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PERSONALITY PROFILE COMPARISION BETWEEN CANCER PATIENTS AND OTHER DISEASE GROUPS[1]

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ABSTRACT

This research was designed to measure personality dimensions of cancer patients on an objective instrument, and to make comparisons both within the sample as well as to other disease groups. The Cattell Sixteen Personality Factor Questionnaire (16 PF) was administered to 51 cancer patients. Four factors showed a pattern of difference: Lower ego strength, Stronger superego strength, Protension, and Guilt Proneness. When grouped by sex, race, and primary site of lesion, analyses revealed significantly similar personality factor profiles. While different from the norm, only the breast cancer group was clearly differentiated by site of the lesion (Lower ego strength) for the females. When compared on the 16 PF to other disease samples, there were close similarities between the profile of the cancer group and the mean profile of epileptics and TB patients, but differed from heart and psychosomatic diagnosed patients.

INTRODUCTION

The strong correlation between the development of cancer and psychological factors is not new information to those in the field. In descriptions of over 50 research articles in the study of cancer, Achterberg, Simonton, and Matthews-Simonton (1976) summarized evidence demonstrating: (a) that stress and emotions affect the cancerous disease, (b) what personality characteristics are evidenced by people with cancer, and (c) those inferences to physiological mechanisms and contributable to outcome. Relevant to this study, LeShan (1966), Evans (1926), Schmale and Iker (1971), and Green (1966) consistently reported general psychological characteristics of depression, helplessness, despair, and hopelessness that appear to be contributory to the process of the disease. Moreover, Brown (1966) and Bahnson (1971) related more specific emotional syndromes to cancer patients by including the constructs of inhibited life-style, inability to grieve, loss and impaired emotional outlets.

Blumberg (1968) conducted studies to determine if there were emotional characteristics which distinguished fast-growing tumors from those with slow-growing tumors. These investigations indicated that patients with fast-growing tumors were more defensive, had a higher need to appear "good", had a higher level of tension as a result of emotional conflict, and had difficulty reducing these tensions through action. Klopfer (1957) confirmed these findings by predicting

with 70% accuracy which patients would have fast-growing tumors based on measurements of ego defensiveness and investment of emotional energy in an effort to appear to be "good" and "loyal".

Psychological studies continue to reaffirm the notion that the cancer patient is characterized by clinically observed disturbances. These conditions could be related to the reaction to the disease itself, but it behooves both the clinician and researcher to better understand the dynamics in an objective manner.

Although there has been some research, no method has been utilized comparing one cancer group with another or with another disease group. The purpose of this research project was to explore which common personality dimensions could be determined for cancer patients on an objective instrument, and to make comparisons both within the sample as well as to other disease groups.

METHOD

Subjects

The experimental group consisted of 51 cancer patients from the Outpatient Department of the Tumor Clinic of Virginia Commonwealth University, Health Sciences Division. The subjects were selected on the basis of their admission data at the clinic, their life expectancy, the strength of the patient, and his ability to understand the questions asked. There were 31 males (14 white, 17 black) and 20 females (7 white, 13 black). Age range was from 21 to 80.

Measure Utilized

The Cattell Sixteen Personality Factor Questionnaire (16 PF) Form C is a factor-analytically constructed, self-administered test which measures 16 independent personality traits (Cattell, Eber, & Tatsnoke, 1970). The mean correlations of all single items with the factors they represent is +.37, and the mean correlation of each group of 6 items with the factor it represents is about +.71. Reliability has been worked out as a test/retest correlation. Values obtained are quoted when relevant, ranging from .32 to .71.

Procedure

The 16 PF was administered to all the cancer subjects. Their charts were then read to determine the site of the cancer, onset of the illness, primary lesion, amount of metastasism, type of medical or surgical intervention, and family history of cancer.

RESULTS

The 16 PF was scored for each cancer subject and plotted on the score sheet with the appropriate conversions. Means were calculated as to race and sex, as well as according to the site of primary lesion.

PERSONALITY PROFILE COMPARISON

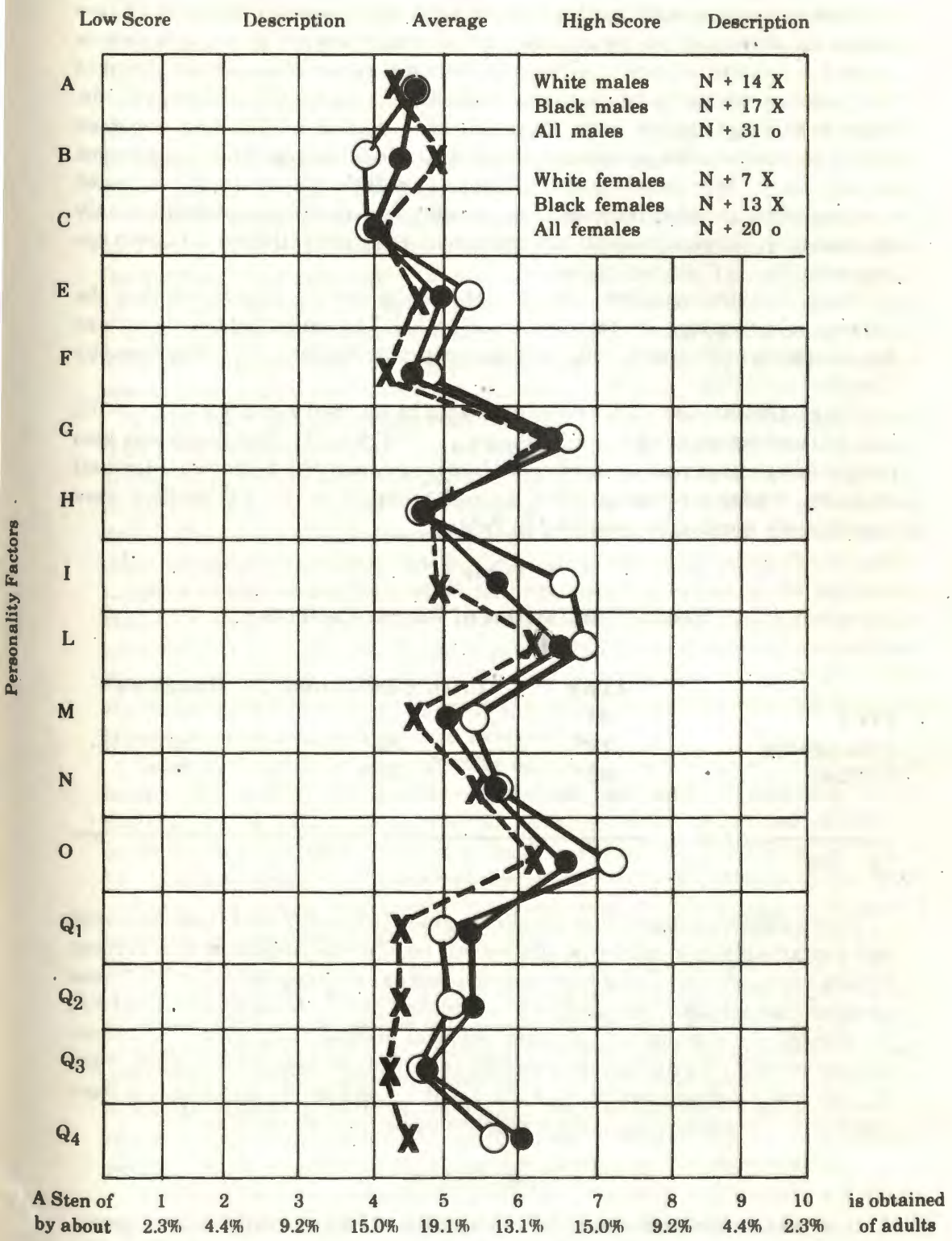

Figure 1: Group Mean All Cancer Patients

A group mean including all cancer subjects was calculated for the 16 PF (see Figure 1). Although the departures from normal were not great, four factors showed a definite pattern of difference. Factor C (Lower ego strength, Sten of four) was on the low-score description side. On the high-score description side, there were three factors with Stens of seven: Factor G (Stronger superego strength), Factor L (Protension), and Factor O (Guilt proneness). When grouped by sex, race, and primary site of lesion, analysis of the 16 PF revealed corresponding group differences in personality factors, but for the females only the breast cancer group was clearly differentiated by site of the lesion (Lower ego strength, Factor C, Sten of three).

The next set of analyses were to statistically test the hypothesis that the various subgroupings were similar to each other. The statistical treatment was the utilization of the correlation coefficient of profile similarity (r_p) formulated by Cattell et al. (1970).

The profiles were subdivided and compared by sex (males and females; $r_p = .87$, $p < .01$) and by race (whites and blacks; $r_p = .84$, $p < .01$). The group was also compared by site of disease, subdivided into lung cancer ($N = 8$), gastro-intestinal ($N = 28$), Hodgkins disease ($N = 4$), and other ($N = 11$). All profiles were significantly similar, as presented in Table 1.

Table 1

Profile Similarities of Cancer Patients

	Lung	*Gastro-intestinal*	*Hodgkins*
2 G-I	**.84***	---	---
3 Hodgkins	**.72***	**.80***	---
4 Other	**.65***	**.83***	**.75***

* $p < .01$

With sufficient support that the cancer group (while different from the norm) was remarkably homogeneous, the overall profile was compared to a cardiac disease group ($N = 53$), and a sample diagnosed as psychosomatic ($N = 76$). These samples were selected from profiles available in Cattell's *Handbook of the 16 PF*, pp. 259-263 for comparison to other physical disease categories. The cancer sample mean profile did correlate significantly with the epileptic profile ($r_p = .88$, $p < .01$) and TB group profile ($r_p = .52$, $p < .01$); however, no significances were found with the cardiac ($r_p = .52$) or psychosomatic ($r_p = .35$) groups.

DISCUSSION

Interpretation of personality factors from the 16 PF indicated that, as a group, cancer patients when compared to the population average, were more affected by feelings, fretful, and not very tolerant of emotion-producing disturbances, nor

very realistic in responding to emotional stimuli. They also were more often dissatisfied and annoyed but found difficulty in appropriate expression of such feelings, which may be reflected by a low mood state.

Cognitively, they appear careful and thoughtful in decision making. They tend to hold strong opinions, tenaciously. They are prone to be critical of themselves and others, demanding much from all concerned. They tend to worry a good deal, sometimes dreading what the future may hold.

In terms of social interactions, they appear not to work well with others over a long period of time, but instead set hard schedules and establish firm routines for themselves. They seem often to mistrust others, and are rather doubtful and suspicious of the behavior of people around them. They seem inhibited, with little sense of freedom in thought or action. Participation is generally awkward and difficult for them, and they seldom believe that they are really accepted, assuming somehow that others are preferred over them.

Character traits and habits tend to be rigidly maintained. These individuals tend to be uncompromising of their high standards. Generally they possess a strong sense of duty and responsibility. They are more likely to be hard-working individuals and can't abide "time-wasting," staying with a job until it is done in detail. They are rather incessant in their efforts to "improve" themselves and quite conscientious, sometimes to the point of seeming moralistic or perfectionistic. Demanding of themselves, with preference for planning and organizing their own work, they want a clear and reasonable structure of their jobs and then want to be alone to get it done. These personality dynamics appear conducive to greater-than-normal stress reaction among each individual. The 16 PF results showed remarkable similarities when the overall sample was divided along sex types and races, and even between cancer sites.

When compared to other disease samples, there were close similarities between the profile of the cancer group and the mean profile of epileptics and TB patients, but it differed from heart and psychosomatic diagnosed patients. It could be inferred that the cancer patient shared an overriding feeling of helplessness toward the disease process and an overwillingness to be the "good and obedient" when compared with the epileptic and TB group on the basis of commensurate scores of high superego (G), trusting (L), and low self-concept (A_3). When compared to the cardiac group, both of these samples shared high guilt (O), low ego strength (C), shyness (H) and high sensitivity (I), but the cardiac group appeared to have a protective personality defense that differed from the "good person" syndrome of the cancer patients, primarily along the dimensions of high self-sufficiency (Q_2), self-indulgence (M), and low superego (G). The psychosomatic comparison was made purely as a check to determine a partial answer to the hypothesis that cancer and heart disease were both merely extensions of psychosomatic tension. The analysis did not support the interpretation.

The profiles of the disease groups support the concept that stress is a strong correlative aspect of disease. As hypothesized in the literature, the resultant high anxiety measures of an intropunitive dynamic are prevalent in all disease profiles. As a matter of curiosity, the researchers compared the cancer profile

with a group profile documented as extremely unlikely to be victimized by cancer — the psychopathic criminal. The profile similarity coefficient was significantly negative ($r_p = -.65$, $p < .05$), indicating that the two groups are very different in most of the 16 dimensions. The clinical interpretation was that the psychopathic criminal, through both behavioral and psychometric measures, typically externalizes his anxiety, thereby maintaining a relatively resolved and healthier physical state. These results do not imply a more-or-less positive model of adaptation, but they do support a consistent picture of personality and disease interaction.

In summary, the research study supports a general hypothesis that cancer patients are homogeneous in measurable personality patterning, and they differ in personality correlates from a normal population. The data suggest that the samples were not similar to other mean profiles, such as cardiac patients or psychosomatic samples, but there were other samples remarkably commensurate.

Although the results supported the idea of significant variance between groupings, there remains to be tested the hypothesis that personality dynamics are causative in the disease process. Perhaps it is primarily the reaction to disease that produces such results and would be predictive of other chronic disease (e.g., TB or epilepsy), or perhaps such covariance is only indicative of the type of instrumentation. Only longitudinal methodologies can supply useful answers. These results are nevertheless meaningful, perhaps not as predictive measures, but as a way of better understanding the process variance in the rehabilitation of cancer.

FOOTNOTES

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REFERENCES

Achterberg, J., Simonton, O. C., and Matthews-Simonton, S. *Stress, Psychological Factors, and Cancer.* Fort Worth, New Medicine Press, 1976.

Bahnson, C. B. *The psychological aspects of cancer.* Paper presented at the American Cancer Society's Thirteenth Science Writer's Seminar, 1971.

Blumberg, E. M. *Results of Psychological Testing of Cancer Patients.* Unpub. doctoral diss., Univ. of Southern California, 1968.

Brown, F. The relationship between cancer and personality. *Ann. N.Y. Acad. Sci.* 125: 865-873, 1966.

Cattell, R. B., Eber, H.W., and Tatsnoke, M.M. *Handbook for the Sixteen Personality Factor Questionnaire.* Champaign, IL, Institute for Personality and Ability Testing, 1970.

Evans, E. *A Psychological Study of Cancer.* New York, Doad, Mean, and Co., 1926.

Green, W. A. The psychosocial setting of the development of leukemia and lymphoma. *Ann. N.Y. Acad. Sci.* 125: 794-801, 1966.

Klopfer, B. Psychological variables in human cancer. *J. Project. Tech.* 21: 331-340, 1957.

LeShan, L. L. An emotional life history pattern associated with neoplastic disease. *Ann. N.Y. Acad. Sci.* 125: 780-793, 1966.

Schmale, A. H., and Iker, H. Hopelessness as a predictor of cervical cancer. *Social Sci. Medicine* 5: 95-100, 1971.