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Evaluation of Cognitive Analytic Therapy (CAT) Outcome in Greek Psychiatric Outpatients

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ABSTRACT – The present study investigates the outcome of Cognitive Analytic Therapy (CAT), a quite new type of brief psychotherapy, in a sample of Greek psychiatric outpatients with various psychiatric diagnoses.

The Minnesota Multiphasic Personality Inventory (MMPI), the Eysenck Personality Questionnaire (EPQ) and the Post-therapy Questionnaire, a scale specifically designed for CAT outcome, were used as evaluation instruments. On a 2-month follow up 122 patients showed a statistically significant improvement, compared to the intake time, on all but two (Ma, Mf) clinical scales, on the sum of the clinical scales and on some of the research scales of the MMPI. Similarly, 25 patients who completed the test on both occasions manifested a significant improvement on scales N (Neuroticism) and E (Extroversion) at follow up at a 1-year follow up those of the above patients who completed the MMPI and the Post-therapy Questionnaire again not only maintained the achieved improvement, but continued to improve as well.

The above results indicate that CAT is an effective brief psychotherapeutic technique for Greek psychiatric outpatients suffering various psychological problems.

Introduction

Psychotherapy in general is an effective therapeutic approach which, as has been demonstrated, has a modestly positive effect on patients (Bergin and Lambert 1978, Lambert 1983). In a psychotherapy outcome review Smith *et al.* (1980) stated that the average patient receiving psychotherapy was better of than 85% of those did not.

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During the last decades a number of brief-psychotherapeutic techniques have been developed and have become increasingly popular and numerous clinical reports have indicated their effectiveness, at least in specific groups of patients (Kaplan, Sadock and Grebb 1994).

Cognitive Analytic Therapy (CAT) is a brief pschotherapy, developed by Anthony Ryle (Ryle 1982, 1990, 1995) in the late '70s which integrates in theory and practice concepts and methods from cognitive, psychoanalytic, behavioural and other approaches. CAT is delivered in a 16 session format in the majority of cases. During the first 3-5 sessions material is collected from the patient's history, from the patient's-therapist's interaction, from self-monitoring of moods and symptoms and from other specific questionnaires. The most important of them is the psychotherapeutic file, which helps the patients recognize possible repeated patterns of acting and thinking which prevent them from living satisfactorily. Common repeated patterns i.e. Problem Procedures (PPS) are listed in the psychotherapy file under three categories: 1) Traps 2) Dilemmas and 3) Snags. All the above collected material and understanding lead in the fourth to sixth session to Reformulation, written and diagramatic, which is the "scaffolding" of the therapy.

Reformulation highlights patient's manner of thinking, acting, feeling and evaluating which lead him / her to persist in ways that are harmful and ineffective. In addition, specific targets i.e Target Problem Procedures (TPPs) are defined. The remaining sessions are devoted to the recognition of these TPPs through diary keeping and other forms of self-monitoring and through noticing them as they are presented in the narratives brought into the therapy and as they are enacted in the patient-therapist relationship. Once recognition is achieved, the enlightened and more accurate self reflection, coupled with the experience of an explicit, non-collusive relationship with the therapist, allows the development of new procedures. In the 16th session patient and therapist exchange "Good-bye letters" which represent their evaluation of the therapeutic work. Experience with a wide range of patients suggests that CAT is a safe psychotherapeutic intervention for a broad spectrum of patients. Only psychotic and patients with substance abuse or dependence are excluded (Ryle 1982, 1995).

The effectiveness of a psychotherapeutic thecnique is shown by outcome assessment. There are many studies indicating the effectiveness of the various brief psychotherapies (Mohl 1994) but very few dealing with the outcome of CAT, mainly investigating specific groups of patients (Bosley *et al.* 1992, Cowmeadow 1994, Fosbury 1994). In a previous study, some years ago, (Garyfallos *et al.* 1991a) we presented preliminary data –in a small sample of patients treated with CAT– showing that this brief psychotherapy is quite effective.

The present study aims to investigate the outcome of CAT in a larger sample of patients with various diagnoses, who are attending a public mental health service.

Method

The study was undertaken in the Community Mental Health Center of Northwestern district of Thessaloniki. The Center has a standard intake procedure including diagnostic interview and completion of various psychometric tests followed by a disposition conference where diagnosis is establis-

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hed and the treatment modality is decided. The diagnoses are made according to DSM-III-R/IV criteria. All the scientific personnel of the Center who are involved in diagnostic interviews are trained and experienced in the use of this diagnostic system. One of the most frequently used psychometric tests is the Minnesota Multiphasic Personality Inventory (MMPI) which has been completed at the intake time by those patients who had at least a ninth grade education. More recently, to the Eysenck Personality Questionnaire has been added the psychometric "armament" of the Center and has been similarly completed at intake by all those patients having at least a sixth grade education. Both tests were adapted for use in Greece, the MMPI in 1980 (Manos 1985) and the EPQ in 1977 (Dimitriou 1977).

Those patients who were assigned CAT at intake, were also assessed again 2 months and 1 year after termination of the therapy. At follow up: 1) They had an interview with their therapist. During this interview the therapist and the patient also completed the Post- therapy Questionnaire (Ryle and Ansari 1988) specifically designed for CAT post therapy evaluation. The questions which have been tested in the present study are: a) whether the patient could remember what problems first brought him/her to therapy, b) what was the new understanding he/she gained during therapy i.e. reformulation, c) whether this understanding has been helpful. These questions are scored from 0=no correspondance with problems/reformation or unhelpful to 3=full correspondance or very helpful, d) whether they found some basic aspects of CAT helpful or not such as psychotherapy file, self-monitoring, diary, rating sheets, relationship with the therapist, the fact that therapy was time limited. These questions are scored from 1= very unhelpful to 5= very helpful, e) whether they believed that they needed further therapy or not. 2) Then, they were asked to complete the same psychometric tests as at intake.

Samples of patients who dropped out of treatment and of those who had completed it but failed to attend the two-month follow up were studied and compared to those who had both completed therapy and attended the follow up regarding demographic characteristics, DSM-III-R/IV psychiatric diagnoses and pre-therapy MMPI scores. Similarly, patients who attented both follow ups were compared to those who came to the two-month follow up, but did not come to the one-year follow up regarding MMPI and Post-therapy Questionnaire scores at the two-month follow up.

Therapy was carried out by 12 different therapists: three psychiatrists, 5 trainee psychiatrists, 2 psychologists and 2 social workers. Two of the above were CAT therapists, 5 trainees in CAT and the rest 5 were trainees when treating some patients and CAT therapists later on.

Results

A total sample of 239 patients were assigned to CAT from June 1989 to October 1996. Twenty of them (8%) did not turn up for the first session, 14 are still in therapy and 27 (13%) dropped out. One hundred and forty (82%) patients came to the two-month follow up, 30 (18%) did not, while the remaining appeared between the end of therapy and the 2-month follow up. Of the 136 patients who should have come to the 1-year follow up, 84 (62%) came and 52 (38%) did not. Twenty seven of them had attended the 2-month follow up and 25 did

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not. Thus, the percentage of patients who came to the first follow up but failed to attend the second one was 25% (27 out of 110) while one patient came only to the 1-year follow up. Table I depicts the demographic characteristics of the 140 patients who attended the 2-month follow up, while Table II includes their psychiatric diagnoses. As seen, the majority were women, married and had a high school education. The most frequent axis I diagnoses were anxiety disorders (mainly panic disorder with or without agoraphobia) and depressive disorders (mainly major depression of mild or moderate severity and dysthymia). Many patients had more than one axis I diagnosis while the majority of them (59%) had a diagnosis of a personality disorder (axis II) as a single or as an additional diagnosis. None of the patients received medication during therapy while those who were under medication before starting treatment were asked to stop it in the first 2-3 sessions. The 27 patients who did not complete treatment and the 30 patients who failed to attend the 2-month follow up did not differ significantly ($p>0.05$) from the 2-month follow up attenders regarding demographic characteristics and psychiatric diagnoses (Table II).

Table III includes the MMPI T scores of those patients who had the appropriate level of education, completed the test and their tests were valid at the time of intake and at the 2-month follow up. The MMPI scales are all the clinical scale, the sum of the clinical scales, the validity scale K (Defensiveness) and some of the research scales such as: A (Anxiety), Dy (Dependency), Mas (Manifest anxiety), Soc (Social Maladjustment), Mor (Poor Moral), Hos (Hostility), D1 (Subjective depression), Dep (Depression) and Es (Ego strength), the only one from the clinical and research scales where higher score means better psychological state. The patients manifested a statistically significant improvement in all but two (Mf, Ma) scales. Table IV presents the MMPI T scores of the patients who attended the 1-year follow up compared to their scores at intake. There was a significant improvement on the same scales as in the previous Table. As seen on Table V the patients at the 1-year follow up achieved better scores on many scales of the MMPI which reached statistical significance on two of them (HS and Hy) compared to their scores at the

Table I
Demographic characteristics of the 2 month follow up attenders [N= 140]

	N		%
Sex			
Male	36		26
Female	104		74
Age		31.9±9.8	
Education			
< High school	41		29
High School	59		42
University	40		29
Marital status			
Single	52		37
Married	74		53
Divorced/Widowed	14		10

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Table II
Psychiatric diagnoses according to DSM-III R / DSM-IV classification of the 2 month follow up attenders, non-attenders and non-completers

	A [= 140]		NA [= 30]		NC [= 27]	
	N	%	N	%	N	%
Mood disorders	66	47	13	43	12	44
Major depression	40	29	7	23	7	26
Dysthymia	34	24	7	23	5	19
Depression NOS	2	1	1	3	0	0
Anxiety disorders	72	51	16	53	13	48
Panic ± AGF	60	43	14	47	11	41
AGF	1	1	0	0	0	0
GAD	7	5	2	7	1	4
Social phobia	7	5	2	7	1	4
Simple phobia	9	6	2	7	1	4
OCD	6	4	2	7	1	4
Anxiety NOS	2	1	0	0	0	0
Somatoform disorders	18	13	4	13	3	11
Somatization disorder	1	1	1	3	1	4
Undifferentiated	7	5	2	6	1	4
Hypochondriasis	1	1	0	0	0	0
Conversion disorder	7	5	1	3	0	0
Body dysmorphic	2	1	0	0	1	4
Alcohol abuse	1	1	0	0	0	0
Bulimia	1	1	0	0	0	0
Sexual disorders	3	2	0	0	0	0
Adjustment disorders	4	3	0	0	2	7
Codes V	14	10	2	7	4	15
Personality disorders	82	59	18	60	16	59
Paranoid	2	1	0	0	0	0
Schizoid	0	0	0	0	0	0
Schizotypal	2	1	0	0	0	0
Antisocial	0	0	1	3	0	0
Borderline	26	19	6	20	6	22
Narcissistic	4	3	1	3	1	4
Histrionic	23	16	5	17	4	15
Avoidant	10	7	3	10	1	4
Dependent	11	8	2	7	1	4
Obsessive-Compulsive	13	9	3	10	1	4
Passive-Agressive	4	3	1	3	0	0
Self-defeating	3	2	1	3	0	0
NOS	19	14	4	13	4	15

Some patients received multiple diagnoses on both axes
None of the differences between groups reached statistical significance. Chi-square with Yates correction when necessary

2-month follow up. The patients who came to the 2-month follow up did not differ significantly ($p>0.05$) in comparison with those who did not complete therapy and with those who failed to attend follow up regarding pre-therapy MMPI scores. Furthermo-

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Table III
MMPI T scores before CAT and at the time of the 2-month follow up [N= 122]

	Intake	Follow up
HS*	66.3 ± 12.0	56.8 ± 12.2
D*	65.5 ± 11.4	52.2 ± 12.2
Hy*	64.5 ± 12.1	57.0 ± 11.7
Pd*	58.2 ± 11.0	53.0 ± 9.1
Mf*	47.3 ± 11.4	46.0 ± 11.1
Pa*	59.8 ± 9.2	50.9 ± 7.8
Pt*	64.7 ± 10.1	52.2 ± 10.9
Sc*	59.1 ± 10.9	50.2 ± 8.4
Ma*	50.3 ± 9.2	48.8 ± 8.3
Si*	54.5 ± 11.5	47.7 ± 10.5
Sum*	590.0 ± 77.3	514.4 ± 69.8
A*	61.3 ± 10.1	50.1 ± 11.4
Es*	40.3 ± 10.0	50.0 ± 11.5
Dy*	61.2 ± 10.6	51.4 ± 12.3
Mas*	63.9 ± 10.2	52.7 ± 12.1
Soc*	55.5 ± 11.4	50.1 ± 10.5
Mor*	61.4 ± 10.2	51.8 ± 11.2
Hos*	52.4 ± 11.1	48.8 ± 11.3
DI*	64.5 ± 10.7	51.1 ± 12.9
Dep*	63.3 ± 9.8	51.1 ± 10.4
K*	50.7 ± 10.0	55.7 ± 11.3

* $p<0.001$, paired t-test, df= 121
Es: a higher score means better psychological state

Table IV
MMPI T scores before CAT and at the time of the 1-year follow up [N= 72]

	Intake	Follow up
Hs*	65.9 ± 11.1	54.2 ± 10.5
D*	66.0 ± 9.7	50.2 ± 10.6
Hy*	65.3 ± 11.0	53.4 ± 4.0
Pd*	55.4 ± 10.5	50.9 ± 9.1
Mf*	47.4 ± 12.0	46.7 ± 10.8
Pa*	59.4 ± 8.7	49.7 ± 8.8
Pt*	63.1 ± 9.1	50.6 ± 10.1
Sc*	57.5 ± 9.4	48.0 ± 8.0
Ma	49.4 ± 8.3	48.4 ± 8.1
Si*	54.4 ± 11.0	46.2 ± 12.1
Sum*	583.7 ± 69.2	498.5 ± 73.5
A*	60.6 ± 8.7	48.9 ± 10.4
Es*	40.7 ± 8.1	52.1 ± 10.1
Dy*	60.9 ± 9.0	49.4 ± 11.8
Mas*	63.5 ± 9.4	51.0 ± 10.3
Soc*	55.4 ± 11.3	50.1 ± 10.4
Mor*	62.0 ± 9.1	50.8 ± 10.0
Hos**	51.9 ± 10.0	48.7 ± 9.8
DI*	64.0 ± 8.9	49.6 ± 10.8
Dep*	63.0 ± 8.9	50.6 ± 9.5
K*	50.4 ± 10.7	56.7 ± 11.6

*$p<0.001$, **$p<0.01$, paired t-test, df= 71
Es: a higher score means better psychological state

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Table V
MMPI T scores at the 2-month and at the 1-year follow up [N= 72]

	2-month	1-year
Hs*	55.4 ± 11.1	54.2 ± 10.5
D	51.0 ± 11.2	50.2 ± 10.6
Hy**	56.8 ± 10.9	53.4 ± 11.0
Pd	52.0 ± 9.5	50.9 ± 9.1
Mf	45.6 ± 10.7	46.7 ± 10.8
Pa	49.4 ± 6.8	49.7 ± 8.8
Pt	50.4 ± 10.7	50.6 ± 10.1
Sc	48.0 ± 7.7	48.0 ± 8.0
Ma	47.5 ± 8.6	48.4 ± 8.1
Si	47.0 ± 9.9	46.2 ± 12.1
Sum	503.0 ± 69.5	498.5 ± 73.5
A	48.6 ± 11.2	48.9 ± 10.4
Es	52.0 ± 10.7	52.1 ± 10.1
Dy	50.0 ± 12.1	49.4 ± 11.8
Mas	51.1 ± 11.3	51.0 ± 10.3
Soc	50.6 ± 9.9	50.1 ± 10.4
Mor	51.6 ± 11.8	50.8 ± 10.0
Hos	47.7 ± 10.7	48.7 ± 9.8
Dl	50.3 ± 11.7	49.6 ± 10.8
Dep	50.5 ± 11.4	50.6 ± 9.5
K	56.6 ± 11.8	56.7 ± 11.6

*$p<0.01$, **$p<0.001$, paired t-test, df= 71
Es: a higher score means better psychological state

re, there were no significant differences ($p>0.05$) on any MMPI scale at the 2-month follow up between attenders of both follow ups and those who came to the 2-month follow up but did not come to the 1-year follow up. Table VI depicts the EPQ scores of the 25 patients who completed the test, at intake and at the 2-month follow up. At follow up the patients had significantly lower scores on scale N (Neuroticism) and higher scores on scale E (Extroversion) while they did not differ on scale P (Psychoticism) and L (Lie) compared to their scores before therapy. Table VII presents the scores on the questions of the Post-therapy Questionnaire of the 84 patients who came to the 1-year follow up compared to their scores at the time of the 2-month follow up. The patients achieved better scores on the majority of the questions at the second follow up which reached statistical significance in some questions such as: how helpful they found the new understanding, the self-monitoring, their relationship with the therapist and the fact that the therapy was time limited. It is worthwhile to mention that of the 140 patients who came to the 2-month follow up, only 22 (16%) asked for further therapy and 15 (11%) received it. Twelve of them had more CAT sessions, while the remaining 3 have been referred for other treatment (2 for supportive psychotherapy and 1 for long term psychoanalytic psychotherapy). Of the 7 patients who asked for further therapy but did not receive it, 4 came to the 1-year follow up and stated that they were well, 2 did not come and 1 came between the first and the second follow up time. None of the 12 patients who had extra CAT sessions asked for further treatment at

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Table VI
EPQ scores before CAT and at the time of the 2-month follow up [N=25]

	Intake	Follow up
P	4.0 ± 3.0	3.5 ± 2.6
N**	18.1 ± 2.8	14.2 ± 3.7
E*	11.0 ± 4.2	13.6 ± 3.8
L	9.9 ± 3.3	9.8 ± 3.5

**p<0.001, *p<0.01, paired t-test, df= 24

Table VII
Post-therapy Questionnaire scores of the patients on the 2-month and the 1-year follow up [N=84]#

	2-month	1-year
1. Presented problem	2.8 ± 0.50	2.8 ± 0.50
2. Corresp. With reformulation	2.4 ± 0.60	2.3 ± 0.80
3. Helpful or not*	2.6 ± 0.50	2.8 ± 0.40
4. Helpful or not		
a. Psychotherapy file	3.9 ± 1.0	4.0 ± 1.0
b. Self monitoring*	4.1 ± 0.9	4.3 ± 0.9
c. Diary	3.6± 1.1	3.7 ± 1.1
d. Ratings	3.9 ± 1.0	4.0 ± 0.8
e. Relationship*	4.5 ± 0.5	4.7 ± 0.5
f. Time limited*	4.0 ± 0.8	4.2 ± 0.9

Statistical comparison with Wilcoxon test for pair differences
* p<0.05

the end of these sessions. Seven of them came to the 1-year follow up, 2 did not come and 3 were in between the two follow ups. On the 1-year folow up only 1 patient asked for therapy, presenting a different problem (obsessive thoughts) compared to the first attendance (panic attacks) due to some major life events. She successfully completed a new cycle of 16 CAT sessions and she remains well three years later. This patient has been counted twice in the sample under study. Finally, there were no significant differences on any of the questions of the Post-therapy Questionnaire at the time of the 2-month follow up (p>0.05, Wilcoxon test for two samples) between attenders of both follow ups (N= 84) and those (N= 27) who came to the 2-month follow up but did not come to the 1-year follow up.

Discussion

The results of the present study replicate our preliminary findings (Garyfallos *et al.* 1991a) and indicate that in a public health service patients with a variety of psychiatric diagnoses show a considerable improvement after receiving Cognitive Analytic Therapy. Furthermore, the effectiveness of CAT in patients with different psychological problems supports the initial view that CAT is an appropriate and safe intervention

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and that the only exclusion criteria are the existence of psychotic disorders and substance abuse or dependence (Ryle 1982, 1995).

As far as psychiatric diagnosis is concerned, the sample under study is representative of the center's clientele (Garyfallos *et al.* 1991b). Other studies also report that the majority of patients in an outpatient clinic have an anxiety and/or a depressive disorder and a high frequency of personality disorders (Alnaes and Torgersen 1988). The proportion of patients who completed therapy (87%) and the proportion of those who attended the follow ups (82% at the 2-month and 62% at the 1-year) of the present study are higher compared to two other studies, one in Finland (Leinman 1991) and another in England (Dunn *et al.* 1997). In the latter, which has a quite sizeable sample with psychiatric diagnoses similar to those of the present study, 82% of the patients completed therapy while 52% of the completers came to the only follow up that had been made at a non precise time between 3-6 months after therapy termination. The choice of the timing e.g 2 months and 1 year for the follow ups in the present study is within the range that Patterson *et al.* (1977) propose for brief psychotherapies, having the additional advantage of assessing outcome twice at different time distances from the end of the therapy. The fact that only 11% (15/140) of patients were referred on for further treatment, suggests a satisfactory impact and the figure is better than that reported (18.5%) in the English study by Dunn *et al.* (1997). Furthermore, it is noticeable that only 3 patients are referred on for other types of psychotherapy while the rest 12 received more CAT sessions and none of them asked for further treatment at the end of these sessions. However, as the decisions about offering further therapy were made after the 2-month follow up assessment, similarly to the English study (Dunn *et al.* 1997), it is not clear whether the above rate of 11% is completely representative because there were 30 (18%) patients who did not attend the follow up.

As far as the method used for assessing outcome is concerned, the combination of psychometric tests, such as MMPI and EPQ, and post-treatment rating by the patient and therapist, such as the Post-therapy Questionnaire, is considered the most appropriate (Beutler and Crago 1983). Regarding the MMPI, as an objective test for evaluation of psychotherapy outcome, Bergin and Lambert (1978) point out that "no other paper pencil measure of psychopathology based on self report offers anything better to the researcher".

Beutler and Crago (1983) reviewing studies assessing psychotherapy outcome, found that half of then used some or all of the MMPI dimensions. Although there are few different views (Cartwright 1975), especially regarding the test-retest reliability of many of the MMPI scales (Gleser 1975), the test is clearly the most popular instrument for this field of research (Beutler and Crago 1983). It is supported that scales D (Depression), Pt (Psychasthenia) and Sc (Schizophrenia) from the clinical scales (Dahlstrom and Welsh 1960, Beutler and Crago 1983) appear to provide consistent validity as change indices. The same scales, with the addition of scales Hs (Hypochondriasis), showed the most significant improvement in the present study, as well. It has to be pointed out, that scale Hs had the highest elevation at intake. That may be partly explained by the fact that the most frequent psychiatric diagnoses were panic disorder, depressive and somatoform disorders, disturbances which in their clinical picture include, as is well known, somatic

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complaints, but possibly this finding can also be attributed to cultural factors. The view that Greeks are used to expresing psychological problems and distress through a "somatic language", has been supported by many studies (Skinner 1965, Pilowski and Spence 1977, Adamopoulou *et al.* 1990, Garyfallos *et al.* 1991c). Therefore, one can assume that a successful psychotherapeutic intervention may result in a very significant improvement on scale Hs, which measures somatic matters. Regarding the research scales, the most notable changes appear on the two scales measuring depression (D1 and Dep) and on the two anxiety scales (A and Mas), a finding which is in congruence with other studies (Conte *et al.* 1988). Significant improvement also has been shown on scale Es. This scale is the best index of a positive change after treatment (Graham 1987) and is usually incorporated as a measure into psychotherapy studies (Beutler and Crago 1983). A higher score after therapy means that the individual tends to be better adjusted psychologically and that he/she is more able to cope with problems and stresses in life situations (Graham 1987). The improvement on scale Dy indicates that the person is more independent and not excessively sensitive to the reactions of others, while the improvement on scale Mor means that he/she is more confident, more optimistic about the future and can better face up to difficulties and responsibilities (Graham 1987). Finally, a lower score on scale Soc after therapy shows that the person became more extroverted, assertive and gregarious (Graham 1987). The scale K of the MMPI is a validity scale measuring defensiveness but, in contrast to the other validity scale L of the test, it measures more subtle and mature defenses (Graham 1987). A higher score after psychotherapy-if this score does not exceed 60 for individuals of lower middle class and upper lower class (Graham 1987), as in the present study is indicative of improvement, reflecting better functioning, ego strength and psychological resources (Graham 1977, Manos and Vassilopoulou 1984, Grahan 1987).

Regarding the EPQ, the other psychometric test used in the present study, it is an instrument with reliable factorial structure (Beutler and Crago 1983), containing good measures of both defensive style and coping adequacy that are highly correlated with independent measures of repression –sensitization, internalization-externalization, ego strength and intensity of symptomatic behaviour (Roessler 1973). Therefore, the test is suggested, together with the MMPI, as the most suitable tool measuring changes in general psychopathology and personality after psychotherapy (Beutler and Crago 1983). The results of the EPQ, despite the small size of the patient sample who completed the test, indicated the improvement achieved after CAT intervention. The patients were more stable (scale N) and more extroverted (scale E) according to Eysenck's dimensions of personality. Furthermore, the results of the EPQ validated those of the MMPI and vice versa because, as has been found, scale N has a significant positive correlation with scales Hs, D, Hy and Pt and negative correlation with scales K and Es of the MMPI (Roessler 1973, Wakefield *et al.* 1974, Garyfallos *et al.* 1995), while scale E is negatively correlated with scale D, Pt and Si (Roessler 1973, Garyfallos *et al.* 1995).

The fact that patients achieved better scores on many MMPI scales at the 1-year follow up compared to the 2-month follow up shows that not only did they sustain the achieved therapeutic gain, but they improved it further, as well. Another CAT outcome study (Brockman *et al.* 1987) found a deterioration at the second follow up, com-

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pared to the first one, on two measures they used i.e General Health Questionnaire and Negative Self Attitude Score and a modest improvement on a third i.e Beck Depression Inventory.

However, they did the first follow up immediately after treatment termination and the second at a non precise time from the end of therapy, ranging between 8-18 months. The results of the MMPI were validated by the comparisons on the questions of the Post-terapy Questionnaire, where patients achieved better scores on almost every question (in some of them the differences reached statistical significance) at the 1-year follow up compared to the 2 month follow up and also by the fact that on the second follow up only one patient asked for further treatment. The above findings support earlier reports that after termination, patients consolidate the gains resulting from brief treatment, and they continue to improve and eventually they approach life problems more effectively (Frank 1974, Patterson *et al.* 1977). The highest score on the Post-therapy Questionnaire, on both follow ups, was on the question "relationship with the therapist", a finding suggesting that this relationship, as in any type of psychotherapy, is the most important factor involved. The high score on the question investigating the correspondance with reformulation shows that the patients truly incorporated into themselves the "new understanding" gained by the therapy. Finally, the high score on the question investigating how helpful the patient found the time limit in therapy and especially the score at the 1-year follow up, indicates that a brief psychotherapy could be valuable and that the sense of a time limit may reinforce their motivation for change, something they appreciate at the follow up.

The present study did not find any characteristics distinguishing the patients who completed therapy from those who did not, as there were no significant differences between the two groups regarding demographic characteristics, psychiatric diagnoses and pre-therapy MMPI scores. This finding is not congruent with other CAT outcome studies which found that non-completers had higher initial scores on various tests, such as BDI (Brockman *et al.* 1987, Dunn *et al.* 1997), GHQ and Crown-Crisp Inventory (CCI) (Brockman *et al.* 1987), than patients completing therapy. On the contrary, the finding that at the 2-month follow up non-attenders did not differ significantly from those who attented, regarding their pre-therapy inventory scores, is in line with the results of Dunn *et al.* (1997).

The failure to attend follow up could reflect a wish to move on after a difficult time or resentment at an unsuccessful intervention (Dun *et al.* 1997). Against the latter explanation is the finding of the present study that there were no significant differences between attenders of both follow ups compared to those who came to the first follow up but did not come to the second, concerning their MMPI and Post-therapy Questionnaire scores at the time of the 2-month follow up. All the above indicate that the failure to attend follow up is difficult to predic as it is related to a wide range of attitudes.

There are some limitations of the present study. The first is the absence of a control group, although there is still a long debate on what the appropriate control group is (patients on the waiting list, patients who did not follow the treatment or individuals treated with another psychotherapeutic technique) (Basham 1986). Furthermore, although the time of 1 year for follow up is satisfactory (Patterson *et al.* 1977), a re eva-

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luation of the patients some years later would be useful, a study which is in progress in the Center.

There are reports concluding that prediction of outcome of psychotherapy is difficult; it is rare to demonstrate associations between pre-therapy measures and outcome strong enough to be of any clinical value (Luborski *et al.* 1980). A good final result depends on the patient's ability to become involved in a therapeutic relationship and to work productively within the framework proffered by the therapist (Strupp 1980). Major deterrents to the above condition are not only the patient's characteristics, but the therapist's personal reactions, as well (Strupp 1980). Furthermore, Auerbach (1983) points out that there is no totally satisfactory procedure for the assessment of a psychotherapeutic outcome as "outcome" is approximately as complex as human life. In addition, Luborski *et al.* (1975) support that there is little evidence that any school of therapy gets better results than any other.

In conclusion and keeping in mind the above statements, Cognitive Analytic Therapy seems to be an effective brief psychotherapy appropriate not only for selected groups of patients, but for patients with a variety of psychological problems.

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