

## PERSONALITY AND RELAXATION THERAPY: CHANGES AMONG CLINICAL AND NORMAL SUBJECTS

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*Summary.*—There are increasing numbers of self-referral stress-management programs, a few of which use group-relaxation techniques, but few data are available on the personalities of the symptomatic and asymptomatic clients who attend or on any changes in personality after the program. Scores on the Eysenck Personality Inventory, Multiple Health Locus of Control, and State-Trait Anxiety Inventory as well as demographic information were obtained from 255 adults who attended a 10-session, university-based, group-relaxation program. The symptomatic clients reported significantly less anxiety, less neuroticism, were more extraverted and ascribed less of their behavior to chance at a 1 month post-treatment follow-up than at intake. The small group of asymptomatic clients also reported less anxiety and neuroticism at the follow-up. There were no sex differences on the Eysenck inventory or the anxiety scales but there were for the Multiple Health internal and control scales. It was concluded that group relaxation appeared to improve mental health scores effectively for both stressed and nonstressed adults and that age was significantly related to some personality scores.

The advent of clinics and classes in educational institutions devoted to stress management is becoming more commonplace in the community (May, House, & Dovacs, 1982; Nakagawa, Beaton, & Berrus, 1981; Teders, Blanchard, Andrasik, Jurish, Neff, & Arena, 1984). The personalities of those persons in attendance at group-relaxation classes has not been assessed or, owing to methodological shortcomings, research to date has been equivocal (Andrasik, Blanchard, Arena, Teders, Teevan, & Rodichok, 1982). When studying symptomatic groups, Andrasik, *et al.* (1982) suggest that research using an asymptomatic group should be included and that multiple standardized inventories should be used for assessment. Clinically this type of research would provide clinical knowledge of the clientele, suggest personality changes which may result from relaxation therapy, suggest appropriate relaxation techniques (Schwartz, Davidson, & Goleman, 1978), assist in evaluating the program, and determine which inventories indicate personality change. Theoretically further investigation is needed to explain the complex relationships between personality, stress, and physical disease (Eysenck, 1987).

Therapeutic programs for anxiety and headache with psychosomatic clients

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have assessed personality on a wide variety of inventories. Predictive studies have not indicated the most useful inventories relative to treatment outcome, so, this study selected two well-known inventories, the Eysenck Personality Inventory—Form B (Eysenck & Eysenck, 1968) and the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970) for administration to this noninstitutionalized population. The Multiple Health Locus of Control (Wallston, Wallston, & DeVellis, 1978) was chosen for its focus upon mental and physical health and for the suggested importance of locus of control in the formulation of therapy and prognosis (Hoehn-Saric & McLeod, 1985).

Eysenck (1977) suggests that individuals with autonomic overreactivity (high neuroticism) and strong conditionability (high introversion) would have higher anxiety. Morris's (1979) review of research completed in the 1970s and recent research by Strelau (1983) have further supported this suggestion. Individuals with high anxiety who attended a stress-management clinic would be overly represented among those high in neuroticism/high introversion. Johnson and Hanson (1979) found that male patients who expressed more somatic and psychological complaints had a more external locus of control. This appears consistent with Morris's (1979) report of a positive correlation between external locus of control and neuroticism. More recent work by Krause and Stryker (1984) showed that men with moderately internal locus of control coped more effectively with stress than those classified as extremely internal, extremely external or moderately external. Significant reductions in trait anxiety after relaxation training have been found among community groups (McCready, Berry, & Kenkel, 1985; Yorde & Witmer, 1980) and among clinical groups (Blanchard, Andrasik, Appelbaum, Evans, Meyers, & Barron, 1986). Differences between clinical and normal groups were noted by Andrasik and Holroyd (1980) on (STAI) trait anxiety but not for the Health Locus of Control (Wallston, Wallston, Kaplan, & Maides, 1976).

The first purpose of this study was to estimate the possible change in personality among symptomatic and asymptomatic clients participating in group-relaxation therapy. The second purpose was to control for age and investigate sex differences in personality reported on the Eysenck Personality Inventory, State-Trait Anxiety Inventory and Multiple Health Locus of Control by the symptomatic group. The third purpose was to describe, in an education-based setting, the personality characteristics of clients self-reporting stress symptoms and asymptomatic clients attending for self-education.

#### METHOD

The clinic is situated in an academic unit at a university and is primarily a research unit designed to investigate the therapeutic efficacy of relaxation and biofeedback techniques for a variety of stress-related problems. The clinic is

public and accepts professional and self-referrals in exchange for co-operation in research and minimal fees for service.

### *Subjects*

The 255 volunteers for this study enrolled in group-relaxation classes on a first-come, first-serve basis and continued the program through to the 1-month follow-up. This group represented 87% of the participants in the clinic's group-relaxation program over a 4-yr. period. The 159 women and 96 men ranged in age from 18 to 67 yr. and had a mean age of 32.5 yr.

### *Procedure*

Subjects with clinical problems had a telephone or personal interview with E. I. Bird to determine the suitability of relaxation for their problem and then obtained their physicians's approval to participate. Asymptomatic subjects indicated a desire for knowledge and life-time relaxation skills. At the initial class meeting, all clients completed a consent form, a demographic intake form, and three personality inventories. At a class meeting one month after the program, the personality inventories were again administered. Form B of the Eysenck Personality Inventory (Eysenck & Eysenck, 1968) assessed the traits of introversion-extraversion and neuroticism-stability. Gabrys (1982) reported acceptable reliability and validity figures for a Canadian outpatient population. General trait anxiety was assessed using the Trait Anxiety scale of the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970). Form A of the Multidimensional Health Locus of Control Questionnaire (Wallston, Wallston, & De Vellis, 1978) was used to assess the extent to which individuals believe they have control over the health experiences in their lives. The inventory includes three subscales, Internal/External, Chance, and Powerful Others.

Among other information, the intake form asked the clients for age, sex, symptoms, the number of years with the problem and the severity of the problem, the latter utilizing a 5-point rating scale from 0 (none) to 4 (extremely often debilitating). The relaxation program consisted of 10 1-hr. lessons in Progressive Muscle Relaxation (Bernstein & Borkovec, 1973), Autogenic therapy (Luthe, 1977), breathing, visualization, Quieting Response (Stroebe, 1983), and Alphagenics (Zaffuto & Zaffuto, 1974) taught by an instructor. Each lesson consisted of a discussion of clients' progress, symptoms or difficulties in home practice, a review of the previous lesson, the main technique for the evening and a brief discussion of its application. Other characteristics of the program and subjects appear in a paper by Bird, Wilson, and Blanchard (1985).

### RESULTS

The intake data indicated that there was no significant difference in age between men (33 yr.) and women (32 yr.;  $t_{1,271} = 1.09$ ,  $p < .05$ ). The symptomatic group was significantly older (32 yr.) than the asymptomatic

group (26 yr.;  $t_{1,255} = 2.43$ ,  $p < .02$ ) based upon the pooled variance. Within the symptomatic group there were no significant sex differences for age, the number of years of self-reported symptoms ( $M = 7.45$  yr.) or for the severity of symptoms ( $M = 3.06$ ). As might be expected, age was a significant covariate with the number of years a person had shown stress symptoms ( $F_{1,218} = 37.38$ ,  $p < .001$ ). The mean raw scores and standard deviations on the personality inventories and the number of subjects by sex within the symptomatic and asymptomatic groups are shown in Table 1.

TABLE 1  
MEAN RAW PRE- AND POSTTREATMENT PERSONALITY SCORES BY GROUP AND SEX

Measure	Women					Men				
	$M_{pre}$	$SD$	$M_{post}$	$SD$	$n$	$M_{pre}$	$SD$	$M_{post}$	$SD$	$n$
Symptomatic Group										
Eysenck Personality Inventory										
Extraversion	11.9	3.9	12.9	3.5	93	12.3	4.4	12.6	4.2	60
Neuroticism	15.8	4.7	13.3	5.2	93	14.7	3.8	12.8	4.1	60
State-Trait Anxiety	48.6	10.8	41.4	9.6	146	45.8	9.6	39.8	8.1	86
Multiple Health Locus of Control										
Internal	27.3	4.9	28.5	4.7	80	26.4	4.6	26.5	4.8	51
Chance	14.7	5.1	13.6	5.4	74	16.5	5.8	15.6	5.3	47
Power Others	15.1	5.6	13.9	5.5	74	15.1	5.0	14.9	5.6	47
Asymptomatic Group										
Eysenck Personality Inventory										
Extraversion	13.8	3.9	16.4	3.3	5	13.0	4.8	14.8	5.1	6
Neuroticism	10.8	6.9	7.0	5.9	5	12.3	5.0	9.0	4.1	6
State-Trait Anxiety	37.5	8.9	34.8	9.9	13	36.0	6.1	32.4	7.2	10
Multiple Health Locus of Control										
Internal	28.0	3.6	30.7	2.9	6	29.4	3.6	28.0	5.1	7
Chance	17.7	4.8	15.7	5.4	6	13.0	3.4	13.9	5.9	7
Power Others	12.8	4.0	13.3	2.5	6	14.6	7.5	13.9	4.7	7

The pre- and posttreatment effects for the symptomatic groups were analyzed using a 2 (sex)  $\times$  2 (pre- and posttreatment) repeated-measures analysis of covariance, with age as the covariate. Age was a significant covariate for Eysenck's Neuroticism scores and the Multiple Health Locus of Control Internal and Powerful Others scales. There were no significant interactions for any of the personality variables. The main pre- and posttreatment effects included significantly higher Eysenck Extraversion scores ( $F_{1,153} = 10.08$ ,  $p < .01$ ), significantly lower Eysenck Neuroticism scores ( $F_{1,153} = 53.26$ ,  $p < .001$ ), and significantly lower STAI Trait Anxiety scores ( $F_{1,121} = 5.43$ ,  $p < .05$ ). The only significant sex differences were that men reported lower MHLC (Internal) and higher (Chance) locus of control scores ( $F_{1,211} = 4.11$ ,  $p < .05$  and  $F_{1,121} = 4.35$ ,  $p < .05$ ).

A  $2$  (groups)  $\times$   $2$  (pre- and posttreatment) repeated-measures analysis of covariance, with age as a covariate was also used to test the difference between the symptomatic clients and the asymptomatic clients. Despite the difference in size of these two groups, there were no significant differences in the homogeneity of variance on any of the personality scores, so exploratory analysis was deemed reasonable. There were no significant interactions for any of the personality variables. The main effects for groups indicated that the asymptomatic groups had significant lower Eysenck Neuroticism scores ( $F_{1,164} = 14.18, p < .001$ ) and significantly lower STAI Trait-Anxiety scores ( $F_{1,255} = 25.79, p < .001$ ).

### DISCUSSION

The significant personality changes of higher extraversion, reduced neuroticism, lower anxiety, and lower ascriptions of health being attributed to chance, following treatment agrees with previous work by Blanchard, *et al.* (1986), McCready, *et al.* (1985), and Yorde and Witmer (1980). The reader is cautioned that, since a control group was not available, the positive changes on measures of personality cannot unequivocally be attributed to the relaxation treatment. Other possible explanations for the changes include a regression toward the mean, the passage of time, attention, or expectation effects. The finding that age was a significant covariate suggests that studies of personality should control or account for its influence.

The results indicating that pretreatment means on Eysenck scales for the symptomatic group were in the introverted/neurotic quadrant while the asymptomatic groups were not supports Eysenck's hypothesis that individuals with problems of overreactivity would be located in this quadrant. It also agrees with research by Gabrys (1982) and by Karle, Corriere, Hart, and Klein (1981) who noted higher Neuroticism scores for Canadian and American clinical outpatient samples than the norms.

Compared with the university norms for State-Trait Anxiety the pretreatment mean Trait-Anxiety scores for the symptomatic group were in the 84th percentile and the 53rd percentile for the asymptomatic group. The percentile scores decreased equally following relaxation treatment suggesting a consistent reduction of psychosomatic distress whether or not the groups had stress symptoms. Consequently, it was concluded that mentally healthy people feel even better after relaxation training.

The symptomatic clients did not have extreme internal or external locus of control scores and according to previous research should cope better with stress and have fewer physical stress symptoms. This did not appear to be the case for these clients. Unlike other studies this group did not become significantly more internally oriented following treatment although the change was in that direction.

As is common in other studies, a larger percentage of women than men enrolled in this relaxation program but less common was a lack of a sex difference in the initial severity of stress, personality, or anxiety. The Multiple Health Locus of Control norms do not indicate sex differences on any scale. The significant sex differences in this study may have been related to a different mean age or sample size than the normative data.

The higher neuroticism and anxiety scores of the symptomatic group compared to the asymptomatic group suggest that, while the stressed clients are functioning in society, they are different from those who do not suffer from the symptoms of stress. Since the asymptomatic group was so small, these results are tentative and need further testing.

For a clinical perspective, assessment of the personalities of participants in educationally oriented group-relaxation classes is useful for three reasons. First, there is an ethical responsibility to refer the more extreme anxiety-neurotic introverts to other professional services. Second, the leaders of self-help groups, in addition to knowing the psychological and medical limitations of relaxation therapies, need an awareness of the characteristics of the group as a whole to facilitate the selection and implementation of self-relaxation techniques. Third, the personality data can assist in setting realistic goals and expectations of progress in any type of program. In summary, this study indicated that a program containing a variety of relaxation techniques resulted in positive changes in personality scores at a 1-mo. follow-up for clients with and without symptoms of stress.

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