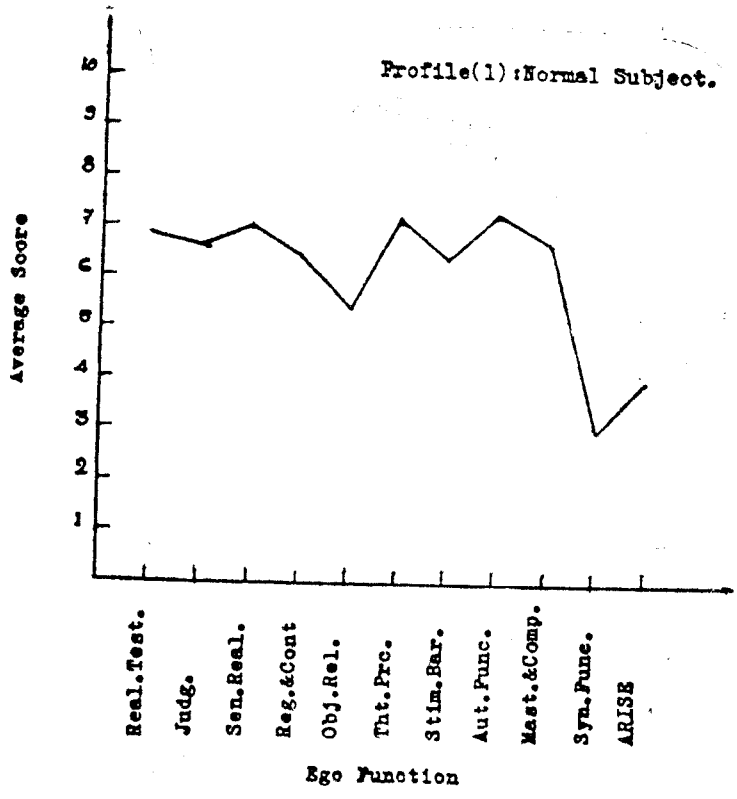
Profile (1) shows that 8 ego functions, out of 11, fall above 6. Object relations are above 5 and the synthetic functioning and ARISE are fairly good (3&4 respectively).

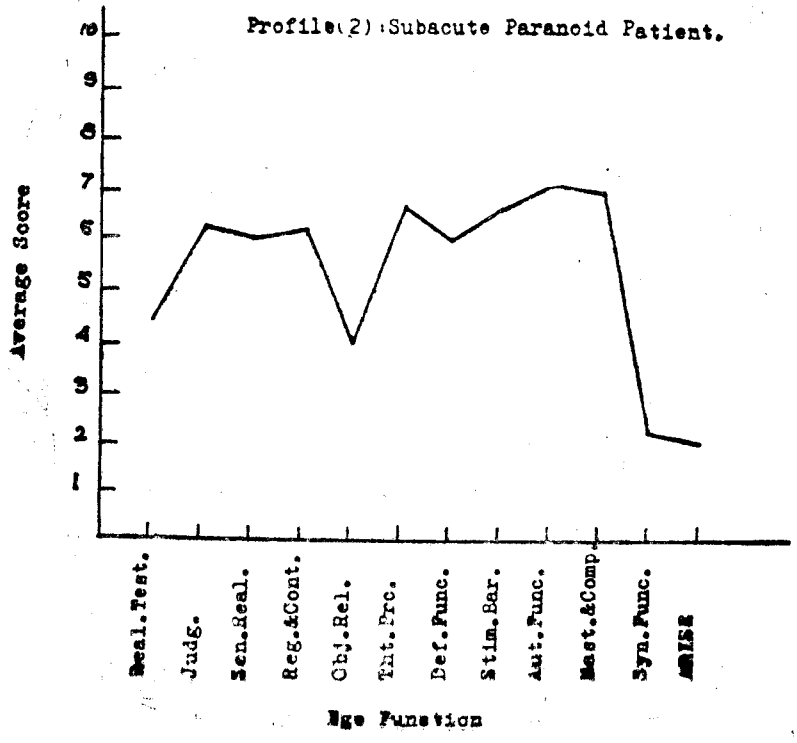
TABLE III

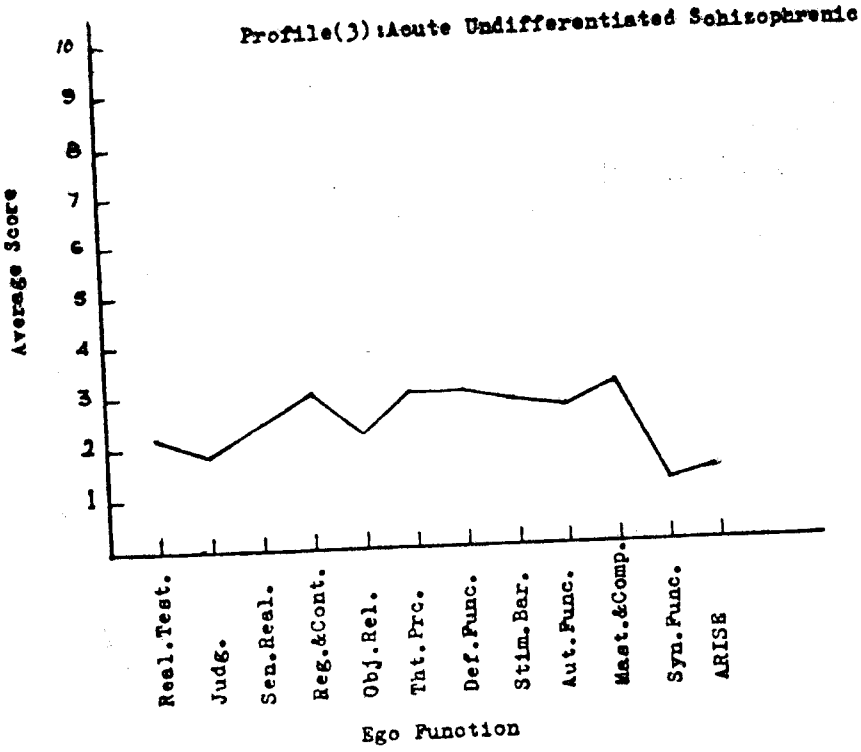
Ego Function Mean Scores Rank-ordered from Highest to lowest

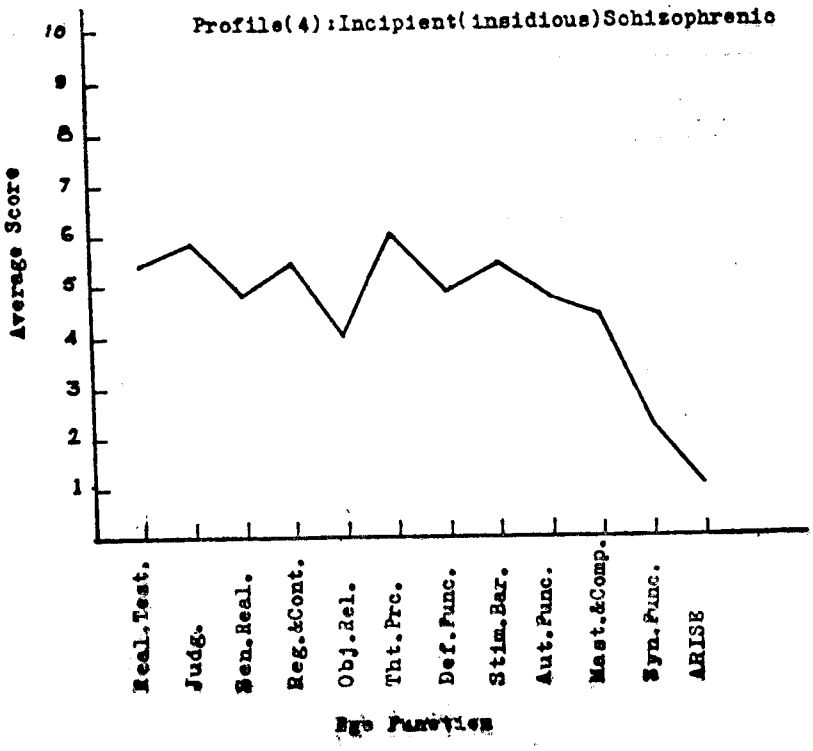
Rank Order	Ego Function	Mean	S.D.
1	Stimulus Barrier	4.07	1.03
2	Autonomous Functioning	3.97	1.50
3	Thought Processes	3.90	1.29
4	Defensive Functioning	3.61	1.10
5	Sense of Reality	3.51	1.00
6	Mastery and Competence	3.39	1.13
7	Regulation and Control	3.23	1.30
8	Reality Testing	3.13	1.28
9	Judgement	2.98	1.53
10	Object Relations	2.53	0.91
11	Synthetic Functioning	1.45	0.57
12	ARISE	1.31	0.36
	Mean	3.09	1.08
	Range	1.31–4.07	0.36–1.53

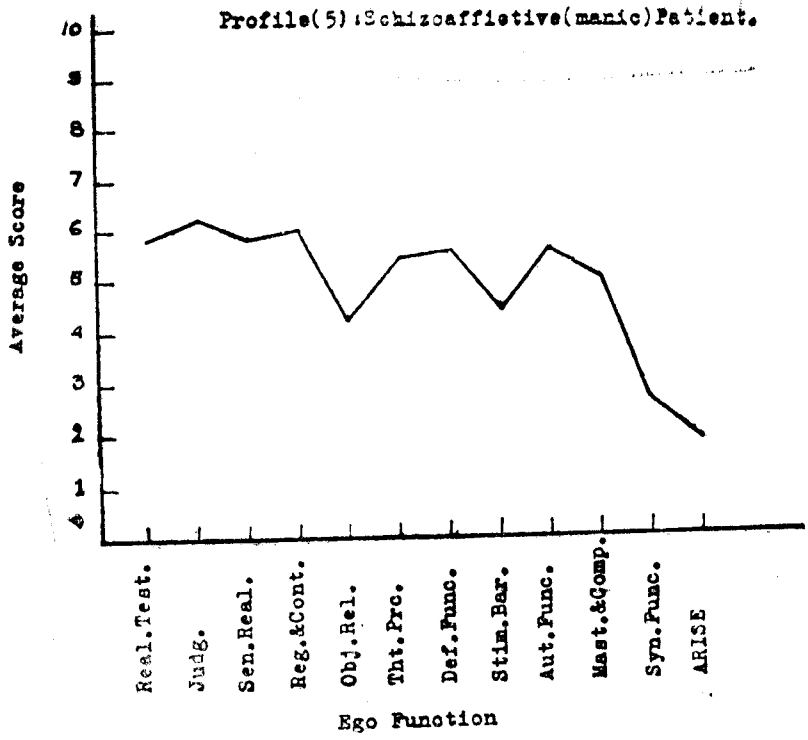
Profile (2) illustrates that 8 functions are at or above 6. Reality testing and object relations are at 4.5 and 4 respectively. Relatively poor ratings (around 2) for synthetic functioning and ARISE are present.

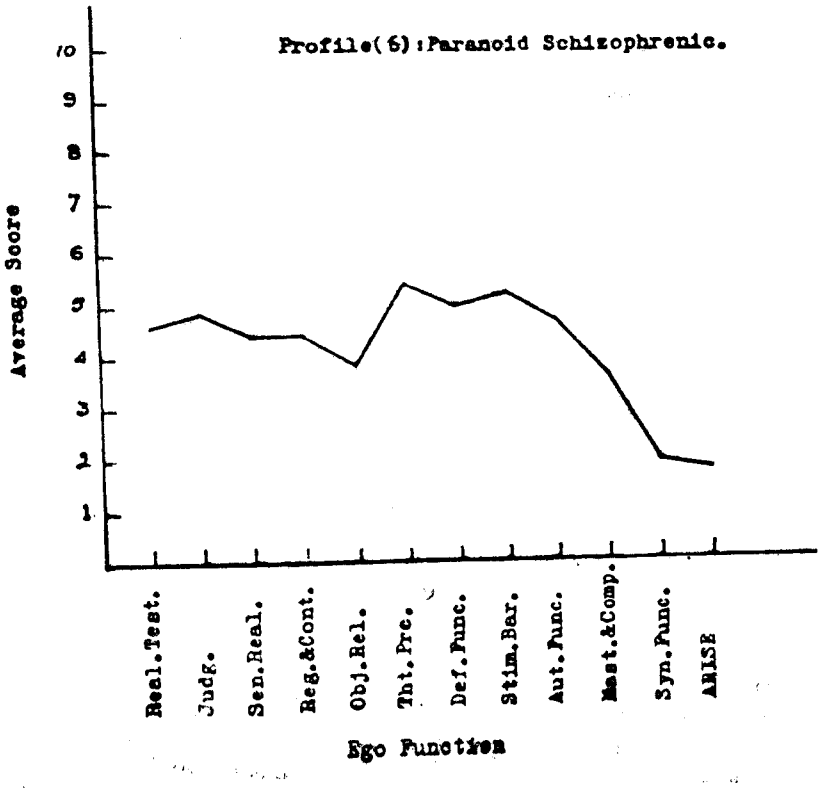

Profile(1):Normal Subject.
Average Score
Real.Test.
Judg.
Sen.Real.
Reg.&Cont
Obj.Rel.
Tht.Prc.
Stim.Bar.
Aut.Punc.
Mast.&Comp.
Syn.Punc.
ARISE
Ego Function

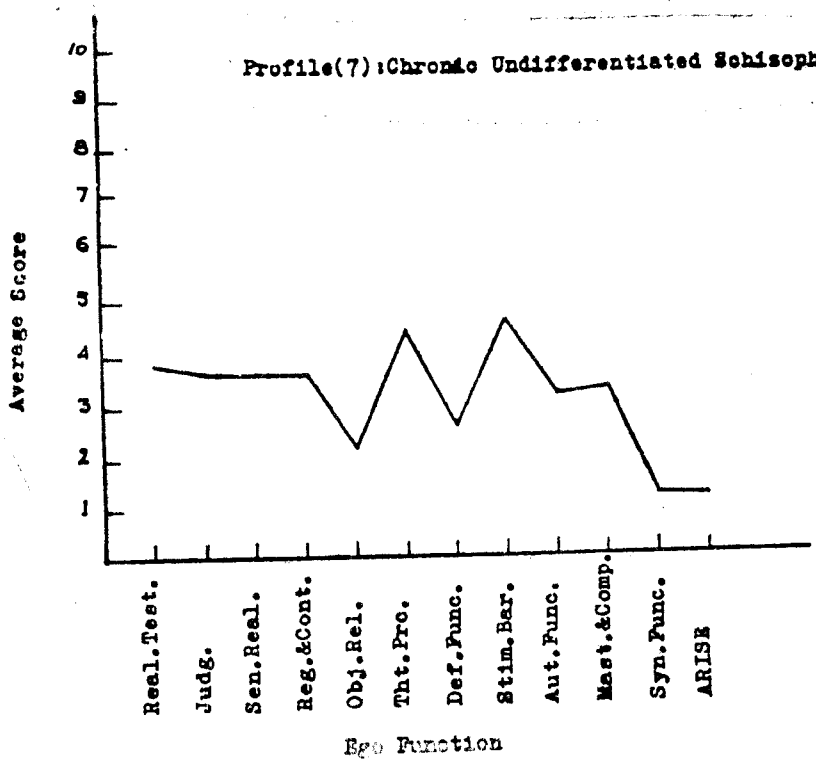

Profile(2):Subacute Paranoid Patient.
Average Score
Real.Test.
Judg.
Sen.Real.
Reg.&Cont.
Obj.Rel.
Tht.Prc.
Def.Punc.
Stim.Bar.
Aut.Punc.
Mast.&Comp.
Syn.Punc.
ARISE
Ego Function

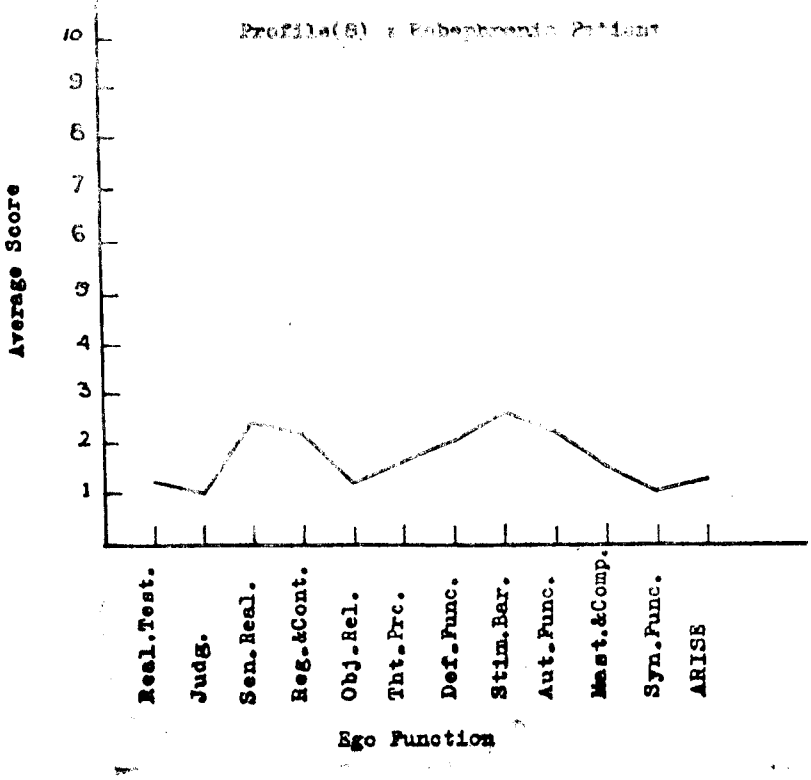

Profile(3):Acute Undifferentiated Schizophrenic.
Average Score
10
9
8
7
6
5
4
3
2
1
Real.Test.
Judg.
Sen.Real.
Reg.&Cont.
Obj.Rel.
Tht.Prc.
Def.Punc.
Stim.Bar.
Aut.Punc.
Mast.&Comp.
Syn.Punc.
ARISE
Ego Function

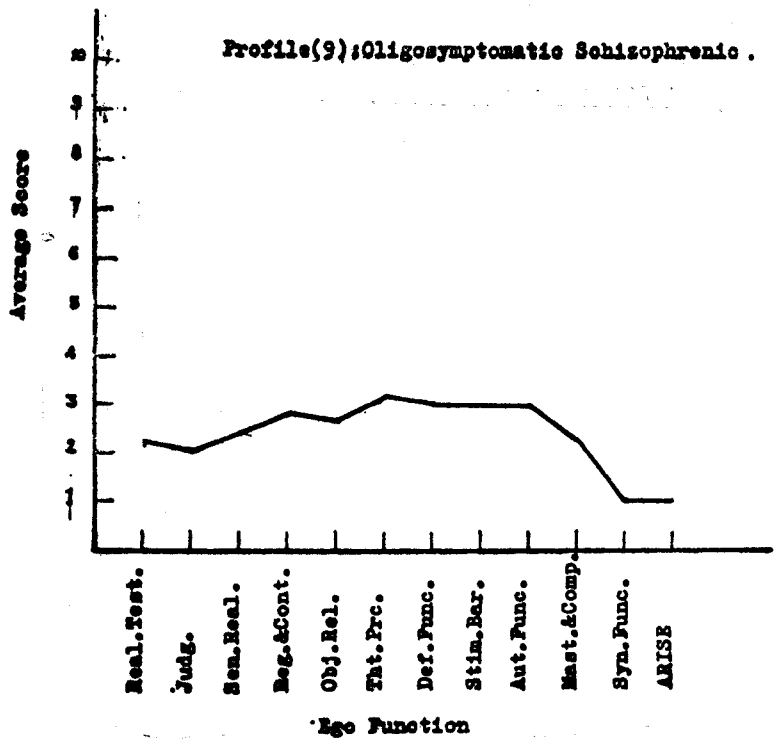

Profile(4):Incipient(insidious)Schizophrenic
Average Score
10
9
8
7
6
5
4
3
2
1
Real.Test.
Judg.
Sen.Real.
Reg.&Cont.
Obj.Rel.
Tht.Prc.
Def.Punc.
Stim.Bar.
Aut.Punc.
Mast.&Comp.
Syn.Punc.
ARISE
Ego Function


Profile(5):Schizoaffiative(manic)Patient.
Average Score
10
9
8
7
6
5
4
3
2
1
Real.Test.
Judg.
Sen.Real.
Reg.&Cont.
Obj.Rel.
Tht.Pre.
Def.Func.
Stim.Bar.
Aut.Func.
Mast.&Comp.
Syn.Func.
ARISE
Ego Function


Profile(6):Paranoid Schizophrenic.
Average Score
10
9
8
7
6
5
4
3
2
1
Real.Test.
Judg.
Sen.Real.
Reg.&Cont.
Obj.Rel.
Tht.Pre.
Def.Func.
Stim.Bar.
Aut.Func.
Mast.&Comp.
Syn.Func.
ARISE
Ego Function


Profile(7):Chronic Undifferentiated Schizophrenic.
Average Score
10
9
8
7
6
5
4
3
2
1
Real.Test.
Judg.
Sen.Real.
Reg.&Cont.
Obj.Rel.
Tht.Pro.
Def.Func.
Stim.Bar.
Aut.Func.
Mast.&Comp.
Syn.Func.
ARISE
Ego Function


Average Score
10
9
8
7
6
5
4
3
2
1
Real.Test.
Judg.
Sen.Real.
Reg.&Cont.
Obj.Rel.
Tht.Prc.
Def.Func.
Stim.Bar.
Aut.Func.
Mast.&Comp.
Syn.Func.
ARISE
Ego Function


Profile(9):Oligosymptomatic Schizophrenic.
Average Score
Real.Test.
Judg.
Sen.Rel.
Beg.&Cont.
Obj.Rel.
Tht.Prc.
Def.Func.
Stim.Bar.
Aut.Func.
Mast.&Comp.
Syn.Func.
ARISE
Ego Function

Profile (3), an acute undifferentiated schizophrenic patient, shows overall poor ego functioning; all the twelve functions are at or below 3. Profile (4), an incipient (insidious) schizophrenic patient, reveals that 7 functions are at or above 5. Object relations are at 4. There is a relatively poor synthetic functioning (about 2) and a very poor ARISE (1).

Profile (5), a schizoaffective (manic) patient, shows that 8 functions are at or above 5 and object relations are above 4. The synthetic functioning and ARISE are relatively poor (2.5&2 respectively). Profile (6), a paranoid schizophrenic patient, reveals that 8 functions are above 4 and object relations are around 4. There are poor ratings (around 2) for synthetic functioning and ARISE.

Profile (7), a chronic undifferentiated schizophrenic patient, reveals that 2 functions are above 4 and 6 functions are above 3. The function of object relations is about 2 and synthetic functioning and ARISE are very poor. The Profile of a hebephrenic patient (no. 8) shows overall poor ego functioning; all the twelve functions are below 3. Also, Profile (9), a schizophrenic patient : others (regressive oligosymptomatic), presents overall poor ego functioning.

DISCUSSION

(I) Ego Function Mean Scores

1. In general :

Our findings indicate severe disturbances of the ego and its functions; a general characteristic of schizophrenia that has been emphasized by many authors (Federn, 1948; Sechehaye, 1951; Hartmann, 1953; Bellak, 1955; Beres, 1956; Arlow, 1971; Bellak et al., 1973).

However, two important factors should be considered in connection with our findings. The first is that most of the patients were chronically ill. The second factor is that we assessed only the current level of ego functioning which coincided with a relapse in the majority of the assessed patients. Added to these two factors is the fact that 17 pa-

tients were hospitalized with the possibility that hospitalization might influence the raters to assign lower ratings on all ego functions in such patients.

When the mean score for the 20 schizophrenic patients on all the 12 ego functions together is calculated (current level), it is found to be 3.09 (with a range from 1.31 to 4.07). This mean or the sum total of ego functions, according to Bellak et al., "can be spoken of as 'ego strength' with about as much, or as little, justification as one can assume Wechsler's 11 subcategories on the WAIS under intelligence" (1973). The same authors see schizophrenia as a range (i.e. not a point) at one end (lower end) of a continuum of ego strength.

2. Individual functions :

We are going to discuss first the 3 functions whose mean scores are the lowest. This is followed by the discussion of the next lowest 3 functions and then the highest 3 functions.

(A) ARISE, synthetic functioning and object relations :

Table (3) shows that the mean scores on ARISE (1.31), synthetic functioning (1.45) and object relations (2.53) are the lowest ones. In the study of Bellak et al. (1973), the mean scores on defensive functioning, object relations and synthetic functioning were the lowest whereas ARISE occupied a mid-way position (the fifth highest out of 11).

One or the other of pathological regression, impaired synthetic-integrative function and disturbance of object relations is considered as the main disorder in schizophrenia by many authors (Fenichel, 1945; Federn, 1948; Storr, 1960; Berne, 1966; Arieti, 1971, 1974; Rakhawy, 1979). However, one cannot exclude the possibility that other factors may be responsible for assigning lower scores to the above mentioned three functions in the present study, especially ARISE and synthetic functioning. The first factor may be the somewhat special conceptualization including the highly intimate interrelationship between ARISE

and synthetic functioning. The second could be a predetermined idea that these functions are severely impaired in schizophrenia. These two factors could be related to the notion of the theory-dictated observational biases. The last factor may be that the interview material was not sufficient to assess such functions properly.

(B) Judgement, reality testing and regulation and control :

When we come to judgement (2.98), reality testing (3.13) and regulation and control (3.23), we find that they rank the next lowest after the aforementioned three functions. The fact that most of our patients were in relapse (hence the presence of manifest delusions, hallucinations, inappropriate behaviours, impulses, etc.) is most probably the main explanation of their low scores. However, other factors could have contributed, especially in case of judgement.

In the study of Bellak **et al.** (1973), reality testing was the highest and judgement the third highest. Differences in sampling and the assessed level of functioning along with some cultural factors could be suggested as the main variables causing these high ratings of the two functions.

(C) Stimulus barrier, autonomous functioning and thought processes:

On the other hand, the mean scores on stimulus barrier (4.07), autonomous functioning (3.97) and thought processes (3.90) are the highest 3 means. In the study of Bellak **et al.** (1973), stimulus barrier ranked the second highest, thought processes the fourth and autonomous functioning the sixth.

It is of special interest to notice that the mean on the function of thought processes, a function whose disturbances have played a major role in the conception of schizophrenia ever since Bleuler, is the third highest. After analysing their results on thought processes (its mean was fourth highest out of 11 functions), Bellak **et al.** (1973) have come to the following conclusion : "Even when all reasonable qualifications are taken into account, the obtained results are more consistent with the

idea that individuals diagnosed schizophrenic can show a variety of serious ego function disturbances than with the classical conception that a serious disturbance of thought process is the hallmark of schizophrenia". Our results perhaps add some support to this conclusion.

II – Interrelationships among Ego Functions

The results obtained are generally higher than what we expected. The mean of the 66 calculated correlations is found to be 0.72 with a range from 0.25 to 0.98. The median also reveals that half of these correlations are above 0.77. In the study of Bellak et al. (1973), the mean of their 53 correlations in the schizophrenic group was 0.46 with a range from 0.00 to 0.74.

We think that there are two important factors which may explain such high intercorrelations in the present study. The first is that most of our patients were choronically ill. In this regard (i.e. the relation of chronicity to intercorrelation), Bellak et al. (1973) remark : "Indeed, it is likely that more uniformity in the adaptive level of functions of the schizophrenics in our study would have been found had chronic schizophrenics been included rather than acutely disturbed ones". In other words, it might be said that the more chronic the schizophrenic patient, the more the interrelations among his ego functions.

The second factor may be the possibility of a low degree to which ratings for each patient on some ego functions were differentiated. However, we did not statistically verify this possibility, that is, we did not calculate correlation coefficients for each rater's ego function scores in our sample. In the study of Bellak et al. (1973), data analysis revealed that in assessing the various ego functions either from the clinical interviews or from psychological tests, some raters showed more intercorrelation among their ratings than did others : "Thus", the authors conclude, "the issue of intercorrelation among ego functions involves their correlation in the subject and their correlation in the rater". Also, we cannot exclude what has been mentioned by Holt (1965) that it is always possible that the degree of relationship found among ego functions is being augmented by halo effects and response sets.

Finally, in the opinion of Bellak **et al.** (1973), the moderate degree of intercorrelation among the ego functions obtained in their study "suggests the presence of a general characteristic or factor that can be labelled 'ego strength' ".

III – The Ego Function Profile

Generally speaking, the profiles of ego functions provided in the present study illustrate that different schizophrenics have different ego function patterns, and that the deficits of ego functions in schizophrenia are uneven to varying degrees. This important point has been emphasized by many authors (Hartmann, 1950, 1953; Beres, 1956; Arlow and Brenner, 1964; Jacobson, 1967). It has also been illustrated by various reports in literature (for instance, Bellak, 1969; Bellak **et al.**, 1973).

Despite the fact that there is only one profile for each illustrated group or subgroup, the presented profiles could suggest a trend or a potential validity and usefulness with regard to the differential diagnosis. First, comparing Profile (2) with the other profiles perhaps leads to the suggestion that the Ego Function Profile might have a potentiality for differentiating between schizophrenics on the one hand and paranoid state patients on the other; a subject encountering substantial debate. This point, however, is not in line with the suggestion of Bellak et **al.** (1973) that their assumed ego function diagnosis of schizophrenia makes sense "if one subscribes for practical purposes to the concept of a panpsychosis...". Second, examination of the different schizophrenic profiles reveals that incipient, schizoaffective (manic) and paranoid schizophrenics (4,5 & 6) are functioning better than the remaining schizophrenic subtypes. Also, within this group we can notice that the schizoaffective (manic) is functioning better especially in regard to the synthetic and ARISE functions. Lastly, if we compare the profiles of the paranoid, chronic undifferentiated and hebephrenic subtyes (6,7 & 8), we can find relatively marked differences in the level of ego functioning; the first is better than the second while the second is better than the third. This goes with classic teaching which differen-

tiates between the 3 subtypes according to the degree of disorganization, viz. the first being the least disorganized, the third the most disorganized and the second lies between.

Profiles (4&5) show that some ego functions can be considered as within the normal range (compare with Profile 1). In other words, in schizophrenia many of the ego functions may remain relatively intact representing what are called the non-psychotic residues (Federn, 1948; Katan, 1953, 1954; Hartmann, 1953; Freeman **et al.**, 1966; White and Gilliand, 1975).

This point can be related to another clinical observation, that is, the shifts which occur in psychic (ego) functions in schizophrenia and may cause substantial day-to-day differences in the level of functioning. For instance, Freeman **et al.** (1966) have observed that shifts between disorganized thinking and normal cognition occur during the one interview or from one interview to the next. The same phenomenon has been demonstrated by Yousria Amin (1978) through the technique of "cohering re-chanelling" interview described by Rakhawy.

These two possibly related phenomena, viz. the non-psychotic residues and the shifts in the level of functioning in schizophrenia, could be better understood in the light of the theory of ego states. According to this theory, shifts in ego state are ever-occurring, and every chronic schizophrenic has a well formed Adult ego state and the problem is the difficulty in finding a way to get the Adult "plugged in" (Berne, 1961). Therefore, it may be said that in schizophrenia the more the "executive ego state" is attached to reality and the longer it is sustained, the more the so- called non-psychotic residue becomes manifest.

Another point is worth mentioning in connection with Profile (9). This profile, despite the fact that it is of a patient with minimal overt psychotic symptoms, reveals overall poor ego functioning. This goes with Jacobson's (1967) saying: "Other patients may show such a severe deterioration of their ego functions that they are incapable of working, even though they may not suffer from any overt psychotic

symptoms such as delusions or hallucinations". This is important in relation to therapy and prognosis.

In summary, the Ego Function Profile generally gives a quick overall view. "It lends itself", Bellak (1969) states, "to making comparisons for differential diagnoses and planning of therapy, and for charting therapeutic progress". The point to be emphasized here is that the ego function profile becomes very useful if supported by details of onset, duration of illness, personal history, etc.

CONCLUSIONS

(1) As regards the extent and degree of importance of ego function impairment in schizophrenia, we could tentatively conclude :

(A) In general, ego functions are severely impaired in schizophrenia.

(B) Severe impairments in ARISE, synthetic functioning and object relations perhaps represent the main disorders in schizophrenia.

(C) Marked disturbances in judgement, reality testing and regulation and control may indicate acuteness or relapse of the schizophrenic process.

Thus, ego function diagnosis of schizophrenia may lead to a better approach to the problems of pathognomonic symptoms and multiplicity of presentations in schizophrenic patients.

(2) Intercorrelations among the various ego functions are present. However, they depend upon many factors, viz. the extent of psychopathology (chronicity), the concerned functions, the assessor and the way of calculation.

(3) The Ego Function Profile is useful in various clinical settings (diagnosis, prognosis, therapy) especially if supported by additional essential data about the patient.

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AUTHORS

Y. T. Rakhawy, M.D., M.R.C.P., D.P.M. and N., D.M., Professor of Psychiatry, Psychiatric Department, Cairo University, Cairo.

R. Mahfouz, M.D., M. Sc. (P.M. and N.), D.M., Director, Dar El-Mokattam for Mental Health, Mokattam City, Cairo.

O. El-Sherbini, M.D., D.P.M. and N., Assistant Professor of Psychiatry, Psychiatric Department, Faculty of Medicine, Zagazig University.

M. Howaidi, PH.D., Researcher in Clinical Psychology at the National Centre for Social and Criminological Research, Cairo.

E. Hamdi; M.D., M. Sc. (P.M. and N.), Lecturer in Psychiatry, Psychiatric Department, Cairo University.

Y. Amin, M. Sc. (P.M. and N.), Dar El-Mokattam for Mental Health.

الموجـــــــز

وظائف الأنا فى الفصـــــام

الهدف من اجراء هذه الدراســـة هو تقويم (قياس) وظائف الأنا فى مرض الفصام لمعرفة مدى وكيفية اضطرابها فى هذا المرض . ولتحقيق هذا الهدف اختيرت اثنى عشر وظيفة لتقويمها بواســطة خمســة من المقومين المؤهلين فى عينة تتكون من عشرين فصــاميا ، وذلك عن طريق اســتخدام المقابلة الكلينيكية ، مستخدمين مقياسا من عشرة درجات على بعد التكيف ــ لا تكيف .

وبناء على التحليلات الاحصائية لمعطيات القيــاس فقد أظهر البحث النتائج التاليـــة : (١) اضطرابات شديدة فى وظائف الأنا عنــد المرضى الفصاميين . (٢) كانت الاضطرابات فى النكوص التكيفى لخــدمة الأنا ، ووظيفة التكامل وعمل الولاف ، والعلاقة بالآخرين هى الأكثر شـــــدة بين اضطرابات الوظائف الأخرى ، ثم تلتها فى ذلك وظائف اختبار الواقــع ، والحــكم على الأمور ، والتنظيم والتحــكم . (٣) أظهر تالنتائج درجات عالية من الارتباط بين وظائف الأنا المختلفة .

ABSTRAIT

Fonctions du Moi dans la Schizophrénie :

une Evaluation Clinique.

Le but de cette étude est d'évaluer comment et à quel degrés les fonctions du moi sont affectées dans la schizophrénie, et si cette affection est homogène ou non. Nous avons utilisé l'entrevue clinique pour évaluer 12 fonctions du moi par 5 jujes qualifiés.

De cette étude nous avons trouvé que :

(1) Les fonctions du moi sont profondemment altérées dans la schizophrénie.

(2) le dérangement principal dans la schizophrénie a lieu dans la régression active au service du moi le fonctionnement synthetic, et les relations avec objets.

(3) Les pronfondes altérations dans le jugement, l'examen du réel, la régulation et le controle, peuvent indiquer l'acuité ou une rechute du processus schizophrène.

(4) De correlations entre les divers fonctions du moi existent.

Egypt. J. Psychiat. (1983) 6 : 262—274

Psychiatric Aspects of Female Sterilization in Egypt

By F. Lotaief, A. Hamed, F. Botrous and A. Okasha

ABSTRACT

30 women asking for sterilization were selected from the out-patient clinic of Gynaecology department in Ain Shams University hospital, and they were submitted to a semistructured psychiatric interview and a battery of psychometric tests prior and 3 months after the operation. They were compared to 30 women on oral contraceptive pills and another group of 30 women who did not receive any contraceptive measures regarding different aspects. Statistically significant differences were detected between the different groups regarding the mean age, educational level and family size. Socioeconomic reasons (93.9%) and medical conditions (6.7%)made the operation necessary. Results revealed that 26.7% were suffering from psychiatric illness prior to the operation. The prevalence rate markedly declined 3 months after the operation. Anxiety neurosis formed the main diagnostic category. Only 3.3% showed dissatisfaction. There were no statistically significant differences between the three groups as regards all the psychometric tests applied. The study was recommended to be carried out on larger numbers of cases and for larger periods of follow-up.

INTRODUCTION

The population explosion in the developing countries is the most