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The primary aim of *Multivariate Experimental Clinical Research* is to provide a publication outlet for research in the areas covered and indicated currently by the terms personality study, clinical diagnosis and therapy, extending into the learning, social, physiological, applied and developmental aspects of these. Although due representation is given to theoretical articles which may have a methodological basis, the journal is not one of multivariate statistical methods. Although multivariate in outlook, both manipulative and non-manipulative research is accepted. In fact preference is given to dynamic, manipulative and time-sequential studies. Particular encouragement is provided for pioneer experimental attacks on what is designated personality dynamics and motivation, as well as the natural expansion thereof into structured learning theory.

## **REPLICATED CONFIRMATORY PARCEL ANALYSIS OF THE UNIVERSITY RESIDENCE ENVIRONMENT SCALE**

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Revised: August, 1987

### **ABSTRACT**

Confirmatory factor analysis of the University Residence Environment Scale (URES) using item parcels and two independent samples of university students illustrates a general procedure for verifying the subscale structure of multiscale inventories. Analyses by LISREL VI of 30 parcels representing 10 URES subscales validated all scales except Student Influence, which was not supported in either sample. Features of the proposed confirmatory strategy, as well as some problems that may occur, are discussed briefly.

### **INTRODUCTION**

Three basic strategies have been employed traditionally in the construction of multiscale psychometric inventories. These are known as the rational (or deductive) strategy, the factor analytic (or internal) approach, and the empirical keying (or external) strategy. Most multiscale inventories are now developed following eclectic methodologies that incorporate elements of each of the three basic approaches (see Angleitner & Wiggins, 1986; Burisch, 1978; 1984; Goldberg, 1972; Wiggins, 1973).

Regardless of the strategy used to develop a multiscale instrument, it is always desirable to independently confirm the subscale structure, i.e., to determine that the scored scales constitute adequate measures of differentiable constructs. This article illustrates a general procedure for verifying the structure of multiscale inventories, using confirmatory factor analysis.

### **THE URES**

The University Residence Environment Scales (URES; Moos & Gerst, 1974) was developed to measure the social climates of university student living groups, including dormitories, fraternities, and sororities. It focuses on student-student

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and student-staff relationships and on the organizational structure of the living group. Development of the URES was based on Murray's (1938) conceptualization of environmental press.

The URES consists of 100 true/false items that assess 10 aspects of the environmental climate of student living units. The 10 URES subscales, each consisting of either 9 or 10 items (4 of the 100 items are unscored), are described in Table 1. Each URES item reflects a characteristic of the university residence environment that exerts a press toward Involvement, Independence, Academic Achievement, etc.

The URES was derived from a series of preliminary analyses on two earlier editions. An initial item pool of 238 items was reduced to 100 items in sequential analyses that aimed to reduce item redundancy, minimize overlap among the subscales, and maximize discrimination among living units, as well as variability among individuals. Item response splits, item intercorrelations, subscales intercorrelations, and item-subscale correlations were considered in the URES developmental process.

The psychometric characteristics of the URES indicate that the authors' efforts were successful: internal consistency coefficients range from .77 to .88, retest reliabilities (1-week) range from .66 to .77, and the mean of the subscale intercorrelations is .18. However, several of the correlations between the subscales Involvement, Emotional Support, Intellectuality, and Innovation exceed .40.

Moos (1979, p. 30) briefly described the results of an item factor analysis of the URES which produced factors that "closely paralleled" the URES subscales. Three factors combined items from two subscales, consistent with the higher subscale correlations noted above. Because statistical details are not given, it is impossible to evaluate Moos' conclusion. A factorial investigation of the URES reported by Waldman, Crouse, and Corazzini (1982) is similarly unhelpful.

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**TABLE 1**  
**Brief Descriptions of the URES Subscales<sup>a</sup>**

|   |  |
|---|--|
| 1. Involvement (Inv)                    | Degree of commitment to the house and residents; amount of interaction and feelings of friendship in the house.  |
| 2. Emotional Support (ES)               | Extent of manifest concern for others in the house; efforts to aid one another with academic and personal problems; emphasis on open and honest communication.   |
| 3. Independence (Ind)                   | Diversity of residents' behaviors allowed without social sanctions, versus socially proper and conformist behavior.  |
| 4. Traditional Social Orientation (TSO) | Stress on dating, going to parties, and other "traditional" heterosexual interactions.   |
| 5. Competition (Com)                    | The degree to which a wide variety of activities such as dating, grades, etc., are cast into a competitive framework.  |
| 6. Academic Achievement (AA)            | Extent to which strictly classroom and academic accomplishments and concerns are prominent in the house.   |
| 7. Intellectuality (Int)                | Emphasis on cultural, artistic and other scholarly intellectual activities in the house, as distinguished from strictly classroom achievements.  |
| 8. Order and Organization (OO)          | Amount of formal structure or organization (e.g., rules, schedules, following established procedures, etc.) in the house; neatness.  |
| 9. Student Influence (SI)               | Extent to which student residents (not staff or administration) perceive they control the running of the house; formulate and enforce the rules, control use of the money, selection of staff, food, roommates, policies, etc. |
| 10. Innovation (Inn)                    | Organizational and individual spontaneity of behaviors and ideas; number and variety of activities; new activities.  |

<sup>a</sup>Source: Moos, R.H. & Gerst, M. (1974). *University Residence Environment Scale Manual*. Palo Alto, CA: Consulting Psychologists Press.

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## METHOD

### SUBJECTS

The subjects for the study were two groups of students at a private, midwestern liberal arts university who lived in dormitories on campus. Group 1 consisted of 188 students (90 males and 98 females) while group 2 was composed of 147 students (50 males and 97 females). The students, who were drawn from introductory psychology classes in separate years, completed the URES in small group sessions.

Descriptive statistics for the two groups of subjects are presented in Table 2. In comparison to the URES normative sample (see Moos & Gerst, 1974, p. 4), the research groups scored higher on Involvement, Traditional Social Orientation, and Order and Organization, and lower on Independence, Intellectuality and Student Influence. The internal consistency coefficients were somewhat lower for the current samples, with Student Influence having virtually no statistical coherence.

**TABLE 2**  
**Means, Standard Deviations, and**  
**Internal Consistency Coefficients**  
**for the URES Subscales**

| URES Subscale                  | Group 1 |     |      | Group 2 |     |      |
|--------------------------------|---------|-----|------|---------|-----|------|
|                                | M       | SD  | KR20 | M       | SD  | KR20 |
| Involvement                    | 7.1     | 2.6 | .78  | 6.6     | 2.3 | .66  |
| Emotional Support              | 6.8     | 2.7 | .78  | 6.6     | 2.3 | .72  |
| Independence                   | 3.7     | 2.2 | .59  | 3.6     | 2.1 | .56  |
| Traditional Social Orientation | 4.8     | 2.2 | .66  | 3.2     | 1.9 | .51  |
| Competition                    | 3.5     | 2.1 | .63  | 3.2     | 2.0 | .64  |
| Academic Achievement           | 5.3     | 2.2 | .70  | 5.0     | 2.2 | .66  |
| Intellectuality                | 3.9     | 2.3 | .74  | 3.8     | 2.3 | .68  |
| Order & Organization           | 6.6     | 2.3 | .68  | 6.3     | 2.3 | .61  |
| Student Influence              | 3.7     | 1.6 | .20  | 3.1     | 1.4 | .12  |
| Innovation                     | 5.1     | 2.1 | .57  | 4.7     | 2.0 | .47  |

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### VARIABLES

To obviate the well-known problems associated with factor analysis of item data, 30 "parcels" were constructed from the 96 URES items that are scored (see Cattell, 1956, 1978; Cattell & Burdsal, 1974; Comrey, 1973). In confirmatory factor analysis, the assembling of parcels is a straightforward task. This is so because it is the existing multiscale structure that is evaluated in confirmatory studies. Hence, the parcels are simply short scales that are scored within the standard subscales.

Half of the 9 or 10 items composing each of the 10 URES subscales are stated positively and half are phrased negatively. Three parcels were constructed for each of the subscales by summing the item scores for three sets of randomly allocated items, subject to two constraints. First, each parcel could consist of no less than three items, nor more than four items. Second, none of the 3-item parcels could contain all positively or all negatively phrased items, while the 4-item parcels could only consist of two positive and two negative items.

As expected, the score distributions of the 30 parcels for the two research samples were generally symmetrical in form, with all skewness values less than 0.9 in (absolute) magnitude. All parcel distributions were moderately platykurtic as indicated by negative kurtosis values; however, none exceeded -1.4. Furthermore, it can be inferred that the 30 parcel scores were substantially more reliable than the 96 item scores, if the 10 URES subscales are more than arbitrary collections of items, and this is clearly a reasonable assumption.

### ANALYSES

Confirmatory factor analysis of a multiscale inventory using LISREL VI (Jöreskog & Sörbom, 1984) entails specification of a target matrix that represents the postulated subscale structure of the instrument. For this investigation, the target matrix consisted of 30 rows (parcels) and 10 columns (factors). LISREL estimated the target loadings for each parcel on its hypothesized factor while non-target loadings were fixed at zero.

In addition to estimated target loadings on the postulated latent variables (factors), the output from the LISREL VI program includes several indices of overall goodness of fit of the data to the model, estimated interfactor correlations, and modification indices that may be used to reformulate the factor model for subsequent tests. For each estimated parameter, an associated *t* value provides a measure of statistical significance.

### RESULTS AND DISCUSSION

The overall goodness of fit indices for both research samples suggested that the 10-factor model represents the URES subscale structure quite well. This conclusion pertains only to the average adequacy of the entire model, however, and not to the hypothesized factors individually. The statistics are: group 1 ( $\chi^2/\text{df}$  ratio = 1.17, adjusted goodness of fit index (AGFI) = .82, root mean square residual = .07) and group 2  $\chi^2/\text{df}$  ratio = 1.32, AGFI = .75, root mean square residual = .08).

Examination of the factor loadings for groups 1 and 2 (given in Tables 3 and 4,

respectively), reveals that nine of the 10 URES subscales are substantially confirmed, as indicated by their generally large and statistically significant parameter estimates. Only Student Influence (SI) failed to evidence some degree of confirmation. This result was suggested, of course, by SI's low internal consistencies which were reported earlier.

Two possible explanations may be considered in attempting to understand the failure to validate the Student Influence subscales. First, SI may not be differentiable from other dimensions of students' perceptions of residence environments. Second, SI just may not be a coherent construct in students' perceptions of their residential environments at this particular university.

Standard LISREL VI statistical output essentially refutes the first explanation. None of the SI parcels have appreciable modification indices on the other factors, indicating that their low target loadings on SI are *not* the result of the SI parcels sharing common variance with other factor parcels. In other words, the SI parcels don't correlate among themselves, nor do they correlate with parcels representing any other subscales.

It would be difficult to achieve an equally strong refutation of the second proposed explanation without collecting additional data. Clearly, neither the SI items or parcels cohere statistically for these students.<sup>1</sup> Replication of the URES confirmatory parcel analysis on a sample of students from a different type of university setting (e.g., a large public institution) would be useful.

In addition to target loadings on the factors, LISREL provides estimates of the interfactor correlations. These factor correlations are inevitably higher than the correlations between corresponding subscales, and sometimes they are considerably higher. The reason for this typical result is that in confirmatory factor analysis (CFA) the estimated correlations are for the error-free latent constructs. In a manner of speaking, the LISREL factor correlation matrix is the subscale correlation matrix corrected for attenuation.

Unfortunately, the interfactor correlations estimated by LISREL are not always meaningful. For example, while the correlations between the subscales Involvement (Inv) and Emotional Support (ES) were .51 and .68 for group 1 and group 2, respectively, the corresponding interfactor correlations estimated by LISREL were .64 and .96. The latter value suggests that the two subscales are not distinguishable, *i.e.*, they are parallel forms that measure the same construct. To illustrate the extreme case, the average correlations between Student Influence (SI) and the other nine subscales were .06 and .16 for group 1 and group 2, respectively. The corresponding mean estimated correlations from the CFA interfactor correlation matrix were .43 and .50.

It is fairly obvious that estimated factor correlations should be disregarded when the target loadings fail to confirm hypothesized factors, as with Student Influence (SI). But, caution is recommended even when interpreting estimated correlations between confirmed factors. The safest policy is to examine the subscale intercorrelation matrix and the CFA factor correlation matrix simultaneously, taking into account the estimated reliabilities of the subscales.

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**TABLE 3**  
**Standardized Parameter Estimates for the URES Parcels**  
**(Group 1)**

| Parcel | Factor Loadings <sup>a</sup> |     |     |     |     |     |     |     |      |     |  |
|--------|------------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|--|
|        | Inv                          | ES  | Ind | TSO | Com | AA  | Int | OO  | SI   | Inn |  |
| Inv 1  | .83                          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| Inv 2  | .68                          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| Inv 3  | .46                          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| ES 1   | 0                            | .68 | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| ES 2   | 0                            | .79 | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| ES 3   | 0                            | .79 | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| Ind 1  | 0                            | 0   | .60 | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| Ind 2  | 0                            | 0   | .66 | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| Ind 3  | 0                            | 0   | .64 | 0   | 0   | 0   | 0   | 0   | 0    | 0   |  |
| TSO 1  | 0                            | 0   | 0   | .64 | 0   | 0   | 0   | 0   | 0    | 0   |  |
| TSO 2  | 0                            | 0   | 0   | .61 | 0   | 0   | 0   | 0   | 0    | 0   |  |
| TSO 3  | 0                            | 0   | 0   | .64 | 0   | 0   | 0   | 0   | 0    | 0   |  |
| Com 1  | 0                            | 0   | 0   | 0   | .57 | 0   | 0   | 0   | 0    | 0   |  |
| Com 2  | 0                            | 0   | 0   | 0   | .79 | 0   | 0   | 0   | 0    | 0   |  |
| Com 3  | 0                            | 0   | 0   | 0   | .36 | 0   | 0   | 0   | 0    | 0   |  |
| AA 1   | 0                            | 0   | 0   | 0   | 0   | .81 | 0   | 0   | 0    | 0   |  |
| AA 2   | 0                            | 0   | 0   | 0   | 0   | .70 | 0   | 0   | 0    | 0   |  |
| AA 3   | 0                            | 0   | 0   | 0   | 0   | .58 | 0   | 0   | 0    | 0   |  |
| Int 1  | 0                            | 0   | 0   | 0   | 0   | 0   | .65 | 0   | 0    | 0   |  |
| Int 2  | 0                            | 0   | 0   | 0   | 0   | 0   | .63 | 0   | 0    | 0   |  |
| Int 3  | 0                            | 0   | 0   | 0   | 0   | 0   | .82 | 0   | 0    | 0   |  |
| OO 1   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | .77 | 0    | 0   |  |
| OO 2   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | .57 | 0    | 0   |  |
| OO 3   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | .56 | 0    | 0   |  |
| SI 1   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .17  | 0   |  |
| SI 2   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | -.12 | 0   |  |
| SI 3   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .02  | 0   |  |
| Inn 1  | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | .66 |  |
| Inn 2  | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | .42 |  |
| Inn 3  | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | .69 |  |

<sup>a</sup>The *t*-values for all parcel target loadings except SI 1-3 ranged from 4.13 to 11.11, indicating a high level of statistical significance. In contrast, the *t*-values associated with the SI parcels did not exceed 0.51.

**TABLE 4**  
**Standardized Parameter Estimates for the URES Parcels**  
**(Group 2)**

| Parcel | Factor Loadings <sup>a</sup> |     |     |     |     |     |     |     |     |     |  |
|--------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|        | Inv                          | ES  | Ind | TSO | Com | AA  | Int | OO  | SI  | Inn |  |
| Inv 1  | .70                          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| Inv 2  | .61                          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| Inv 3  | .60                          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| ES 1   | 0                            | .72 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| ES 2   | 0                            | .71 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| ES 3   | 0                            | .68 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| Ind 1  | 0                            | 0   | .42 | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| Ind 2  | 0                            | 0   | .54 | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| Ind 3  | 0                            | 0   | .79 | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| TSO 1  | 0                            | 0   | 0   | .78 | 0   | 0   | 0   | 0   | 0   | 0   |  |
| TSO 2  | 0                            | 0   | 0   | .62 | 0   | 0   | 0   | 0   | 0   | 0   |  |
| TSO 3  | 0                            | 0   | .39 | 0   | 0   | 0   | 0   | 0   | 0   | 0   |  |
| Com 1  | 0                            | 0   | 0   | 0   | .45 | 0   | 0   | 0   | 0   | 0   |  |
| Com 2  | 0                            | 0   | 0   | 0   | .70 | 0   | 0   | 0   | 0   | 0   |  |
| Com 3  | 0                            | 0   | 0   | 0   | .61 | 0   | 0   | 0   | 0   | 0   |  |
| AA 1   | 0                            | 0   | 0   | 0   | 0   | .78 | 0   | 0   | 0   | 0   |  |
| AA 2   | 0                            | 0   | 0   | 0   | 0   | .66 | 0   | 0   | 0   | 0   |  |
| AA 3   | 0                            | 0   | 0   | 0   | 0   | .59 | 0   | 0   | 0   | 0   |  |
| Int 1  | 0                            | 0   | 0   | 0   | 0   | 0   | .64 | 0   | 0   | 0   |  |
| Int 2  | 0                            | 0   | 0   | 0   | 0   | 0   | .72 | 0   | 0   | 0   |  |
| Int 3  | 0                            | 0   | 0   | 0   | 0   | 0   | .64 | 0   | 0   | 0   |  |
| OO 1   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | .73 | 0   | 0   |  |
| OO 2   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | .57 | 0   | 0   |  |
| OO 3   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | .53 | 0   | 0   |  |
| SI 1   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .34 | 0   |  |
| SI 2   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .16 | 0   |  |
| SI 3   | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .20 | 0   |  |
| Inn 1  | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .59 |  |
| Inn 2  | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .63 |  |
| Inn 3  | 0                            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .42 |  |

<sup>a</sup>The *t*-values for all parcel target loadings except SI 1-3 ranged from 3.88 to 9.06, indicating a high level of statistical significance. In contrast, the *t*-values associated with the SI parcels did not exceed 1.99.

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### SUMMARY

Replicated confirmatory parcel analysis of the University Residence Environment Scales (URES) provided good support for all subscales except Student Influence (SI). It is not possible to disconfirm SI, however, without analyzing data for subjects drawn from a different student population. The general strategy recommended for confirmatory analysis of multiscale inventories includes: (a) preliminary calculations of homogeneity or internal consistency coefficients, (b) construction of parcels for the scoreable subscales of the instrument, (c) LISREL analysis of the parcels x factors target matrix for two independent samples, and (d) simultaneous examination of the subscale and interfactor correlation matrices. When results for the independent samples are similar, more precise parameter estimates can be obtained by combining the samples for a final LISREL confirmatory analysis.

### FOOTNOTE

<sup>1</sup>While this outcome suggests that the SI construct is of doubtful validity, it should be noted that opinion is not unanimous concerning the role of homogeneity in scale development. Interested readers are referred to Cattell (1986) and Angleitner, John, and Lohr (1986) for contrasting positions on the issue.

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## **TWO CLINICAL VALIDATION STUDIES ON THE STATE FORM AND TYPES OF RELIABILITY OF THE TRAIT FORM OF THE STATE-TRAIT ANXIETY INVENTORY**

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*Author Note: Part of this report is based on a doctoral dissertation of the second author, Louisiana State University. Acknowledgements are made here to Drs. Laura L'Herisson and Julie Nelson for their participation in the first validity study, and to the necessarily unnamed clients who took part in the respective researches.*

### **ABSTRACT**

To determine the "real life" validity of the State form (experimental B-1 and final X-1) of the State-Trait Anxiety Inventory, two P-technique analysis studies were carried out. The first utilized two therapists and two of their respective clients. The second involved two patients on an alcoholic treatment unit and their therapists. Expected relations in the first study between clients' responses to the STAI B-1, a separate Daily Diary, and therapists' judgments were not entirely forthcoming. However, the second study showed expected correlations between measures of psychophysiological functions, psychological tests, and the clinicians' judgments. Several reliability indices applied to the Trait form (B-2 and X-2) showed considerable relation between two administrations two months and one month apart respectively.

### **INTRODUCTION**

In a long-term study utilizing the experimental form, B-1 and B-2, of the State-Trait Anxiety Inventory (STAI), Dreger (1985)<sup>1</sup> P-technique demonstrated the "reality" of factors derived from technique analyses (Cattell, 1952) of Form B-1 and the latter's relation to Form B-2. In that study a large number of subjects completed both STAI forms, B-2, the trait measure, once at the beginning and again at the end of a 60-day period, and B-1, the state measure, once a day for each of the 60 days. In the present study, four subjects received similar administrations and also concomitant measures to which the data from the STAI were related.

For the sake of those not familiar with P-technique factor analysis, a brief statement is called for. P-technique is one of three major factor analytic

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procedures: R-technique which is based on a matrix of subjects-by-variables, Q-technique which is based on a variables-by-subjects matrix, and P-technique which is based on a matrix of occasions-by-variables. That is, in P-technique the same set of variables is administered to one individual at specified periods of time, usually daily or twice daily, on a number of occasions. The resulting matrix is factor analyzed (by whatever method), utilizing the correlation or covariance matrix of interrelations among the variables as in an R-technique analysis. Thus, factors unique to the individual result, though because the same set of variables may be administered to several persons across some period of time, factors from one individual may be similar to factors from another individual.

P-technique analysis has not been without its critics across the years (e.g., Holtzman, 1962). In designing and carrying out the studies reported here an attempt was made to meet at least some of these criticisms which were not met in the study cited above (Dreger, 1985). One of the problems with P-technique is what is known as the "serial correlation effect" (Quenouille, 1952, 1957). P-technique violates one of the strong assumptions of most statistical procedures in that independence of measures one from another cannot be assumed, not only because they come from the same individual but because the measures are the same from one time to the next. The more elaborate of the two studies reported in this paper attempted to exercise the precautions which Quenouille, and after him, Holtzman, recommended.

Another objection to the use of P-technique analysis is the extensive and intensive research effort and time which typically have gone into such analyses. Cattell who is credited with the initial delineation of P-technique has lamented a number of times the fact that clinicians have not taken to using the method that he regards as a natural clinical research tool. Endeavoring to meet the objection that it takes too much of a busy clinician's time, to say nothing of the client's time, Cattell and Birkett (Birkett & Cattell, 1978; Cattell & Birkett, 1980) undertook two investigations using clinical subjects with what they believed were abbreviated procedures. Although the reduction in the amount of time required by clinician and subjects was substantial, the actual time involved was still far more than most clinicians would be able or willing to devote to it.

As is seen below, studies of two clients with a less strenuous design may not be as revealing as the designs Birkett and Cattell used; but it probably will appear to the average clinician as more practicable than the more extensive ones.<sup>2</sup> Nevertheless, research of the kind reported here does take time and effort.

The major purpose of this research, then, was to determine whether the state factors generated by P-technique from responses to STAI Form B-1 have any relation to data obtained from real clients assessed concomitantly on other measures. In one case the procedures were designed to fit into ordinary clinic routines; in the other a more elaborate design was used requiring special arrangements. A minor purpose attempted to assess the test-retest reliability of the Forms B-2 and X-2. To answer the question of the concurrent validity of STAI state factors, an operational hypothesis was set up: Factor scores derived from state anxiety factors regressed on days in the course of psychotherapy (a) parallel the independent judgments of therapists made during the period in which the research would be carried out, and (b) correlate with important events to be noted systematically by the client or independent judges.

## TWO CLINICAL VALIDATION STUDIES

### METHOD

#### SUBJECTS

The first two subjects were clients in psychotherapy with two female clinical psychologists. One of the subjects was a 37-year-old white female, married, with two children. She sought treatment initially for (a) problems with her daughter, aged 17, (b) compulsive overeating, and (c) problems with sexuality. Her occupation was that of office worker. The second subject was a white female, aged 29, married, with two children. Her job was in a non-traditional position for a female. Her presenting complaints included (a) stress related to her job, and (b) pulling out her own hair (though the results were not noticeable to the therapist).

The second two subjects were volunteers from the alcohol treatment program in a southeast Louisiana hospital. The first was a white male, aged 43, middle class, having completed two years of college, married but legally separated from his wife. His drinking history prior to entering the hospital spanned 22 years. The other volunteer was an unemployed white male, aged 34, who quit school in the tenth grade, was unemployed, divorced but living with his children and his ex-wife and her boyfriend. This man's drinking history was reported to be of 17 years' duration prior to treatment.

#### TREATMENT

For the first study, treatment consisted of a combination of more or less traditional psychotherapy with self-management techniques. Although both therapists were trained in the same graduate program, their internships were in different agencies far removed geographically and possibly philosophically from each other. However, the two therapists are close friends who shared the same suite of offices for the time of this research. It seems safe to assume that their methods were not entirely dissimilar to each other.

The alcoholic treatment program in the context of which the second study took place is a tightly structured therapeutic community which uses a total treatment approach to alcoholism. All treatment modalities are required of each participant, save medications which are individualized with the exception of maintenance of a disulfuram regimen for all patients during the entire treatment period, plus five days prior to entrance. There are no discrete cycles; a patient enters the ongoing program. An expected minimum stay of 30 days allows for a fairly unhurried pace, although the program from seven in the morning until seven in the evening is carefully structured. At any time the patient knows in what activity he or she is scheduled to participate.

#### INSTRUMENTS

*State-Trait Anxiety Inventory (STAI).* Form B-1 (state anxiety) and B-2 (trait anxiety) (Spielberger, Gorsuch, & Lushene, 1967), experimental forms which the first author has used in research for many years, were utilized in the first study while the revised forms, X-1 and X-2, were employed in the second study; in the first case B-1 and B-2 were chosen to assure comparability with other research the first author was doing. The original STAI is called a "self-analysis questionnaire," but its restricted purpose is obvious to respondents. Forms B-1 and X-1

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contain 20 items asking for *present* states of anxiety. Form B-2 and X-2, also 20 items, ask for respondents' *general* state of anxiety.<sup>3</sup> Research with both original and revised forms of the STAI has been extensive (e.g., Spielberger, 1975; Spielberger, Auerbach, Wadsworth, Dunn & Taulbee, 1973). Correlates in psychophysiological, situational, and concomitant psychological functioning suggest satisfactory reliabilities and validities for such short instruments under some circumstances.

As self-report inventories, the STAI forms are subject to the criticisms directed toward such instruments (e.g., Anastasi, 1976; Barlow & Hersen, 1984). However, several considerations make the STAI suitable for the research reported here. For the trait form, stability coefficients are satisfactorily high, ranging from .76 to .86. For the state form, stability coefficients are—shall we say, satisfactorily—low, as expected, ranging from .16 to .54. But for either form, the internal consistencies (KR-20) are fairly high, from .83 to .92. The trait form, although Barlow and Hersen (1984) eschew traits as such, meets their relevant criteria for selecting a self-report inventory: (a) It can be administered repeatedly. (b) Its items are fairly specific to internal reactions (not to *behaviors* as in Barlow and Hersen). (c) It is not supposed to be sensitive to intervention, although as noted below it may be. (d) It seems to escape most of the test-taking biases, such as ambiguous wording; being beyond respondents' memory or discriminative abilities; and demand characteristics (as the test is usually used). And (e) It does have acceptable reliabilities and validities for a number of different settings and circumstances. The state form of the STAI meets all these criteria except (c) which by the very nature of the instrument it is not supposed to meet.

*Batteries of tests.* For the first study, a standard battery of tests used for some clinical and research purposes, both in the private clinic of the first author and his university research and practice, was administered to the two clients at the beginning of therapy: The Wechsler Adult Intelligence Scale, Revised, the Full-Range Picture Vocabulary Test, the Rorschach, 10 cards from the Thematic Apperception Test standardized for an adult population, the Draw-a-Person Test, the Group Personality Projective Test, the Characterization of Parent (Dreger, 1978), the MMPI, and the Guilford-Zimmerman Temperament Survey. For the second study, most of the same battery, plus the Wechsler Memory Scale and the Benton Visual Retention Test, were administered pre- and post-treatment.

*In-course tests.* Besides the STAI Form B-2 given at the beginning and end of the research period, Form B-1 was taken daily by the subjects in the first study, together with a Daily Diary consisting of sheets with a space for the current date, a simple statement, "The most outstanding event of this day was:" and two blank lines for response. A Case Rating Scale (Rogers & Dymond, 1954) was the briefest meaningful form the investigators found for use on a continuing basis by therapists. For the second study, besides the STAI forms, a Treatment Evaluation Form was developed based on Moos (1969) and Price and Curlee-Salisbury (1975); and the Pressurometer (Avionics) registered systolic and diastolic blood pressure twice daily. Pulse and respiration rate were also obtained at these times.<sup>4</sup>

## TWO CLINICAL VALIDATION STUDIES

### PROCEDURE

In the first study, the two subjects took the test battery only at the beginning of treatment for diagnostic purposes to assure that the subjects were capable of rational thought and sustained attention through the experimental period. The STAI B-2 (trait form) was administered with the test battery and again at the end of the 60-day period. Form B-1 (state form) and the Daily Diary were self-administered at about the same time each day for 60 days. The Case Rating Scale was completed by each therapist immediately following each therapy session. Contamination between the STAI and Daily Diary could not be avoided, but did not occur between STAI and Case Rating Scale, for the therapists did not examine the clients' responses until after they had completed their own forms.

An unfortunate incident (viewed from several standpoints) occurred in the course of the first study. One of the therapists was hospitalized for emergency surgery about two weeks before the end of the experimental period. She could not hold the therapy sessions at the time, so the Case Rating Scale record is incomplete, though the client continued with the STAI and the Daily Diary.

For the subjects in the second study, the battery of tests was administered at the beginning and at the end of the treatment period to determine the effects if any of the treatment program. The STAI Form X-1 and the Treatment Evaluation Form were taken twice daily, 10:45 a.m. and 3:45 p.m. Psychophysiological measures were administered following the paper-and-pencil tests to allow a quiet period before giving them. The same room and the same arm chair were used for taking the blood pressure to control for arm level and thereby reduce postural effects on blood pressure readings.

### ANALYSES

For analysis of STAI B-1 for the first study, factoring was done by principal components (unities in the principal diagonal of the correlation matrices). In all cases of P-technique analysis the number of occasions (comparable to subjects in R-technique) was at least five times the number of variables. Orthogonal rotation (by Varimax) of the retained components was followed by oblique rotation (by Promax). The number of components to retain was determined by Cattell's (1966) "Scree" test and the latent-root-of-one test. The battery of tests was scored and utilized by the clinicians, together with case data, to form a clinical picture of the subject for use in therapy and for a background for filling out the Case Rating Scale. Pre- and post-intervention administrations of the B-2 (trait form) were correlated by Pearson's  $r$  and the intraclass correlation coefficient (a more appropriate measure, Haggard, 1958). A  $t$  test was performed between the means of the two administrations.

After the component analysis and rotation of axes in the first study, factor scores were derived by an approximation method using composite variables (Harman, 1976) and regressed against the 60 occasions. The clinicians's Case Rating Scale data were correlated with factor scores for the days of therapy sessions. Each clinician and the investigator independently assigned numerical values on a scale of 1 to 5 for each Daily Diary entry, first, for the degree the entry was anxiety-provoking and then for the degree it was pleasure-provoking (on the assumption that these emotional reactions are not polar opposites and so could

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not be scored on the same scale). Percentage of agreement was determined for judgments within one scale point of each other. Then, the two sets of judgments were averaged in each case to obtain more reliable judgments; the averages were correlated with each set of factor scores for each of the individuals.

For the second validity study, lead and lag correlation analyses of all P-technique measures were performed to discover, as suggested by Quenouille (1952, 1957) and Holtzman (1962), whether there were either anticipatory or delayed effects, by constructing a number of matrices in which each major variable was advanced or retarded by one and then by two occasions while all other variables were held constant. In both individuals' cases it was judged by a count of possibly improved correlations that the matrices with no lead or lag (in other words, the original matrices) were the most suitable for P-technique factorings. Scores on these factors were derived by means of the Statistical Analysis System SCORE procedure (Barr, Goodnight, Sall, & Helwig, 1976), which standardizes raw scores and multiplies them by scoring coefficients derived from the final (Promax) rotated factor pattern. These factor scores were then submitted to the SAS STEPWISE regression procedure to determine the best fit for regression of occasions over time. Plots were constructed for one subject for 32 days, 64 sets of measures, and for the other subject for 37 days, 73 sets of measures. Pre- and post-treatment test batteries were evaluated for changes between first and second administrations; a change was considered to be statistically significant if it amounted to two standard errors of the mean of the measure.

## RESULTS

The guiding hypothesis of the two studies states that factor scores derived from state anxiety factors regressed on days in the course of psychotherapy (a) parallel the independent judgments of therapists made during the period in which the research would be carried out, and (b) important events systematically noted by the client correlate directly with factor scores. The results of the analyses can be taken up separately for the two studies. In each case, results from comparisons of "trait anxiety" are given first; pre- and post-assessments on B-2 and X-2 are not to be construed as some type of P-technique analysis, but as evidence of *trait* stability or fluctuation. Following trait measurement results, B-1 and X-1 (state anxiety) measurements are reported.

### FIRST STUDY

For the first subject, a comparison of pre- and post-administrations of the trait form, B-2, of the STAI yields modest to substantial relation between them. The  $r$  is .37, while  $\rho$  (intraclass correlation) is .78. That some change in trait anxiety would take place was expected from knowledge of trait fluctuation (Cattell, 1978). Taking account of the nature of the trait, one might suppose that if therapy has any positive effect, even trait anxiety might change somewhat. And in fact in this case, seven of the 20 items showed a positive (more wholesome) trend and three a negative one; 10 thus showed no change. But when the scoring of the two "positive" items (5 and 6) was reversed to yield a total trait anxiety score, the  $t$  test between the means of the two B-2 administrations was only .758, obviously

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non-significant. Not much of a conclusion can be drawn except that most likely trait anxiety was diminished somewhat in the course of therapy.

With this first individual, from the principal components analysis of the B-1 forms, three factors were retained as dictated by both the Kaiser-Guttman latent-root-of-one test (and Cattell's "scree" test). Table 1 lists the items identifying each (Promax factor structure) factor having weights equal to or greater than .40. Inter-factor correlations are high, -.69, .56, and -.43 respectively. The plots of factor scores regressed on occasions reveal that Factors 1 and 2 show no particular secular trend, with wide fluctuations from -1.5 to 2.1 and -1.7 to 1.9 standard  $z$  scores. Factor 3 scores, however, start at 1.0, rise to 3.7 within a week, then level off with a slight negative slope in the range of -1.6 to 1.0. As this factor is a kind of "present worry" dimension, it seems reasonable to conjecture that after an initial increase in this type of anxiety at the beginning of therapy, fairly soon therapy began to take effect in relieving such anxiety which then remained low for the remainder of the 60 days.

The conjecture just stated is partially supported by the results of the Daily Diary ratings and scores on the three factors. It may be remembered that the therapist and investigator rated the entries of the Daily Diary independently on a 5-point scale for both anxiety and pleasure. Agreement was 82 percent for ratings of one point or zero difference. Correlations between the two sets of averaged ratings and the three factors were all highly significant (well beyond the .01 level): For anxiety and Factors 1, 2, and 3 scores, .67, -.37, and .50 respectively; for pleasure and the three factors, -.64, .45, and -.37. Since Factor 1 is a clear anxiety factor, Factor 2 a pleasure-type factor, and Factor 3 the "present worry" one, these correlation coefficients appear to be in keeping with expectations. Especially regarding Factor 3 as a criterion, we can state cautiously that there is some support for the factor as an indication of progress in therapy, in that it is associated with a decrease in immediate worry and an increase in pleasure. (Curvilinear relations were assessed by *eta*; no great improvement in the indicators of strength of relation resulted.) Caution does need to be observed here, for as pointed out previously, there is considerable dependence between Daily Diary entries and factor scores derived from B-1 responses.

Inspection of the correlations between the Case Rating Scale items, to which the therapist responded after each therapy session, and the three sets of factor scores indicates most likely very little relation at all. Not one of the 10 coefficients is significant at the .05 level! Range restriction in the predictor might account for attenuation of correlation, in that the therapist used only scale points from 3 to 7 except for one 2. The results from this client do not support the hypothesis at this point.

For the second client,  $r$  between STAI Form B-2 pre- and post-experimental period was .33 (significant at the .05 level). However,  $\rho$ , the intraclass correlation coefficient, was .93; and with only .05 difference between the two means, it was not worth calculating  $t$ . So trait anxiety as measured by Form B-2 did not appear to have changed significantly. From the component analysis of Form B-1, two factors were produced which could well be designated *Unlust* and *Lust* respectively, for the first is distinctly a tension-worry "unpleasure" factor and the second a happiness-contentment "pleasure" factor. The Pearson

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TABLE 1  
STAI Factor Structure of One First Study Client

| Factor and Item Content |     |  |
|-------------------------|-----|--|
| FACTOR 1                |     |  |
| Item                    | Wt. |  |
| 13                      | .90 | I find I am about to go to pieces                      |
| 18                      | .82 | I presently feel over-excited and "rattled"            |
| 11                      | .81 | I feel "high strung"                                   |
| 6                       | .81 | I feel upset   |
| 3                       | .79 | I am presently worrying over some possible misfortunes |
| 12                      | .78 | Right now I feel that I am no good at all              |
| 9                       | .76 | I feel tense and anxious                               |
| 5                       | .75 | I feel regretful at the moment                         |
| 17                      | .75 | I am worried right now                                 |
| 7                       | .71 | I am worrying about something right now                |
| 19                      | .71 | I feel joyful at the moment                            |
| 14                      | .77 | I presently feel self-confident                        |
| 16                      | .78 | I feel content   |
| 20                      | .80 | I feel pleasant  |
| 15                      | .80 | At this moment I feel happy                            |
| 2                       | .81 | I feel secure at the moment                            |
| 4                       | .82 | At this moment I feel that I am a steady person        |
| 1                       | .88 | Right now I feel calm                                  |

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### FACTOR 2

| Item | Wt.  |  |
|------|------|--|
| 16   | .85  | I feel content   |
| 20   | .81  | I feel pleasant  |
| 19   | .81  | I feel joyful at the moment                            |
| 15   | .71  | At this moment I feel happy                            |
| 2    | .69  | I feel secure at the moment                            |
| 1    | .68  | Right now I feel calm                                  |
| 14   | .67  | I presently feel self-confident                        |
| 8    | .67  | At the present time I feel rested                      |
| 4    | .63  | At this time I feel that I am a steady person          |
| 17   | -.48 | I am worried right now                                 |
| 18   | -.50 | I presently feel over-excited and "rattled"            |
| 11   | -.50 | I feel "high strung"                                   |
| 7    | -.55 | I am worrying about something right now                |
| 6    | -.60 | I feel upset   |
| 12   | -.65 | Right now I feel that I am no good at all              |
| 3    | -.66 | I am presently worrying over some possible misfortunes |
| 13   | -.66 | I feel that I am about to go to pieces                 |

### FACTOR 3

| Item | Wt.  |  |
|------|------|--|
| 17   | .85  | I am worried right now                                 |
| 7    | .83  | I am worrying about something right now                |
| 3    | .78  | I am presently worrying over some possible misfortunes |
| 6    | .71  | I feel upset   |
| 10   | .71  | At the moment I feel free of guilt                     |
| 11   | .59  | I feel "high strung"                                   |
| 4    | -.46 | At this time I feel that I am a steady person          |
| 20   | -.47 | I feel pleasant  |
| 1    | -.48 | Right now I feel calm                                  |
| 16   | -.56 | I feel content   |
| 15   | -.57 | At this moment I feel happy                            |
| 19   | -.67 | I feel joyful at the moment                            |

correlation between the two factors was -.52. In the case of the Daily Diary, the two raters agreed 91 percent of the time; the averaged ratings of anxiety correlated with the two sets of factor scores .53 and -.57 respectively, and averaged ratings on pleasure -.48 and .55, all coefficients significant beyond the .01 level. As with the first subject, the correlations of the Case Rating Scale items with the corresponding daily factor scores were essentially zero. In this case, then, as in the first, external validation of the factors is not forthcoming

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### SECOND STUDY

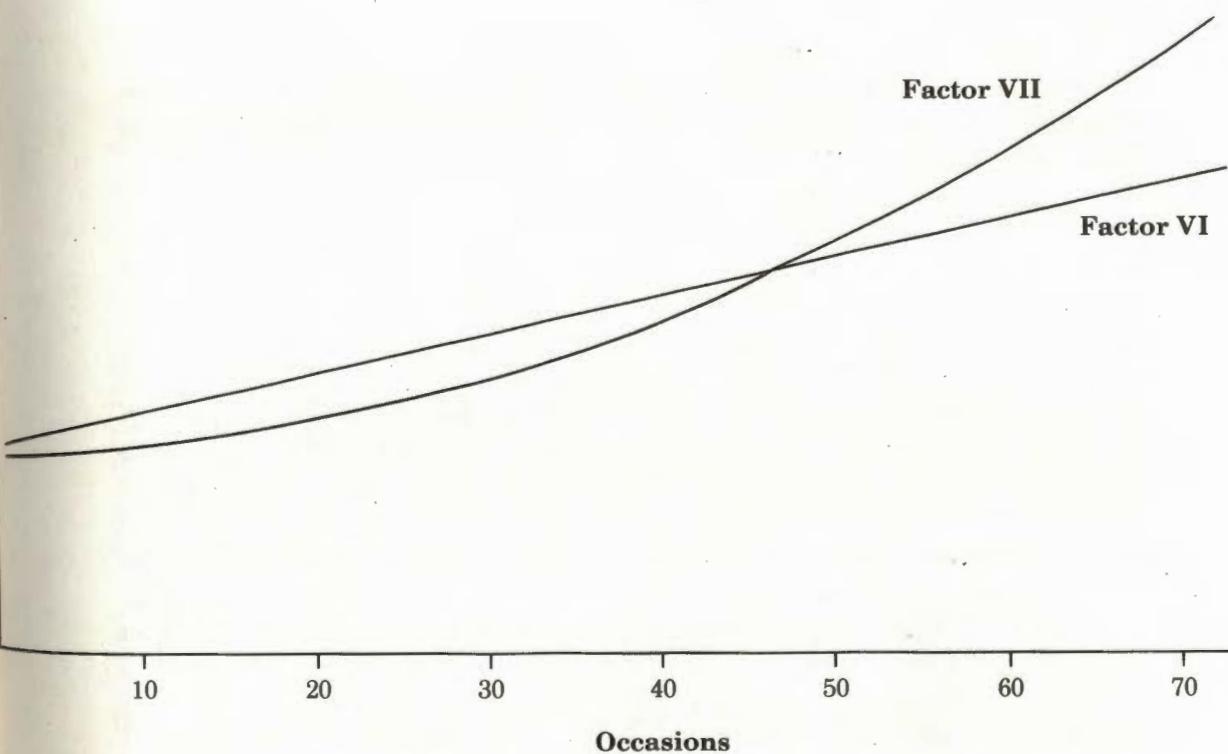
It may be recalled that the analysis in this study involved not only the twice daily administration of the STAI (revised form X-1) and psychophysiological measures but also a large battery of psychological tests taken pre- and post-treatment on an alcohol treatment service. Both the first individual's therapist and the repeated test battery were in agreement that there was little meaningful change in his functioning. With the use of two standard errors of the mean as a criterion of change as measured by the tests, only three out of 60 measures reached criterion, results which could well come by chance. If the battery including the STAI Form X-2 represents assessment of "traits," traitwise change was not observed. On the other hand, Form X-1 and the physiological measures showed a great deal of change in measured anxiety and body functioning within the treatment period. Lead and lag correlations, as mentioned above, led to utilization of the original correlation matrix rather than one or more of those in lead or lag matrices.

Seven factors were extracted from this S's matrix containing the scores from Form X-1, the pulse and respiration rates, the Treatment Evaluation Form scores, and systolic and diastolic blood pressure readings. *Factor 1* describes tenseness versus contentment and relaxation. *Factor 2* combines blood pressure measures with tenseness versus calmness. *Factor 3* contrasts expression of enjoyment of treatment activities with nervousness. *Factor 4* relates pleasant feelings and pulse rate. *Factor 5*, a unimodal factor like 4, puts recognition of the importance of treatment activities with pulse rate. *Factor 6* and *Factor 7* are anxiety and tenseness differently emphasized in verbal responses.

To illustrate the above factors and their relation to time in treatment, the factor structure of *Factor 2* of this second individual is shown below and the regression of its factor scores on days is plotted in Figure 1.

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**FIGURE 1**  
Factor scores of second clinical study client  
plotted against occasions



### Factor structure of Factor 2 of second patient

|                          |      |
|--------------------------|------|
| Systolic blood pressure  | .86  |
| Diastolic blood pressure | .84  |
| "I feel anxious"         | .69  |
| "I feel high-strung"     | .65  |
| "I am tense"             | .61  |
| "I feel comfortable"     | -.62 |
| "I feel content"         | -.68 |
| "I feel relaxed"         | -.69 |
| "I feel calm"            | -.82 |

Examination of the contents of Factor 2 and Figure 1 suggests that in general for this individual the STAI B-1 items and the physiological measures correlate with the factor in a reasonable manner, further suggesting that the STAI generates "real life" factors.

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The second individual in this study did manifest change in his "trait" measures as indicated by his having 10 of the 60 measures altering as much as two standard errors. Scales 2, 6, and F on the MMPI decreased significantly. And though the Full, Verbal, and Performance Scales of the Wechsler were not altered, the Wechsler Memory Scale increased dramatically, while the 16PF factor H indicated less shyness, restraint, and timidity; factor M suggested that the client became more practical and regulated by external realities; and factor Q<sub>2</sub> showed improvement (for this individual) in that he became more group related and more of a "joiner." On the other hand, he became more hypochondriac, self-reproaching, and troubled (factor 0); that this change was most likely a favorable one is shown below.

These objective test findings coincided with the judgment of the therapist (who was not the research coordinator) that this individual had become more outspoken, more comfortable in social situations, and in general seemed to value himself more highly.

How did these changes for this individual, assessed by objective tests, correlate with the Form X-1 factors and factor score changes? Although eight factors might have been chosen from the P-technique analysis, only seven proved to be both meaningful and have high loading variables. *Factor 1*, a nervous tension coupled with high systolic blood pressure, shows a regression plot almost an exact replica of the first individual's plot of his Factor 2 against days (cf. Fig. 1). In terms of the direction of change here, high systolic blood pressure and feelings of tension were reduced together in both cases (although the first patient's diastolic blood pressure also went down at the same time). *Factor 2* here associates being regretful and "rattled" with high blood pressure; but according to the factor scores this factor remained about the same through the whole time. *Factor 3* opposes high systolic blood pressure to uneasiness over the treatment activities. *Factor 4* comes close to being a random factor in that inconsistencies occur in its list of significant weights. *Factor 5* is a doublet, though consistent: "I talked freely and openly [in groups]," and "People were friendly to me." *Factor 6* suggests a general anxiety versus pleasantness and contentment. And *Factor 7* juxtaposes respiration rate and pulse rate with calmness, opposing feelings of upset.

In conjunction with the concomitance of this individual's P-technique factors including both Form X-1 and objective test measures, the comment of the investigator is worth quoting (Brabham, 1977):

"Both of these Psychological Anxiety factors [Factors 6 and 7] increased steadily over the course of the treatment. [The S] reported and was observed to be taking more responsibility for his life over the course of the treatment, and he became increasingly aware of the problems confronting him which he would have to face without alcohol-induced respites. These considerations may explain the steady increase in psychological discomfort. Before going to treatment he denied most of his cares and appeared to be complacent in his renunciation of his masculine role in life. [This was the subject who did not seem to mind that his wife and her boyfriend lived in his house together. In the end after his treatment he threw them out.] In [his] case, possibly increased anxiety had to be expected as a concomitant with his re-entry into a responsible style of life" (p. 40).

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Summing up the results of testing the hypothesis, we can say that the first study did not provide much evidence of external validity for P-technique factors. Internal consistency was high in both cases studied, but the relation to external criteria was at best weak. However, the second study did provide considerable evidence in that both psychophysiological and psychological measures were reasonably associated on factors and in that independent judges verified the trends exhibited by the factor scores.

### DISCUSSION

As was expected, although not strictly hypothesized, the trait forms (B-2 and X-2) of the STAI revealed some change, but probably not more than could be anticipated from "trait fluctuation theory" (Cattell, 1978). This conclusion comes from both studies. The main thrust of this research, however, is related to the state forms (B-1 and X-1) of the STAI. Has the state form of the State-Trait Anxiety Inventory been shown to be a valid measure of state anxiety by the two clinical studies reported here? Yes and no. The first study, while manifesting considerable internal consistency among the factors derived by P-technique, did not yield the expected relations of these factors to therapists' judgments though they did to the Daily Diary entries. On the other hand, the second study showed reasonable correlation between the psychophysiological measures, the psychological tests, and clinicians' judgments on the one hand and factor scores on the other. The guiding hypothesis was thus partially supported. It should be stated that the support came from the more adequately designed and executed study; however, the evidence from the other study, which though simple was not entirely inadequate by any means, cannot be disregarded.

Incidentally, but importantly, clients in both clinical studies expressed enjoyment in engaging in their daily tasks. This finding coincides with something the first author has found over and over in his research/practice across many years, that if the research is also revealing to the clients of their own functioning as in the instant cases, clients are often not only willing but eager to participate.

### FOOTNOTES

<sup>1</sup> Dreger (1985) traces endeavors to assess psychological states and the place of the STAI in such endeavors. The entire issue of *The Southern Psychologist* (Vol. 2, No. 4) should be consulted for the history of and present status of state and trait anxiety research.

<sup>2</sup> The first author has long maintained that the only major skills, different from those of other clinicians, which the psychologist brings to clinical practice are his or her research skills, honed to a fine degree by graduate training. The writer proved that research can be done through ordinary clinical practice by establishing a private clinic named Psychological Research and Services and maintaining it for nine years, only giving it up because the demand had grown to such an extent he either had to abandon the practice or his teaching position. To his own and others' surprise, the very research methods built into the design of the clinic proved to be some of the best service provided clients. In the present instance of private practice research, rigor had to be sacrificed somewhat to

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accommodate therapist and clients; nevertheless, circumstances in the case of the first study were more closely related to what actually occurs in private practice than in a number of studies done under better controlled conditions, as in the second study. In defense of the less rigorously controlled conditions in the Harvard Psychological Clinic, Henry Murray observed, "We tried to design methods appropriate to the variables which we wished to measure; in case of doubt, choosing those that crudely revealed significant things rather than those that precisely revealed insignificant things" (Murray, 1938, p. 26).

<sup>3</sup> For more general discussions of state and trait distinctions, consult Cattell and Nesselroade (1976), Gaudry, Vagg, and Spielberger (1975), and Horn (1972).

<sup>4</sup> The psychophysiological measures were included because of extensive findings in the literature of correlations between neurophysiological and neuroendocrinological processes and STAI state anxiety. As Spielberger (1985) observes, "From these investigations there is impressive evidence that increases in S-Anxiety scores are associated with arousal of the autonomic nervous system including increased respiration, brain stimulation and EEG changes, heart rate and blood pressure and other measures of cardiovascular activity, eye movements and pupillary response" (Spielberger, 1985, p. 14).

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## **SECONDARY MOOD-TYPE FACTORS IN THE DIFFERENTIAL EMOTIONS SCALE (DES-IV)**

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### **ABSTRACT**

The DES-IV (a 49-item version of the Differential Emotions Scale) was administered to 212 undergraduate college students on two separate measurement occasions. The resulting subscale scores were intercorrelated and subjected to an iterative principal factoring procedure together with rotation to direct Oblimin simple structure, for each measurement occasion separately. Three emotional/mood-type factors accounted for much of the variance in the DES-IV subscales, suggesting the feasibility of scoring the instrument for typological factors. Comparisons with previous higher-order factorings of the instrument are made and results are discussed in terms of obtained coefficients of concordance across measurement occasions.

### **INTRODUCTION**

Recent research has stressed the importance of the interrelationships between various emotional/mood states (e.g., Schwartz, 1982; Schwartz & Weinberger, 1980; Sirota & Schwartz, 1982). One multidimensional instrument used simultaneously to index several fundamental human emotions is the Differential Emotions Scale (Izard, Dougherty, Bloxom & Kotsch, 1974). The most recent version of this mood-state inventory, the DES-IV, is comprised of 49 items purported to measure 12 basic emotions (namely, Interest, Joy, Surprise, Sadness, Anger, Disgust, Contempt, Hostility, Fear, Shame, Shyness, Guilt). According to Izard (1980, 1982; Izard & Buechler, 1980) the instrument taps the subjective-experience components of the 12 fundamental emotions which are discernible in the facial expression (cf. Schwartz, 1982).

Nevertheless, in many applied contexts, the measurement of 12 separate mood states may be unnecessary and overly time consuming. One way of avoiding this problem is to score the instrument for second-order typological mood-state factors. Boyle (1986c) reported a higher-order analysis of the DES-III (a 30-item version of the instrument) using a single-occasion R-factoring procedure with rotation to oblique simple structure. The first factor accounted for 48.2% of the

variance measured in the primary factors and involved the subscales of Guilt, Sadness, Shame/Shyness, Fear and Disgust. Factor II (accounting for 32.1% of the variance) involved the subscales of Joy, Interest and Surprise. Factor III (accounting for 12.1% of the variance) had high loadings for Contempt and Anger, while Factor IV (7.6% of the variance) clearly represented depressed mood, providing further evidence of the structural complexity of this typological construct.

In a subsequent study, Boyle (1986a) investigated the higher-order factor structure of the DES-IV and Eight State Questionnaire (8SQ) instruments combined. Using an iterative principal factoring procedure together with rotation to oblique simple structure, Boyle reported evidence for three distinct secondary DES-IV factors, pertaining to the Eysenckian dimensions of Extraversion, and Neuroticism respectively (cf. Eysenck, 1983), as well as to a hostility dimension involving the primary DES-IV subscales of Anger, Disgust, and Contempt. The findings of this analysis therefore suggested that the DES-IV, when administered under essentially non-emotive conditions, comprises relatively few typological mood-state dimensions. However, both these studies relied on single occasion measures and did not investigate *change* dimensions, *per se*. The difficulty with single-occasion R-factoring is that it provides only a static 'photograph' of the emotions/moods at a certain moment in time. In contrast, the dR-methodology employed in a separate study by Boyle (1987) has been accepted as a valid method for elucidating change dimensions (e.g., Cattell, 1978, 1979, 1982; Lam, 1981; Nesselroade & Cable, 1974). However, in Boyle's (1987) study, only two separate DES-IV secondary factors emerged clearly from the analysis of change scores. The first represented state Neuroticism; while the second involved a combination of Extraversion and Hostility. Seemingly, the three dimensions already found by Boyle (1986a) had been condensed into two dR-factors. The reliability of the a DES-IV had been examined favorably in several studies (e.g., Boyle, 1984, 1985b; Izard & Blumberg, 1985, 1986; Izard, Blumberg & Oyster, 1985; Kotsch, Gerbing & Schwartz, 1982). As for construct validity, several studies had essentially supported the primary factor structure of the instrument (e.g., Emde, 1980; Fuenzalida, Emde, Pannabecker & Stenberg, 1981; Mosher & White, 1981; Boyle, 1984). Accordingly, and given that reliability estimates had been found to range from .48 to .98 for immediate retest (dependabilities), with the average estimate being .76 over all 12 DES-IV subscales (Boyle, 1986b), it seemed appropriate to investigate further the higher-order factor structure of the DES-IV by examining the concordance of factor patterns across two separate measurement occasions.

The work of Izard et al. (1985) and Schwartz (1982) has clearly illustrated the importance of patterns of fundamental emotions in human behavior. This area has received comparative neglect over recent years due to the excessive interest in cognitive interpretations in isolation from interacting emotional states. In contrast, neuropsychological evidence (e.g., Powell, 1979) has demonstrated the existence of affective-cognitive connections in the brain. In this context, the multivariate measurement of fundamental emotions seems all the more important, especially at the typological mood-state level which has so far received relatively little attention in the psychometric literature. Investigation of a few major mood-type dimensions rather than a multitude of primary states, clearly

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has important benefits in terms of measurement efficiency for clinical psychological assessment. The present paper addresses this problem of elucidating the central typological mood-state dimensions, by delineating the secondary structures measured in the DES-IV instrument.

### METHOD

#### SUBJECTS AND PROCEDURE

The sample comprised 212 undergraduate college students attending either the Institute of Catholic Education, Melbourne, or the Melbourne College of Advanced Education. The mean age of the sample was approximately 21 years (ranging from 18 to 49 years). Almost all students (about 90%) were females and Australian by birth. Virtually all students came from a predominantly middle-class socio-economic background and all had passed Year 12 English prior to commencing their college studies. The DES-IV instrument was administered during normal class periods in order to facilitate the co-operation and continued motivation of the students. The two separate measurement occasions were at least one week apart in time.

#### ANALYSIS AND RESULTS

The intercorrelations of the DES-IV subscale scores (a  $12 \times 12$  matrix served as the starting point for the factor analysis on each measurement occasion) were factor analysed using an iterative principal factoring procedure (requiring 21 iterations for the first occasion and 26 iterations for the second occasion) to reach convergence of the initial communality estimates (SMC's) at the fifth decimal place. Iteration, which is an important consideration when factoring small matrices (cf. Gorsuch, 1983) was followed by rotation to oblique (direct Oblimin) simple structure using the SPSS statistical package (Nie, Hull, Jenkins, Steinbrenner & Brent, 1975). On the basis of the Scree test (Cattell & Vogelmann, 1977; Barrett & Kline, 1982; Hakstian, Rogers & Cattell, 1982; Gorsuch, 1983) three factors were extracted and rotated. Table 1 presents the means and standard deviations for the DES-IV subscale scores on each occasion of measurement, while Table 2 includes the intercorrelations for the DES-IV subscales on each occasion. Direct comparison of the 12 subscale means and standard deviations are possible as the scores have been computed on a common measurement scale. The oblique factor pattern solutions across both occasions are presented in Table 3. Clearly, the same three higher-order DES-IV factors emerged on each separate occasion, despite the fact that transitory states rather than stable traits were being measured.

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**TABLE 1**  
 Means and Standard Deviations for DES-IV  
 Subscale Scores (N = 212)

| <b>Subscale</b>            | <b>Occasion 1</b> |             | <b>Occasion 2</b> |             |
|----------------------------|-------------------|-------------|-------------------|-------------|
|                            | <b>M</b>          | <b>S.D.</b> | <b>M</b>          | <b>S.D.</b> |
| Interest                   | 8.83              | 2.71        | 8.19              | 2.76        |
| Joy                        | 10.05             | 2.87        | 10.26             | 3.02        |
| Surprise                   | 6.62              | 2.75        | 6.16              | 2.65        |
| Sadness                    | 6.83              | 3.14        | 6.00              | 3.04        |
| Anger                      | 6.84              | 3.45        | 6.27              | 3.36        |
| Disgust                    | 5.44              | 2.64        | 5.09              | 2.75        |
| Contempt                   | 5.92              | 2.37        | 5.58              | 2.53        |
| Hostility (inner-directed) | 5.74              | 2.69        | 5.16              | 2.45        |
| Fear                       | 5.70              | 2.99        | 4.70              | 2.26        |
| Shame                      | 6.09              | 2.24        | 5.43              | 2.11        |
| Shyness                    | 5.72              | 2.64        | 5.03              | 2.28        |
| Guilt                      | 5.82              | 2.61        | 5.26              | 2.49        |

| Subscale  | Interest   | Joy        | Surprise | Sadness  | Anger    | Disgust  | Contempt | Hostility | Fear     | Shame    | Shyness  | Guilt |
|-----------|------------|------------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|-------|
| Interest  |            |            |          |          |          |          |          |           |          |          |          |       |
| Joy       | .58(.56)   |            |          |          |          |          |          |           |          |          |          |       |
| Surprise  | .37(.36)   | .15(.12)   |          |          |          |          |          |           |          |          |          |       |
| Sadness   | -.06(-.21) | -.44(-.57) | .27(.27) |          |          |          |          |           |          |          |          |       |
| Anger     | .04(-.14)  | -.24(-.46) | .22(.34) | .59(.73) |          |          |          |           |          |          |          |       |
| Disgust   | -.02(-.11) | -.31(-.36) | .34(.40) | .65(.69) | .57(.74) |          |          |           |          |          |          |       |
| Contempt  | .21(.03)   | -.04(-.20) | .31(.44) | .44(.55) | .52(.63) | .49(.69) |          |           |          |          |          |       |
| Hostility | -.02(-.23) | -.30(-.43) | .28(.23) | .74(.73) | .50(.62) | .52(.63) | .40(.50) |           |          |          |          |       |
| Fear      | -.01(-.11) | -.34(-.42) | .30(.37) | .71(.71) | .55(.71) | .61(.74) | .39(.53) | .56(.61)  |          |          |          |       |
| Shame     | .04(-.07)  | -.23(-.31) | .29(.32) | .70(.71) | .55(.66) | .57(.69) | .42(.55) | .69(.73)  | .64(.73) |          |          |       |
| Shyness   | .08(-.05)  | -.17(-.27) | .34(.38) | .64(.68) | .45(.65) | .56(.67) | .46(.53) | .66(.68)  | .60(.68) | .74(.74) |          |       |
| Guilt     | .06(-.06)  | -.22(-.31) | .38(.33) | .59(.59) | .57(.54) | .56(.57) | .45(.47) | .55(.61)  | .58(.53) | .57(.56) | .58(.61) |       |

Notes: Correlations are shown to two decimal places. Correlations for the second measurement occasion are shown in parentheses. Correlations exceeding .14 are significant at the 5% level, while those exceeding .18 are significant at the 1% level.

**Table 3**  
**Oblique Factor Pattern Solution for DES-IV**  
**Typological Mood States (N = 212)**

| Subscale                      | Factor 1    | Factor 2    | Factor 3    | $h^2$     |
|-------------------------------|-------------|-------------|-------------|-----------|
| Interest                      | .00 (-.04)  | .77 (.73)   | .11 (-.11)  | .62 (.55) |
| Joy                           | -.08 (.00)  | .78 (.78)   | -.23 (.29)  | .70 (.70) |
| Surprise                      | .17 (.04)   | .38 (.42)   | .28 (-.54)  | .33 (.49) |
| Sadness                       | .58 (.49)   | -.20 (-.27) | .31 (-.34)  | .77 (.77) |
| Anger                         | -.01 (.13)  | -.08 (-.22) | .76 (-.71)  | .57 (.75) |
| Disgust                       | .12 (.21)   | -.11 (-.11) | .68 (-.69)  | .62 (.77) |
| Contempt                      | -.02 (.08)  | .16 (.04)   | .66 (-.69)  | .45 (.57) |
| Hostility<br>(inner-directed) | .79 (.92)   | -.07 (-.10) | .01 (.11)   | .65 (.75) |
| Fear                          | .43 (.25)   | -.13 (-.15) | .38 (-.57)  | .61 (.67) |
| Shame                         | .87 (.86)   | .02 (.07)   | -.02 (-.02) | .74 (.74) |
| Shyness                       | .88 (.80)   | .10 (.11)   | -.05 (-.09) | .71 (.73) |
| Guilt                         | .28 (.58)   | .01 (.02)   | .50 (-.15)  | .56 (.49) |
| <br>                          |             |             |             |           |
| % Variance                    | 48.7 (54.5) | 15.5 (15.0) | 6.4 (5.6)   |           |
| Eigenvalue                    | 5.84 6.54   | 1.86 (1.80) | .77 (0.67)  |           |

Notes: Factor loadings are shown to two decimal places. Significant ( $\geq .30$ ) loadings are italicized. Factor loadings for the second measurement occasion are shown in parentheses. For the Occasion 1 solution, FI correlates -0.05 with F2, 0.79 with F3, while F2 correlates 0.03 with F3. For the Occasion 2 solution, FI correlates -0.26 with F2, -0.78 with F3, while F2 correlates 0.03 with F3.

### OCCASION 1 RESULTS

Evidently, Factor 1 accounted for 48.7% of the variance and exhibited significant ( $>.30$ ) loadings on the subscales labelled Sadness, Hostility (inner-directed), Fear, Shame and Shyness. This factor appears to represent the Eysenckian (e.g., Eysenck, 1983) Neuroticism dimension, albeit at the state level. Likewise, this factor seems to relate to Cattell's second-order trait dimension which he labelled Anxiety. Barton and Flocchini (1985) have shown that the Cattellian Anxiety dimension has an associated emotional state component. In the present instance, Factor 1 might best be labelled *State Neuroticism*.

Factor 2 (which accounted for 15.5% of the variance associated with the principal components) has significant loadings on all three of the positive mood-state subscales in the DES-IV (namely, Interest, Joy, Surprise) and no significant loadings on any of the negative mood-state subscales. This factor seems to represent the Eysenckian Extraversion dimension at the state level, *par excellence*.

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Correspondingly, it represents the Cattellian Exvia dimension, which Barton and Flocchini (1985) have also demonstrated has an associated state component. This factor might be described as *State Extraversion*.

Factor 3 (accounting for 6.4% of the unrotated principal components' variance exhibited significant loadings for the DES-IV subscales Sadness of Anger, Disgust, Contempt Fear and Guilt. This factor appears to represent *State Hostility*, which has emerged as a typological mood-state entity from previous studies (e.g., Boyle, 1986a). This factor has nothing to do with the DES-IV subscale labelled Hostility, which is inner-directed rather than outer-directed.

### OCCASION 2 RESULTS

On the second measurement occasion, Factor 1 accounted for 54.5% of the variance associated with the unrotated principal components. In this instance, significant loadings were exhibited on the DES-IV subscales of Sadness, Hostility (inner-directed), Fear, Shame, Shyness and Guilt. Clearly this secondary DES-IV factor was essentially identical with that obtained on the first measurement occasion and represents *State Neuroticism*. However, on the first occasion, the subscale labelled Guilt loaded significantly in relation to Factor 3 (State Hostility), whereas on the second occasion it more appropriately lined-up with Factor 1. In terms of concordance, the correlation coefficient (Pearson Product-Moment) obtained across occasions for Factor 1 was 0.92 (wherein the absolute values for each factor loading were correlated over all 12 subscales across both measurement occasions). This high degree of concordance suggests that little fluctuation occurred in State Neuroticism over the two occasions. Hence it might be argued that while emotional states such as those measured in the DES-IV may be situationally sensitive to mood-state fluctuations, at the typological level, most of the state variance has been attenuated, and what remains is largely trait contamination variance (cf. Cattell, 1982).

As for Factor 2, on the second occasion it accounted for 15.0% of the variance, and again clearly was marked only by the positive mood-states indexed in the DES-IV instrument. For this dimension (*State Extraversion*), the level of concordance across measurement occasions was even higher than that for the first higher-order mood-type factor, and was 0.97. Once again, such a high level of concordance suggests the 'trait-like' characteristics of this factor.

In regard to Factor 3 (accounting for 5.6% of the variance), the pattern of factor loadings was similar to that obtained on the first occasion, with significant loadings on Sadness, Anger, Disgust, Contempt and Fear. However, in this instance, there was also a significant loading on Surprise even though it loaded on Factor 2 as well. Nevertheless, the similarity between Factor 3 on Occasions 1 and 2 was so strong that both factors clearly represented *State Hostility*. Again the level of concordance was high (0.85) suggesting the stability rather than the situational sensitivity of this typological dimension.

In conclusion, the present findings regarding typological mood-state dimensions measured in the DES-IV suggest that the instrument is fairly *limited in terms of the number of higher-order factors indexed*. This finding is consistent with previous research (e.g., Boyle, 1987). At the very least, however, the present findings do suggest that it should be possible to score the DES-IV for the three

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typological dimensions rather than for all 12 primaries, resulting in ease of interpretation for clinical psychologists and psychiatrists. However, while it appears feasible to score the instrument for typological mood states, this in no way diminishes the usefulness of scoring the primary subscales, but definitely adds to the flexibility of the instrument along the lines already established in Cattellian psychometrics. More fundamentally though, it does seem likely that the measurement of mood states at the typological level may have more characteristics of traits rather than of states, given the rather high levels of concordance across measurement occasions obtained above. If so, then the quest for central states may inevitably turn out to be an achievement not attainable, although the present findings provide only tentative evidence along these lines.

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# THE EXPERIENCE OF BEING UNDERSTOOD: A PHENOMENOLOGICAL-STRUCTURAL ANALYSIS

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## ABSTRACT

The research on Interpersonal Understanding, until now, was done mainly through the concept of Empathy. In spite of the many theoretical and empirical research studies done on empathy, a content and structural definition of this term has not been reached until now. Interpersonal Understanding is composed of two feelings: 1 - understanding the other, 2 - being understood by the other. Two studies were designed to explore the reactions to "being understood." The first study described the feelings of this experience by a phenomenological method and thirteen categories of content were discovered to be indispensable and obligatory composers of the experience "being understood." A "Cilindrex" three dimensional structure of the investigated phenomenon was obtained by the INDSCAL method in study II. This structure is composed of three facets that were interpreted in terms of: 1 - A state of power that is enhanced by the understood person's feelings (weakness or strength); 2 - Quality of feeling (basic or elevated); 3 - Focus of feeling (intrapersonal or interpersonal). It was also found that these facets characterize each one, respectively, the feelings of being understood by: 1 - parents, 2 - friends and 3 - couple. Tentative answers have been given to these differences. The discussion points out to the firstness of the experience of being understood and its importance as an agent of essential psychological human need.

## INTRODUCTION

The importance of feeling understood by a significant other concerns various fields of study. Different Interpersonal domains such as Interpersonal Communications (DeVito, 1983), Interpersonal Perceptions (Laing, 1966), Friendship (Kon & Losenkov, 1978; Gamer, 1977), and Child Parent relationships

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(Goldstein, 1957; Paul, 1970) treat implicitly the inner growth of the personal feeling "being understood." Developmental psychology, psychotherapy and counseling perceive this sensation as a basic mean towards the achievement of "Mental Health." (Winnicot, 1965; Olden, 1953; Goldstein, 1981; Carkhuff, 1969).

Despite the unquestionable repercussions of the subject, the "feeling understood" experience has not become an autonomous topic of research. This lack of independence is mainly a result of the monopoly that the term empathy has over the interpersonal understanding field.

The study of empathy absorbed the feeling of "being understood." Theodor Lipps introduced in the early nineteenth century, the term *Einfühlung* to the psychological lexicon (Harre & Lamb, 1983). Since then, an Empathy-Interpersonal Understanding parallelism has been nurtured. "A" empathizes with "B," "B" feels understood by "A." This sentence became, actually, a psychological axiom. Numerous references verify the latest assertion, e.g., Rogers (1962, 1965), Sullivan (1953), and Shantz (1975). Naturally such processes limited the study of interpersonal understanding to the single word: Empathy. Having this axiom, the research dedicated itself to building many measurement methods, the purpose of which was to correlate multiple variables with empathy (Hoffman, 1977; Scotland et al, 1978). Despite empirical flourishing, including the latest articles treating empathy conceptually (e.g., Barret - Lenard, 1981) no attempt to discover the phenomenological and structural content of empathy is known to the authors of the current research. It should be noted that such methodological fault is not inherent to the research'bf empathy but occurs in many other psychological concepts such as emotion (Schoenfeld, 1971). Scientific procedure obligates comprehending the specific content of the concept investigated, prior to the creation of scales and measurement techniques (Chein, 1972). This constraint is not in vain, today we are witnessing an embarrassing discordancy among the vast interpretations of empathy. Ianotti (1975) expresses this confusion in his article about empathy in children . . . "these research reports are becoming increasingly difficult to integrate due to different, and in some cases conflicting, definitions of assessment techniques, . . . various assessment techniques are then examined, and it is found that in some instances there are inconsistencies between the conceptual and operational definitions" (p. 21). Bacharach (1976) describes this situation in his article illustratively named: "Empathy: We know what we mean, but what do we measure?"

The literature reveals a single and partial attempt to know the components of the experience of "being understood" (Van Kaam, 1969). Interpersonal understanding is composed by two primordial experiences: 1 - understanding the other; 2 - feeling understood by the other. Exploring the contents and the internal organization of both experiences will provide a basic definition of Interpersonal Understanding and, therefore, of Empathy.

The purpose of the present investigation was to examine the basic feelings or reactions of being understood by discovering the internal structure and manifestations in different relationships. Guided by this goal two studies were conducted. The first one dealt with phenomenological description of the reactions to being understood (b.u.) while the second one was a structural analysis of this concept.

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### STUDY I — A Phenomenological Description

The purpose of Study I was to discover the phenomenological categories which compose the reaction of being understood (b.u.) as a layman manifests it. The "Intra-subjective validity" method of investigation suggested by Van Kaam (1969) allows us to achieve the different categories that establish the being understood moment.

This method consists of obtaining naive descriptions of spontaneous perceptions of the phenomenon from a sample of untrained subjects. Those subjects may produce a great number and variety of descriptions for the phenomenon studied. Therefore, the researcher should try to identify the fundamental components of the phenomenon which appear in those meaningful descriptions. This method categorizes the different manifestations of the verbal reports of the feeling "being understood" with a minimum of distortion of the original date.

This method does not invalidate a scientific approach. Van Kaam (1969) has affirmed that phenomenological research must be considered the first step of scientific investigation. Phenomenology can never replace other scientific methods. However, it can be important for psychological research because it does not appeal to theories or preconceptions besides the behavior itself. The phenomenology only "... makes explicit what is already implicitly present in behavior itself" (Van Kaam, 1969, p. 267). Following such phenomenological research, theoretical models can be advanced based on the manifold manifestations of the studied phenomenon.

In short, the first task is to describe the different categories of the feeling "being understood by a significant other." The analysis of the phenomenological data should be performed in six chronological phases: 1 - Listing and preliminary grouping, 2 - Reduction, 3 - Elimination, 4 - Initial categorization, 5 - Application, 6 - Final identification of the studied feeling. (For more details see Van Kaam, 1969, p. 325).

According to Van Kaam (1969), these six phases must be executed according to the following axiom: "to describe the necessary and sufficient constituents of a certain experience is a moment of the experience which, while explicitly or implicitly expressed in the significant majority of explications by a random sample of subjects, is also compatible with those descriptions which do not express it (Van Kaam, 1969, p. 334-6). A phenomenological method must test every formulation on two dimensions: 1 - Does the concrete formulation by the subject contain an item of experience that might be a necessary and sufficient constituent of the "being understood" experience? 2 - If so, is it possible to make an abstract of this item and to label the abstraction without violating the original experiences that are reflected in the proposed categories. Each category must represent the common denominator of overlapping experiences. Experiences which do not overlap should be classified in different categories. The sum of the resulting categories must cover the different and non-overlapping manifestations of the studied phenomenon.

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### METHOD

**SUBJECTS:** The subjects were 94 undergraduate students at Tel Aviv University, whose ages ranged between 20 to 37 years. Forty-seven females and 47 males participated in the study. The subjects volunteered to complete the questionnaire without compensation. Two restrictions were imposed for the sample composition: 1) A basic ability to express themselves with relative ease in the Hebrew language, 2) The subjects ought not to be specialists in psychology and not be related in any way to the researched topic.

**INSTRUMENT:** Van Kaam's questionnaire (1969, p. 331) for investigating the "feeling understood" experience was used. The subjects were asked to describe an experience of really feeling understood. Subjects were given the following instructions: 1) Describe how you feel when you feel that you are really being understood by somebody. Before you answer, please pay attention to the following points:

- a. Recall a situation or some situations when you felt that you were being understood by somebody you know. For example: mother, father, wife, husband, boyfriend, girlfriend, friend, teacher, etc.
- b. Try to describe how you felt in that situation (not the situation itself).
- c. Try to describe your feelings just as they were.
- d. Please do not stop until you feel that you have described your feelings as completely as possible.

The subjects completed the questionnaire anonymously, specifying just their age and sex. They were free to spend as much time as they wished on this task.

**ANALYSIS OF THE QUESTIONNAIRE:** A random sample of 35 questionnaires was taken from the total. The statements expressed by this sample were listed exactly as they were written by the subjects. This technique resulted in a wide range of listed expressions. Following this listing, three naive judges received independently the list of statements. Each just began to group the different statements into categories. Each category contained overlapping statements, that is, statements which refer to the same category of content. After the judges ended the categorization task, interreliabilities between judges were computed. Each proposed category was tested by evaluating whether it was mentioned by the three judges. Only categories mentioned by the three judges were retained for the final analysis. Interreliabilities between judges were computed using the conservative method of evaluating percentage agreement between judges for each category separately. The mean interjudge agreement for all the categories was 90% with a range between 82% to 97%.

Following this initial grouping, the judges applied the proposed categories to the questionnaires completed by all of the subjects. Every original expression was placed in a corresponding category. It was not necessary to add new categories.

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### RESULTS AND DISCUSSION

Thirteen categories of content were indicated by the analysis as the principal components as the feeling of b.u. Table no. 1 presents the 13 categories and the percentage of subjects in each category.

The main contents that were included in each category were as follows:

**SATISFACTION:** This category was characterized by reports of Satisfaction, a good feeling and gladness and other reports such as a beautiful state, a wonderful moment, etc.

**SECURITY:** This category included a feeling of security or restfulness in the situation itself. There were reports of security in the relationship, and exactness of communication with the other. In other words, when a person feels understood by another person one achieves: 1) a feeling of general security, 2) a feeling of security about the relationship with this person and about the exactness of perception of message.

**TENSION-RELIEF:** The subjects related a feeling of release and relief of tension, muscle relaxation, calm, and a lowering of anxiety.

**SUCCESS IN CONVINCING AND/OR TRANSFERRING THE MESSAGE:** The subjects related to the fact that their approach and their attitude were correct. They were pleased that they succeeded in explaining themselves and convincing others of their rightness.

**SELF-FULFILLMENT:** This category carried a spiritual character. The subjects reported feelings of pride and self-actualization, supreme satisfaction, spiritual peace and inner felicity. The subjects relate to the experience of understanding as a decisively important event for personal development and self-fulfillment.

**OPTIMISM ABOUT THE FUTURE:** Here, the subjects expressed hope and felt encouraged. Moments like this enforce the belief in the world and the human race. Ambition and expectation that it will happen again. All these were accompanied by a general feeling of optimism about the future.

**PARTNERSHIP AND THE ABILITY TO SHARE EXPERIENCES:** This category implies the participation of another person in one's experiences, sensations and feelings. The feeling of collaboration and the possibility of sharing personal events.

**IDENTIFICATION WITH THE OTHER:** Here the word "identification" is used to express the meaning of the word itself and by metaphores such as: The incoming of another soul into oneself, part of myself goes into another person and settles there.

**CLOSENESS TO THE OTHER:** Here we can see the manifestation of closeness and the willingness to approach the understanding person.

**BELONGING AND NOT ALONE:** As the name indicates, it is reported here about belonging and not alone, i.e., a situation of understanding brings about a feeling of belonging and release from loneliness. In this category the commonest report was: "I'm not alone."

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ACCEPTANCE: Here we consider a person who feels he is accepted, wanted and loved.

THE WILL TO CONTINUE IN THE SAME SITUATION: As simple as it is conveyed, the subject's will to go on with the same state of events, i.e., express themselves, explain, tell and continue with the communication with the same person who understands them.

FEAR OF SELF-DISCLOSURE: In terms of values, this is the only category which turns to a negative attitude. There has been a great ambivalence among the subjects. On the one side a certain gladness is expressed about the fact of b.u., but on the other hand a felt reticence outstanding among the subjects because of self-disclosure.

**TABLE 1**  
**Category Name and Percentage of Subjects**  
**for "Being Understood" Feelings**

| Category Name  | Subject's Percentage |
|--|----------------------|
| Satisfaction .....   | 67                   |
| Security .....   | 39                   |
| Tension Relief .....   | 34                   |
| Success in convincing and/or<br>transferring the message ..... | 29                   |
| Self-fulfillment .....   | 23                   |
| Optimism about the future .....                                | 23                   |
| Partnership and the ability to share<br>your experiences ..... | 22                   |
| Identification with the other .....                            | 20                   |
| Closeness to the other .....                                   | 16                   |
| Belong and not alone .....                                     | 14                   |
| Acceptance .....   | 8                    |
| The will to continue in the same situation .....               | 8                    |
| Fear of Self-Disclosure .....                                  | 8                    |

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Therefore, according to the analysis, the synthetic description of the researched experience is: The feeling of really being understood is characterized by most people by satisfaction, and in minor degree, in descending order, by the following emotions: Security, Tension Relief, Success in convincing and/or transferring the message, Self-fulfillment, Optimism about the future, Partnership and the ability to share your experiences, Identification with the other, Closeness to the other, Belonging and not alone, Acceptance, The will to continue in the same situation and Fear or self-disclosure.

Eight out of these 13 categories appear, in one way or another, in Van Kaam's (1969) research, and the 5 phenomenological categories of: success in convincing and/or transferring the message, self-fulfillment, optimism about the future, the will to continue in the same situation and feel of self-disclosure, do not take part in it. Since we took as a minimal percentage, the 8% of reports creating a category, we found more than Van Kaam who took as his lowest line a percentage of 64%. This was done to reach the maximal differentiation of the experience even if it was reported only by a small number of people.

The new feelings discovered here help to indicate more accurately the sensations, emotions and feelings of the understood person. There is, however, in Van Kaam's work a ninth category which has not been included among ours. This category was "Perceiving signs of understanding" and is, in our view, more perceptive than emotional and therefore it does not appear in our work.

### STUDY II — A Structural Analysis

A phenomenological approach is the first stage for the definition of a psychological concept. It seems to be a descriptive method which must be followed by an explanation of the relationships between the different components. Our second task will provide the structure of the feeling understood experience. This structuralist task is based on the following axiom: A phenomenon can only be defined by studying the organization and relationship between its components. We will try to discover in which ways the individual organizes and interrelates the different components of the subjective experience "feeling understood." This structuralist attitude has been adopted by several psychological theories. Two of the most important are the Gestalt and the Lewinian topological schools. Both schools have proposed that human beings organize their cognitions, feelings, perceptions and every aspect of the individual life in a structured way. Inner and psychological experiences are organized by certain groupings (similarity, proximity, etc.) and topological (frontiers, distance, etc.) laws. The geometrical structure of the researched experience should be defined by studying the order and relationships between the phenomenal components. According to the multidimensional scaling system, the structure of the feeling understood experience is composed of different regions while each region is defined by the proximity of relation among its components. This proximity is stated by the probability that two or more components (in this case: feelings) should appear at the same time. According to the degree of proximity among all pairs of components, this system arranged all of the feelings in the multidimensional

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space. In order to acquire the general structure of the understood person's experience and its particular character in several relationships (friends, couples and child-parents), the following study was conducted.

### METHOD

**SUBJECTS:** Thirty students (14 males and 16 female) whose ages ranged between 19-28 years old answered the questionnaire "feeling understood." The subjects had to be children of living parents or whose parents died in a maximal range of 2 years. In addition each subject reported to have a couple in present or near past (up to 2 years) and to have a close friend.

**INSTRUMENTS:** In order to examine the general structure of the experience of being understood and the particular one in certain relationships (friends - couples -child-parent) a questionnaire was constructed based on the essential and indispensable elements that were mentioned in Study I. It was aimed to clarify the weight of each component of the experience in the relationship between child-parents, couples and friends. Three different questionnaires were constructed (to be understood by 1 - parents, 2 - his/her mate, 3 - friend). Each of the questionnaires consisted of 13 feelings according to the categories described in Study I. Each feeling had a seven point scale with "1" representing "I did not experience this feeling at all" and at the other extreme "7" representing "I did experience this feeling to a high extent." The subjects completed the three questionnaires individually in a random order without a time limit.

### RESULTS AND DISCUSSION

In the present research the INDSCAL method (Carroll & Chang, 1970) was used. For the present analysis, the 2 most relevant characteristics of this technique are: 1) That it provides a common solution, i.e., a graphic representation, based upon more than 1 set of input data. In our case, the results of the three questionnaires together will give us a picture of the experience as a whole, beyond the three specific situations. 2) That the degree of correspondence between each of the axes in the solution and each set of input data can be directly examined separately. In other words, the special quality of this method is that it considers the differences between the results of the 3 questionnaires inside the space representation. This method will show what is the weight of each of the three different situations (child-parent, couples, friends), in the space representation of the general experience as a whole. The axe with a bigger weight in a given situation means that this axe is the most adequate representative of the experience of being understood in the same situation. Three different matrices of Pearson correlations  $13 \times 13$  for each separate situation were computed. These matrixes were the input for the INDSCAL analysis. The output is expressed by Cartesian — coordinates. As the number of dimensions grows, a graphic representation expresses the original connections among the components.

The parameter that is chosen to decide the number of dimensions according to which the results will be presented is called coefficient of stress. This measure expresses the incongruence between the input data and graphic solution. The

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congruence lowers as the coefficient of stress grows. One criterion in deciding on the optimal dimensionality for a set of components is by inspection of the rate at which stress decreases with increasing dimensionality. The dimensionality after which there is little improvement in fit is chosen as the optimal dimensionality. The coordinates of the 13 categories are presented in Table 2.

One and two-dimensional INDSCAL Analysis were made for the 13 categories, however, their coefficient of stress was higher than .20. The coefficient of stress of the three — dimensional analysis was .19. Stress which is lower than .20 represents best the results and therefore it was decided to use this last analysis.

As can be seen in Table 2 and in its space representations in Figures 1 and 2, a three dimensional structure of the feeling understood experience was achieved. These results are beyond the 3 specific situations. In these structures we can see 3 main axes. The special arrangement to each axe will be called a facet.

Canter (1981) quotes Shye who defines a facet as: "a classification of the item domains of a given content universe according to some rule" or as Canter declares himself: "More technically a facet is a component set of any Cartesian set" (Canter, 1981, p. 215).

Each facet is divided into 2 groups of components, thus in each facet, two regions are to be found.

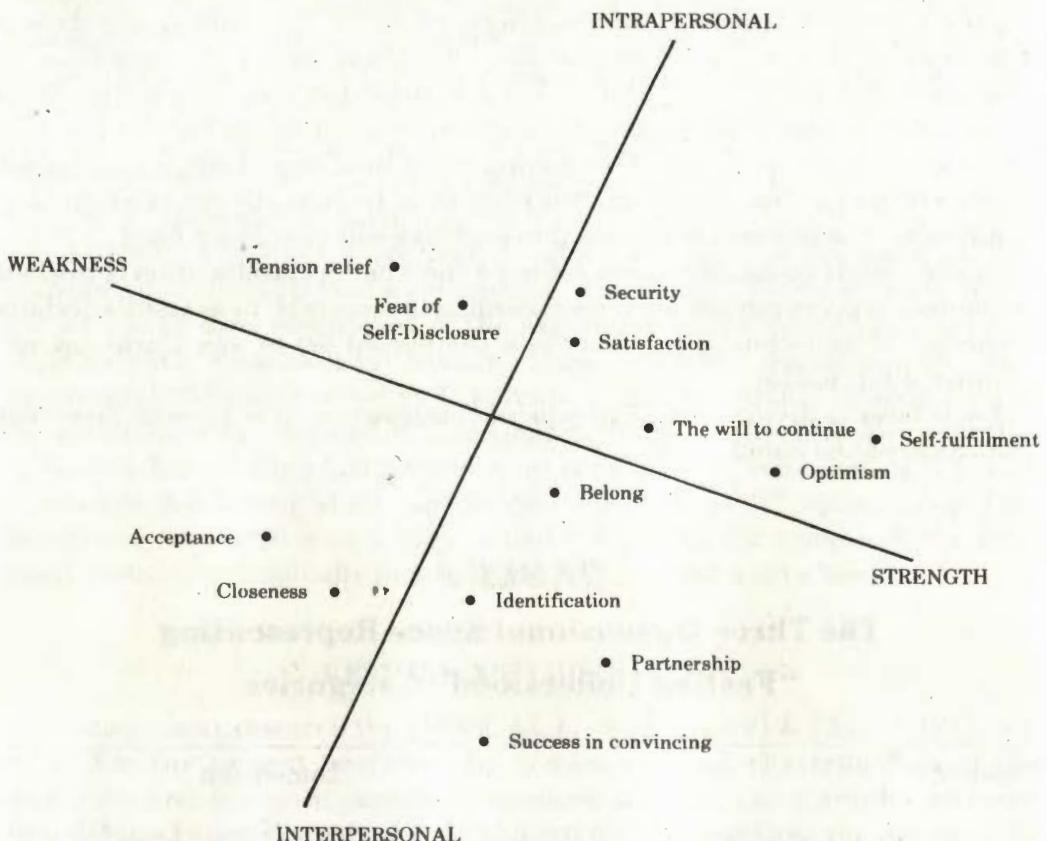
**TABLE 2**  
**The Three Dimensional Space Representing**  
**"Feeling Understood" Categories**

| Category   | Dimension |       |        |
|--|-----------|-------|--------|
|  | I         | II    | III    |
| Satisfaction .....   | 0.20      | 0.97  | -1.01  |
| Security .....   | 0.32      | 1.25  | -0.037 |
| Tension Relief .....   | -0.87     | 1.58  | -0.51  |
| Success in conviction and/or<br>transferring the message ..... | -0.42     | -1.62 | -1.19  |
| Self-fulfillment .....   | 1.88      | 0.16  | 0.10   |
| Optimism about the future .....                                | 1.57      | 0.03  | 0.70   |
| Partnership and the ability to share<br>your experiences ..... | 0.21      | -1.33 | -0.33  |
| Identification with the other .....                            | -0.53     | -0.94 | -1.10  |
| Closeness to the other .....                                   | -1.26     | -0.89 | -0.90  |
| Belong and not alone .....                                     | 0.30      | -0.07 | -0.72  |
| Acceptance .....   | -1.74     | -0.64 | -0.60  |
| The will to continue<br>in the same situation .....            | 0.83      | 0.31  | -0.62  |
| Fear of Self-Disclosure .....                                  | -0.49     | 1.19  | 2.31   |

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**FIGURE 1**

**Dimension 1 vs Dimension 2 of the three-dimensional space represented "feeling understood" categories.**



According to the vertical axis of Figure 1, it is possible to divide the categories in two different parts. The common denominator of the categories, left of the diagram, is that these are feelings that come from a certain state of weakness. Fear of self-disclosure, tension relief, closeness to the others and acceptance are categories in which there is a sort of addressing the other that comes from a state of weakness. The individual needs the other's help, for acceptance and relief. The position of weakness is expressed in the need of others and fear of self-disclosure.

Generally speaking, this region will be called "state of weakness." In the right side of the diagram, the categories are built by feelings that derive from a position of strength.

The situation of understanding provides the subjects with a sensation of security, satisfaction, and a will to continue in the same situation, etc. (see Figure 1). It can be seen that these are feelings of content that come from a strong

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position of the individual. The region that contains these feelings will be called "state of strength." The facet achieved by these two positions will be called "state of power."

Relating to the horizontal axis of Figure 1, it can be seen that the common aspect of the categories on the upper half of the figure are personal feelings experienced by the subject himself. This region will be called "Intrapersonal feelings."

The lower part of the picture shows feelings that the individual experiences with or for others. This region will be called "Focus of feeling."

In Figure 1, a CIRCUMPLEX picture is acquired, built by the facets: 1) State of power, 2) Focus of feeling. Every feeling is a composition of both facets.

The feelings of closeness to the others and acceptance that are on the lower-left part of Figure 1 are a combination of interpersonal feelings in a state of weakness. In a Circumplex model, every group of points in space is differed from another one just by one region (e.g., in the lower part of the picture, the left group of categories are different from the right-side ones only because of the state of power. Likewise they have the focus of feeling in common.)

Figure 2 shows the arrangement of the 13 categories according to dimensions 1 and 3. The horizontal axis has already been shown in Figure 1 and has been called "state of power." The vertical axis in Figure 2 divides the categories as follows: In the upper part, the feelings described are of an elevated quality; i.e., feelings related to spiritual moments. These are very special feelings both in frequency and strength; and therefore it was chosen to call them "elevated," such as Self-fulfillment.

The basic and earthly feelings are located in the lower part of the figure. Comparing these categories to the previous ones, the latter express such basic feelings as satisfaction, tension-relief, belonging and not alone. This region is called "basic."

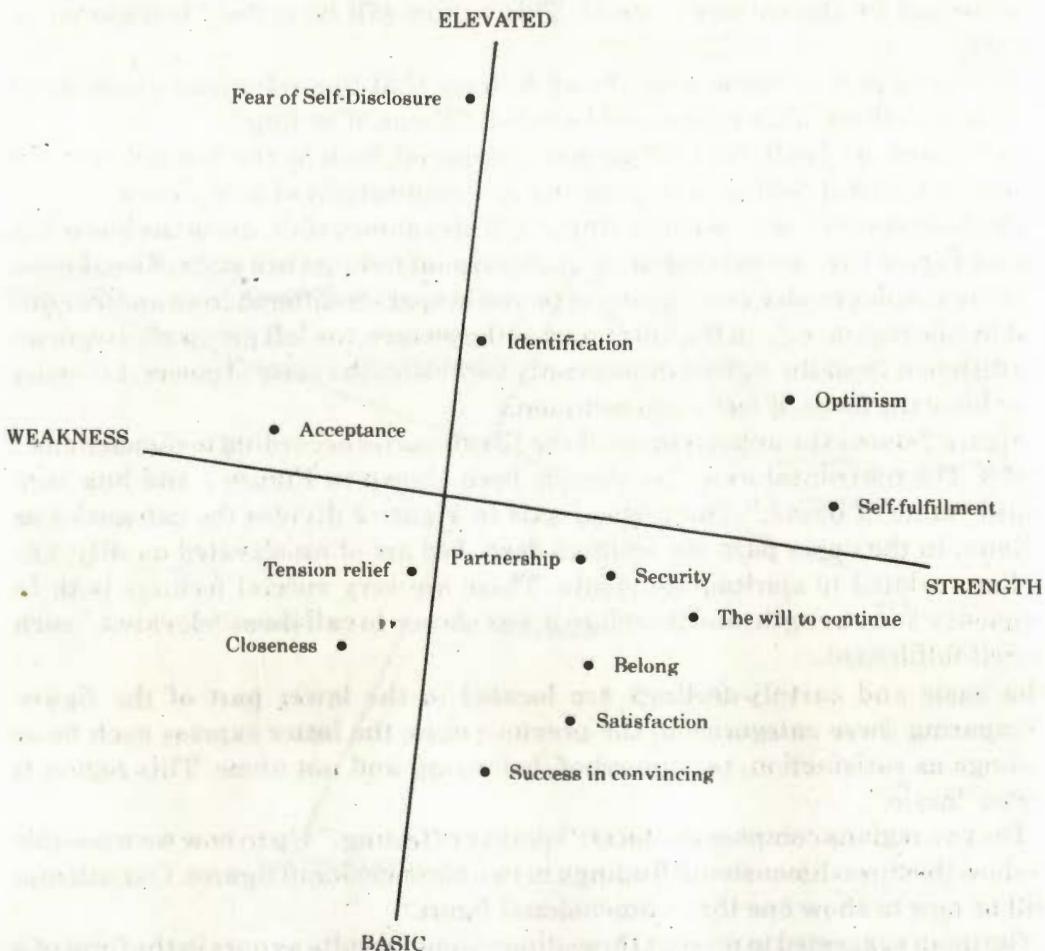
The two regions compose the facet: "quality of feeling." Up to now we were able to show the three dimensional findings in two bidimensional figures. Our attempt will be now to show one three-dimensional figure.

Guttman suggested to present three-dimensional results as ours in the form of a cylinder. This form is composed at least by two circumplex that are one above the other while each circumplex is a combination of two facets. (In this case: "state of power" and "focus of feeling"). The third facet divides between the two circumplexes (here, "quality of feeling"). There have been a number of attempts to present different results according to CYLINDREX model (i.e., Canter, 1981).

In geometrical terms, the facets: "State of power" and "Focus of feeling," give the width and depth of the cylinder while the facet "Quality of feeling" represents the height. In this structure, each item in the figure represents a combination of these three facets. Thus, each category is classified by one of the points that compose the different regions.

## FIGURE 2

**Dimension 1 vs Dimension 3 of the three-dimensional space represented "feeling understood" categories.**



In Figure 3, a cylinder appears which is composed of all the points that appear in Figures 1 and 2.

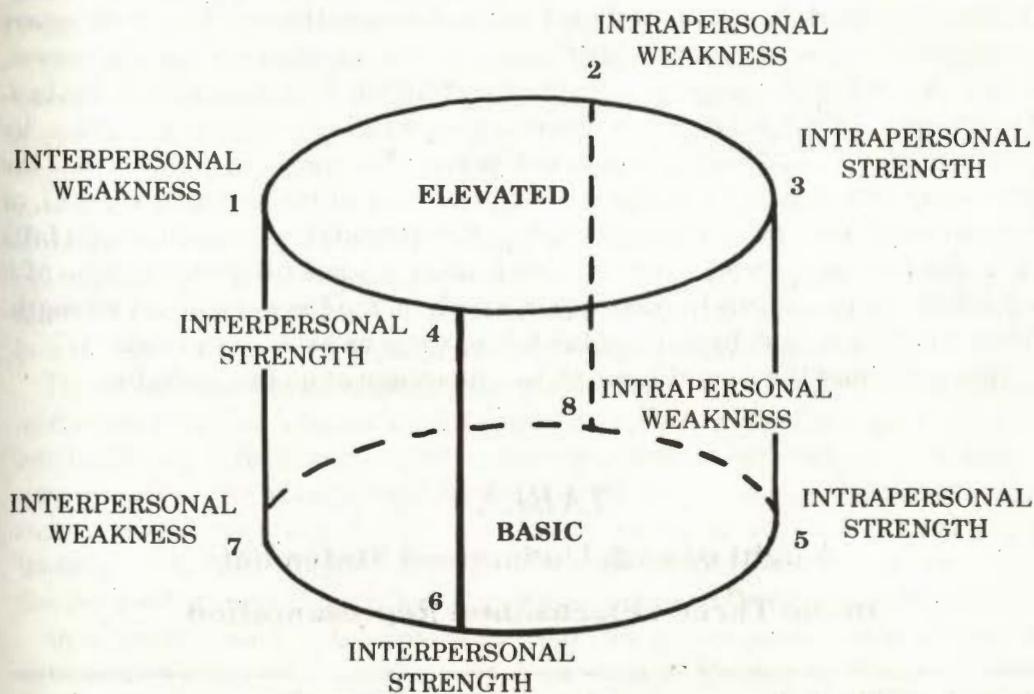
Table 3 describes the different regions that bring about all the points in the cylinder presentation.

In a cylindrical three-dimensional representation, a group of four points compose one region; i.e.: the points 1, 2, 7, 8 set up the region "State of weakness." The points 1, 7, 4, 6 establish the region "interpersonal." In this figure, each CIRCUMPLEX is a combination of two facets; in this case: "Focus of feeling and "state of power." The facet "quality of feelings" remains stable in each of the circumplexes. The upper CIRCUMPLEX is characterized by elevated feelings and the lower one is determined by basic feelings.

According to the mapping sentence, we may present the composers of feelings reports of 'being understood by the other' as follows:

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**FIGURE 3**  
**A Cylindrical Representation of the  
 Feeling Understood Experience.**



**TABLE 3**  
**Categories and Regions Compounding  
 the Cylindrical Space**

| Point in Space | Categories   | Regions                           |
|----------------|--|-----------------------------------|
| 1              | Acceptance   | Interpersonal, Weakness, Elevated |
| 2              | Fear of Self-Disclosure  | Intrapersonal, Weakness, Elevated |
| 3              | Self-fulfillment<br>Optimism   | Intrapersonal, Strength, Elevated |
| 4              | Identification   | Interpersonal, Strength, Elevated |
| 5              | Security<br>Satisfaction   | Intrapersonal, Strength, Basic    |
| 6              | The will to continue<br>Belong and not alone<br>Partnership<br>Success | Interpersonal, Strength, Basic    |
| 7              | Closeness  | Interpersonal, Weakness, Basic    |
| 8              | Tension Relief   | Intrapersonal, Weakness, Basic    |

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While the person (child; friend; couple) feels understood by the other (parent; friend; couple) his/her feelings are focused as interpersonal or intrapersonal, are qualified as basic or elevated, and derive from a state of weakness or strength.

Hence, we learned the structure of the f. of b.u. in general terms. Now, since we are interested to check the unique contribution of any situations of b.u. (by parent, friend, couple) to the general picture, our attention will be aimed at Table 4. According to INDSCAL analysis, the strongest weight of the situation of b.u. by couple, is the second dimension (focus of feeling). The meaning of this is that the individual when b.u. by couple tends more to feel either intrapersonal or interpersonal feelings. In the relationship child-parent the strongest weight falls upon the first axe: state of power. This finding explains that at the time of a subject b.u. by parent, his feelings will be mostly defined as weakness or strength. When a person feels u. by a friend his feelings will be basic or elevated.

This is because the weight focus on the dimension of quality of feeling.<sup>1</sup>

**TABLE 4**  
**Weight of each Understood Statement**  
**in the Three-Dimensional Representation**

| Understood Situation | Dimension |      |      |
|----------------------|-----------|------|------|
|                      | 1         | 2    | 3    |
| .....                |           |      |      |
| Couple               | 0.27      | 0.60 | 0.38 |
| Child-Parent         | 0.79      | 0.30 | 0.21 |
| Friends              | 0.40      | 0.45 | 0.62 |

### <sup>1</sup>Footnote

As an objective to validate the results of Table 4, the ALSCAL procedure of the SAS library was applied. ALSCAL analysis were made in each situation of understanding in a separate way. The results of the ALSCAL supported in general the results of the INDSCAL analysis confirming that the facet "focus of feeling" was the most salient for understanding a couple; facet "quality of feeling" was the most salient facet of understanding a friend and the facet "state of power" was the most relevant for the situation being understood by a parent.

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### GENERAL DISCUSSION

The objective of Study I was to extract the components of the reaction to being understood. Thirteen phenomenological categories were found to represent the basic feelings of such phenomenon.

Study II organized the different categories in a three-dimensional structure which divided the categories into eight regions. The content of the experience, except the components of the intrapersonal elevated regions (that will be discussed later), lead to the conclusion that it is spoken about a most primary experience. When looking at the interpersonal and basic regions, it is difficult to avoid a connection with the emotional life of early childhood. Winnicott (1965), Goldstein (1957), Bowlby (1969) and others described satisfaction, security, relief, belonging, enjoyment of intimate relationship, ability to transfer a message and the rest of categories as the elementary soul nourishment without which the baby is not able to advance in appropriate psychological development.

The congruence between the feelings awakened at the time of being understood and those that characterize the infantile life, speaks in favor of two reasonable assumptions: 1) the importance of the experience as a component and predictor of mental health, 2) the meaningful sensations in early childhood that continue to form a considerable part in the emotional life of the adult. The baby needs to be understood by his caretaker, in the same way the adult needs to be understood by the people near him in order to achieve a feeling of well-being (Goldstein, 1957).

In a general way, the 'understood' experience is a perfect catalyst for the satisfaction of psychological needs. According to Maslow (1970), most of the feelings that are involved in the discussed experience — except the fear of self-disclosure — are meant to satisfy a determined human need.

Basic needs are satisfied, by feelings such as: security, satisfaction, relief of tension, etc. The feelings of belonging, closeness, partnership, sharing, acceptance, optimism and self-fulfillment can provide with human need of a more elevate nature that appear in Maslow's scale. (Maslow, 1970).

Similarly, Sullivan (1953) described satisfaction and security as the most basic of human needs. These two feelings were the most frequently reported in the "being understood" experience. The treasure of psychological needs provided by this experience of being understood, enhances its importance as one of the central moments of the interpersonal life.

In spite of the positive aspects of the 'understood' experience, one feeling points out if not the negative value of the experience, at least a very ambivalent regard towards it; the fear of self-disclosure. It must be mentioned that this category was not reported frequently, but through it is possible to learn about a different aspect of the understood person. In this fear, the will of self-disclosure to another, and being understood on one side and the threat of losing his selfness on the other side, are included.

The ability of self-disclosure is an important component of healthy, interpersonal relationships (Jourard, 1971; Cunningham & Strassber, 1981). Thus, this social ability signifies one of the efficient elements to fight loneliness (Solano, Batten & Parish, 1982). However, despite these advantages self-disclosure encompasses several dangers. Cozby (1972) argued that self-disclosure

is positive up to a certain point beyond which it can be threatening. The authors of this article assume that the more an individual discloses negative aspects of himself, he will fear disclosure. He is likely to regret that he disclosed aspects of himself that on second thought would have kept to himself. This type of disclosure might damage more than it can help. Thus, disclosure which is a positive element of mental health can be — beyond a certain limit — threatening. It should be remembered that it is every person's right to keep and defend one's psychological privacy. A person motivated by the will to be understood might betray himself and over-disclose himself. This individual feels that he has exceeded his limits in an arduous race towards being understood, thus, uncovering his privacy, secrets and needs that he would rather keep within the realm of his own. Regarding the same, Medini says "While loneliness in the extreme may be psychosis, the inability to put up walls when we wish to, can lead to feelings of hopeless vulnerability . . . I am convinced that we need interpersonal barriers, secrets — for survival, if you will . . ." (Medini, 1981, p. 149). Hence, the logical fear of over-exposure an individual feels as a threat to break his own personal psychological barriers.

Another aspect of the INDSCAL analysis is the one that points out the different character of the experience in each situation. According to the analysis, the experience of child-parent understanding has the character of a struggle for power. A child who feels understood by a parent will tend to feel stronger or weaker than the parent. It is almost certain that the difference of status between parent and child and the generational distance are responsible for the power quality of the experience (DeVito, 1982). There are few adults searching for understanding from parents (Wright & Keple, 1981). The results show that the facet 'quality of feeling' characterizes the experience of being understood by a friend. The individual feels basic, earthy emotions on one side or spiritual, elevated ones on the other side. All this differs from the previous situation, where 'power' is the determining element. The process to be understood by a friend is one of the basic steps to "friendship." (Gamer, 1977) The bonds of friendship are sustained by two persons whose position in each other's eyes are equal.

In Cicero's words: "True friendship, meaning Aristotle's third type, could occur only among those of equal and symmetrical status, with neither holding a claim of authority upon the other (in Selman, 1982, p. 243). The last two statement explain, to a great extent, the different that exists between the two situations (child-parent — friend-friend). Two studies that were conducted on an adolescent population showed that adolescents feel understood much more by friends than by parents (Millen & Roll, 1977; Kon & Losenkov, 1978). There is no any similar research in an older population but Wright and Keple (1981) hint that the situation does not tend to change with age. The experience of being understood by a couple is characterized by the facet "focus of feeling" (inter or intrapersonal feelings). It can be assumed that since this is the most intimate of all three situations, it will be mainly interpersonal.

It seems that interpersonal understanding or empathy is important not only in the therapeutic or counseling process (Szalita, 1976; Rogers, 1968) but also in some of the closest interpersonal relationships of everyday life.

## THE EXPERIENCE OF BEING UNDERSTOOD

The main assumption that initiated this study was that "empathy" research has not yet produced clear-cut definitions of two of the main feelings: 1) understanding the other and 2) being understood. The present research dealt with being understood. It has shown that being understood by another is a complicated and multidimensional feeling. Since interpersonal understanding is composed of both understanding and being understood, future research should also analyze the feeling of understanding, trying to find the common elements of the two moments of understanding, thus enriching in a most significant way the understanding of interpersonal understanding.

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