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ABSTRACT This guide provides research workers with a means of identifying certain self-report temperament factors in factor analytic studies. It is intended to promote interpretation and comparison of one factor study with another. The body of the guide is organized in 28 sections, one for each factor, followed by the reference section and an appendix listing the published instruments containing recommended marker scales. At the top of each section the factor name, its symbol, and the descriptions of its subfactors or item categories are given, usually stated in bipolar terms. The literature supporting the factor is discussed, as are the results of the authors' studies attempting to confirm the factor. Where the newly constructed marker scales succeeded in marking the given factor, the individual items are presented. Where published scales are judged appropriate as markers for the factor, the names of the scales and the inventories containing them are given. (Author/CTM)

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GUIDE TO
FACTOR-REFERENCED
TEMPERAMENT SCALES
1978

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Office of Naval Research Contract N00014-71-C-0017
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December 1978

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Finally, we would like to pay special tribute to the late Harry H. Harman for his support and leadership throughout the project. Harry died on June 8, 1976 while the Guide was in preparation. We miss his counsel and advice.

Diran Dermen
John W. French

INTRODUCTION

The purpose of this Guide to Factor-Referenced Temperament Scales is to provide research workers with a means of identifying certain self-report temperament factors in factor analytic studies. It is intended that the information supplied and, where available, the marker scales provided or referenced will promote interpretation and comparison of one factor study with another. Except for the replication of studies within a given laboratory, it has usually been necessary to cross-identify the factors in two studies by psychological interpretation alone, often without any measures common to the two studies. The process of identification of comparable factors across studies can be facilitated by including marker scales for factors that are expected to appear or for factors that one wants to isolate from other domains of interest.

There are several techniques for making objective comparisons between a factor found in one analysis and that found in another (Harman, 1976), but all methods of this kind require either a set of tests or a group of subjects that are common to the two studies. Use of marker scales such as those suggested in the Guide will provide researchers with sets of common measures and, at the same time, demonstrate linkages to the findings in many different laboratories.

While the recommended marker scales are intended to clarify factorial descriptions, over-dependence on them would be unwise. As has already been mentioned, very few of the past studies compared herein employed common marker scales, thus categorization of the scales was usually based on psychological interpretation. As further empirical studies are conducted, more certainty will be gained as to the adequacy of the identification and composition of these markers. It is certainly not our intent to inhibit an investigator who might be led by inspiration, hunch, or just plain good judgment to use alternative measures that could produce creative results or make for clearer distinctions among factors and more precise definitions of them.

Research Basis for the Guide

The research work that provides the underpinnings for the Guide was conducted over a five year period under the sponsorship of the Office of Naval Research. An overall summary of the study and the parallel effort in the cognitive area are presented in the Final Report by Harman. The Final Report and the other research reports in the two areas are presented in the following technical reports which can be obtained in microfiche or hard copy through the ERIC Document Reproduction Service, Computer Microfilm International Corporation, P. O. Box 190, Arlington, Virginia 22210 (those ordering copies must include the ED number; orders will not be accepted by title alone):

French, J. W. Toward the establishment of noncognitive factors through literature search and interpretation. Technical Report 1, 1973, ETS PR-73-29, (45 pp), ED 080 579.

- Ekstrom, R. B. Cognitive factors: Some recent literature. Technical Report 2, 1973, ETS PR-73-30, (99 pp), ED 080 596.
- Harman, H. H. (Editor) Proceedings: Toward the development of more comprehensive sets of personality measures. Technical Report 3, 1973, ETS RM-73-29, (97 pp), ED 086 738.
- Carroll, J. B. Psychometric tests as cognitive tasks: A new "structure of intellect." Technical Report 4, 1974, ETS RB-74-16, (66 pp), ED 095 215.
- Ekstrom, R. B. Problems of replication of seven divergent production factors. Technical Report 5, 1974, ETS PR-74-14, (66 pp), ED 096 321.
- Dermen, D., French, J. W., & Harman, H. H. Verification of self-report temperament factors. Technical Report 6, 1974, ETS PR-74-21, (31 pp), ED 104 912.
- French, J. W. & Dermen, D. Seeking markers for temperament factors among positive and negative poles of temperament scales. Technical Report 7, 1974, ETS PR-74-22, (22 pp), ED 104 909.
- Ekstrom, R. B., French, J. W., & Harman, H. H. An attempt to confirm five recently identified cognitive factors. Technical Report 8, 1975, ETS PR-75-17, (82 pp), ED 113 386.
- Harman, H. H. Final report of research on assessing human abilities. Final Report, 1975, ETS PR-75-70, (20 pp), ED 113 388. Also available without charge from Office of Research Administration, Educational Testing Service, Princeton, N. J. 08541.

This Guide and its companion, the Kit of Factor-Referenced Cognitive Tests (Ekstrom, French, & Harman, 1976), are the culmination of the two efforts.

Development of the Guide

This Guide is based on French's (1973) review of the literature and our tryouts of specially constructed scales written to fit the hypotheses of that review.

Summary of the literature: French's 1953 monograph entitled, The Description of Personality Measurements in Terms of Rotated Factors (French, 1953), the 1973 review, and a few additional reports that surfaced before the final writing constitute the literature basis of the present report. Many more articles were reviewed than are referenced, the actual summary being based on only those studies using normal subjects, mostly adults. Most were based on self-report questionnaire responses although some behavior rating studies are included. For the most part the review is limited to primary factors, although, as will be abundantly clear, one analyst's primaries may be another's secondaries. The assignment and matching of scales and factors was primarily subjective, the judgment of the authors. There were relatively few analyses including

several scales from different inventories and most of these included too few markers to permit adequate definition of primary factors. A factor was accepted as "established" if we could identify it in at least three studies at least two of which were from different laboratories (a limitation that precluded the inclusion of some of Cattell's and Comrey's scales). Little attempt was made to weigh the adequacy of the analytic techniques employed since, in many instances, insufficient information was supplied and results appear to be more a function of the adequacy of the markers and the composition of the battery than of the particular analytic technique.

Confirmation studies (Dermen, French, & Harman, 1974; French & Dermen, 1974): In the literature review, each factor was described in terms of discernable, relatively homogeneous components judged to reflect distinguishable aspects of the trait. Items (either 12 or 16) were written to assess those components or categories (we sometimes used the term "subfactor"). Each component had been defined bipolarly and items were written separately for each pole. The scales were item analyzed with data on the responses of 400 naval recruits. Reliabilities of the refined scales were assessed with a separate recruit sample. Factor analyses (minres, direct oblimin) were carried out on the correlation matrix for the entire naval recruit sample employing the revised keys. A second factor analysis was carried out with the responses of a sample of students at the University of Oregon. Of 28 putative factors defined in the literature review, ten were confirmed and one newly defined in the analyses of bipolar scales (see discussions for the Individualism and Self-sufficiency factors).

As mentioned above, the various subfactors had been defined in bipolar terms even though, in some instances, only one pole had been reasonably well defined in the literature. In those instances an educated guess was needed in order to approach the nature of the ill-defined pole. We felt that our limited success in replicating established factors in the initial two analyses might have been due to error introduced by summing across the two poles. To explore this possibility and to allow maximum opportunity to confirm the literature findings, factor analyses were performed on two portions of the total matrix, this time using separate scores for each pole. These analyses permitted the confirmation of seven additional factors, bringing the total to 17 of the 28 we had considered to be established by the literature. ETS marker scales are provided for 18 factors; published non-ETS scales are recommended for a partially overlapping set of 24 factors. Table One provides a list of the 28 factors described in this Guide, indicating which ones were confirmed using our own scales, and for which ones we are able to recommend published marker scales.

Organization of the Guide

The body of the Guide is organized in 28 sections, one for each factor, followed by the reference section and an appendix listing the published instruments containing recommended marker scales. Each of the 28 sections gives the following information:

Table One

Factors in the Guide

<u>Abbreviation & Factor Name</u>	<u>ETS Marker Scales</u>	<u>Recommended Published Marker Scales</u>
Ac - General Activity	Yes	Yes
Ag - Agreeableness	No	Yes
Al - Alertness	No	No
Au - Autistic Tendency	No	Yes
Ca - Calmness	Yes	Yes
Co - Concentration	No	No
De - Dependability	Yes	Yes
Do - Dominance	No	Yes
Em - Emotional Maturity	Yes	No
Es - Emotional Stability	No	Yes
Gs - Gregariousness	Yes	Yes
In - Individualism	Yes	Yes
Me - Meticulousness	Yes	Yes
Mo - Morality	No	Yes
Na - Need for Achievement	No	Yes
Ob - Objectivity	Yes	Yes
Om - Open-Mindedness	Yes	No
Pe - Persistence	Yes	Yes
Po - Poise	Yes	Yes
Rt - Restraint	No	Yes
Sc - Self-Confidence	Yes	Yes
Se - Sensitive Attitude	Yes	Yes
So - Sociability	Yes	Yes
Ss - Self-Sufficiency	Yes	Yes
Su - Surgency	Yes	Yes
Th - Thoughtfulness	Yes	Yes
To - Tolerance	Yes	Yes
Wb - Well-Being	No	Yes

1.1

1. Factor name and symbol. At the top of each section is given the factor name, its symbol, and the descriptions of its subfactors or item categories, usually stated in bipolar terms. Only those categories are given that are substantiated in the literature, modified to some extent by our experiences in the confirmation studies. In some instances, where one pole of the original bipolar description failed to be confirmed, only a unipolar description is given. Such occurrences are then discussed in either the Literature Evidence or Confirmation part of the section.

2. Literature Evidence. The literature supporting the factor is discussed in detail. Discussion refers back to the item categories or subfactors, indicating which components of the factor appeared in which studies and which, if any, were dropped and why.

3. Confirmation. The results of our studies attempting to confirm the factor are discussed.

4. ETS Marker Scales. Where the newly constructed marker scales succeeded in marking the given factor, the individual items are presented. Items are presented separately by subfactor, keyed in terms of the factor itself. Where the subfactor or item category is bipolar, the two poles are separated by a line ---. Where available, coefficient alpha reliability estimates are given. For information on the use of the marker scales see the Use of Marker Scales paragraph below.

5. Published Marker Scales. Where published (non-ETS) scales were judged appropriate as markers for the factor, the names of the scales and the inventories containing them are given. A list of the published inventories that include recommended marker scales is given in the appendix. Also included in the list of published instruments are the addresses of the publishers of the various inventories.

Use of Marker Scales

Permission is granted to use the ETS marker scales contained herein for research purposes. One of the following statements must appear on the cover of the test booklet containing the ETS items:

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Application of the ETS marker scales to counseling, selection or any decisions regarding individuals would be inappropriate and permission is not extended to such use. In return for royalty-free copying of the items in the Guide, research workers are requested to send copies of the reports of their investigations to the Office of Research Administration, Educational Testing Service, Princeton, New Jersey 08541. It is stressed that these are relatively unrefined, tentative marker scales and that validity evidence is limited to the two confirmation studies (Dermen et al., 1974; French & Dermen, 1974).

Since we cannot give permission to administer non-ETS marker scales, those seeking information on use of the publisher's scales should write to the respective publishers. Our impression is that publishers will usually require that an entire inventory, not just selected scales, be administered.

Factor Ac: General Activity

- Ac1. Moves rapidly, quick in physical performance vs. slow
- Ac2. Busy, active in projects or nonsocial affairs vs. uninvolved, feels overburdened
- Ac3. Vigorous, healthy vs. tired, lacks energy

Literature Evidence

This was recognized as factor "G" in the Guilford-Martin Inventory of Factors GAMIN and in the Guilford-Zimmerman Temperament Survey (GZTS). These inventories cover all three of the above item categories. Guilford and Zimmerman (1956) found a factor called General Activity that included all of the presently listed categories as well as the concept of impulsiveness. Comrey, Jamison and King (1968), using Factored Homogeneous Item Dimensions (FHIDs) derived from the GZTS, found a single factor that combined quickness (category Ac1), and achievement or energy (categories Ac2 and Ac3). Jernigan and Demaree (1971), also using items in the GZTS, demonstrated the separation of this factor from the concept of accomplishing things. They had one factor called General Activity that included items related to moving rapidly or slowly, and a separate factor, Industriousness, that contained items pertaining to being busy or energetic, or to accomplishing things. The Industriousness factor seems more like our Need for Achievement. The word "energy," as used in some items, is difficult to interpret, because it is often not clear whether it refers to pure physical vigor as in our factor Ac or whether it results from a motivation to achieve. Sciortino (1969a) called one factor Quickness. It contained only items related to rapidity of movement, while in the same analysis he called another factor Energy, which was defined from adjectives such as: energetic, dynamic, active, and vigorous. These seem to refer to characteristics like those in categories Ac1 and Ac2, but since the study involved the interpretation of adjectives, the subjects may have thought of them in connection with a motivation to achieve. Baldwin (1961) found a factor called General Activity, but in the dissertation abstract the content was not specified. Sells, Demaree, and Will (1970; 1971) obtained this factor primarily from Guilford's items.

Confirmation

A General Activity factor appears in a 25-factor analysis of the data from our College sample. It is formed from two of the scales intended as markers for the factor (categories Ac1 and Ac2) and a scale (category Ac3) that had been intended to help mark an emotional stability factor. The scale originally intended to be the third General Activity marker, "Accomplishes things rapidly vs. indolent, unmotivated," was selected on the basis of our interpretation of some of Guilford's items but failed to appear with any considerable weight on the Ac factor.

Perhaps that scale reflects motivation more than activity level. At any rate, the "vigorous" concept seems more consistent with the bulk of the literature.

ETS Marker Scales

Bipolar scales are provided for categories Ac1, Ac2, and Ac3. For 514 Naval recruits the coefficient alpha reliabilities are: Ac1, .59; Ac2, .55; and Ac3, .76.

Ac1. Moves rapidly, quick in physical performance vs. slow

1. I feel I have less pep than most of my friends. (F)
2. Even if I am late, I find it difficult to hurry. (F)
3. I move more quickly than most people of my age and sex. (T)
4. When going from one place to another, I frequently jog or run instead of walk. (T)
5. In dressing, walking, or eating, I finish later than most people. (F)
6. It is rare for me to finish eating a meal before others do. (F)
7. People think of me as being full of energy and vigor. (T)
8. When I am walking with a group of people, they frequently have to ask me to slow down. (T)
-
9. Whatever I do, I do very slowly. (F)
10. I find it difficult to slow down even when there's no hurry. (T)
11. I usually do things slowly. (F)
12. I guess I just don't know how to slow myself down to a comfortable speed. (T)

Ac2. Busy, active in projects or nonsocial affairs vs. uninvolved, feels overburdened

1. I am not one of those persons who is always finding new and more things to do. (F)
2. I like having lots of different projects to work on. (T)
3. I tend to get involved in a whole variety of things at the same time. (T)
4. I get irritated with people who always seem to be hurrying off to one project or another. (F)
5. I limit my involvement in projects to only a few. (F)
6. People think of me as one who is always busy with study, work, or exercise. (T)
7. When there's a project going on, I can't keep my fingers out of it. (T)

-
8. I like having one job at a time, so that I can enjoy what I'm doing. (F)
 9. I find it difficult to handle more than one thing at a time. (F)
 10. No matter how busy I am, I rarely feel I have more than I can handle. (T)
 11. I believe in limiting myself to the things I am sure I can handle. (F)
 12. Projects that others find exciting often leave me cold. (F)
 13. When I have plenty of work to do, I just never seem to get tired. (T)
 14. I can't understand how people can stay "uninvolved" in things going on around them. (T)

Ac3. Vigorous, healthy vs. tired, lacks energy

1. I don't have any energy to spare. (F)
2. I have been lucky about my health. (T)

3. I usually wake up in the morning refreshed and ready to face the world. (T)
4. It is annoying the way illness will block some of the things I want to do. (F)
5. I have been sick too much of the time. (F)
6. I rarely, if ever, get sick. (T)

7. Quite often I just don't have the energy to do what I want to do. (F)
8. No matter how much rest I get, it never seems to be enough. (F)
9. Unless I am actually ill, I almost never feel run down. (T)
10. Almost always I have enough energy to do my work. (T)
11. I seem to get tired more quickly than most people. (F)
12. Sometimes I seem to just "run out of steam" and lose my energy. (F)
13. Before an important day, I can usually sleep well, and then I am ready to go. (T)
14. Even if I'm exhausted from hard work, a brief rest is all it takes to restore my energy. (T)

Published Marker Scales

"General Activity, G" in the Guilford-Martin Inventory of Factors GMIN or in the Guilford-Zimmerman Temperament Survey--Guilford & Zimmerman (1956), Jernigan & Demaree (1971).

FHIDs in the Comrey Personality Scales named "Exercise" (mainly category Ac3), "Energy" (category Ac3), "Liking for Work" (category Ac2), and "Stamina" (category Ac3), or the full scale "Activity vs. Lack of Energy" (categories Ac2 and Ac3)--Comrey et al. (1968).

Factor Ag: Agreeableness

- Ag1. Cooperative, supportive, forgiving vs. irritated by people, vengeful
- Ag2. Adaptable, tends to agree, submissive vs. negativistic, domineering
- Ag3. Trustful, confides in people vs. suspicious, keeps distance
- Ag4. Friendly, likeable, outgoing vs. aloof, unpleasant, withdrawn

Literature Evidence

A factor embodying the four item categories above appeared in Cattell's early studies (studies CaA, CaB, and CaC) reviewed in French (1953), where the factor was called Cyclothymia vs. Schizothymia. The same factor in the 16 P. F. Questionnaire, scale A (Outgoing vs. Reserved) seems to be related to liking to associate with other people in personal or business connections, and covers item categories Ag1, Ag2, and Ag3, above. Cattell and Delhees (1973) successfully replicated factor A. Becker (1961) found that Cattell's scale A formed a factor with Cattell's Q2 (Group-Dependent vs. Self-Sufficient). The resulting factor was called Dependence vs. Independence; it is probably a second-order factor. Sells (1970; 1971) found that Cattell's A and Guilford's M, Masculinity merged to form a factor labeled Cyclothymia vs. Schizothymia. This factor consisted mainly of vocational preference items. Guilford's Factor Ag, Agreeableness, in the Guilford Martin Personnel Inventory is difficult to compare with our Ag because the items are stated in negative terms. Agreeableness in Guilford and Zimmerman (1956) seems to be limited mostly to category Ag2 with some flavor of Ag3 and Ag4, but according to Becker (1961) it is not closely associated with Cattell's A. Borgatta's (1964) factor called Likeability loads items in categories Ag1 and Ag4. Comrey and Soufi's (1961) factor called Friendliness is like category Ag4. Farber's (1962) factor, Cooperativeness, is mainly category Ag1. Agreeableness in Norman (1963) has elements of Ag1, Ag2, and Ag3. Sciortino's (1969a) factor called Attentiveness seems to associate category Ag1 with some other desirable traits. Edwards, Abbott and Klockars (1972) have a factor loading the Edwards Personal Preference Schedule (EPPS) Aggression and Defendance scales that seems to represent categories Ag2 and Ag3.

Confirmation

Our factorial study (Dermen, French, & Harman, 1974; French & Dermen, 1974) which included scales for the four item categories above and a fifth one, called "Interested in people's welfare, helpful vs. prefers making lone intellectual contributions," found no factor determined by any combination of these item categories. Considering all the evidence (see also our discussion for factor Se), we deleted the fifth category.

ETS Marker Scales

None

Published Marker Scale

"Cyclothymia vs. Schizothymia, A," in the 16 P. F. Questionnaire--
Cattell & Delhees (1973).

!

Factor A1: Alertness

All. Alertness to immediate surroundings, attentive vs. unaware, engrossed, deep in thought, absentminded

Literature Evidence

Cattell (1957b) reviews the history of this factor for his items; he calls it Alert Extravert Interests (Q8). It appeared in analyses GuB and RTC (two rotations of the same data) described in French (1953). A similar factor, called Alertness vs. Inattentiveness, was found by Comrey and Soufi (1961).

Confirmation

This factor, to be distinguished from concentration or attentiveness to work, is minimally qualified as an "established" factor and has shown so little variety in the items with high loadings on it that we were able to develop only one scale of items to represent it. In our analysis of college students (Dermen, et al., 1974), this one scale gave rise to a specific factor, which attracted General Activity, category Acl, with a moderate loading.

Marker Scales

We cannot suggest scales for this factor and can do nothing more than acknowledge its presence in the few investigations above.

Factor Au: Autistic Tendency

Au1. Daydreams vs. has practical thoughts

Au2. Bothered by daydreams or autistic thinking vs. enjoys those things

Literature Evidence

Most of the early studies reviewed in French's monograph (1953) seem to associate autistic tendencies with anxiety and loneliness. Whether or not these are necessary associations, autistic tendencies factors have appeared both in the early and recent literature. In a study using subjects most of whom were mental patients, Crumpton, Cantor, and Batiste (1960) isolated a factor described as "Active and Disturbing Fantasy Life" that seems to correspond to category Au2 above. Adcock and Adcock (1967), in a factor labelled Vacillation, associate daydreaming with neurotic tendencies. Singer and Antrobus (1963), analyzing scales from a daydreaming questionnaire along with a battery of other measures (that included interview data, measures of fluency and divergent thinking, scales concerned with curiosity and attention, and several personality scales), found several factors of autistic thinking. Of the factors pertinent to this discussion, the two largest were labelled General Daydreaming (probably the positive pole of Au1) and Neurotic Self-conscious Daydreaming. The second of those two factors was marked by, in addition to daydreaming items, several neuroticism or second-order anxiety scales. It probably corresponds to our marker scale Ca2 appearing under Calmness vs. Anxiety. Several additional more specific autistic factors also appeared. In a more recent study, Singer and Antrobus (1972) find three factors loaded heavily by daydreaming scales: The first, called Neuroticism-anxious absorption in daydreaming, is, again, probably similar to our Calmness category Ca2. The other two factors are labeled Guilty-Obsessional Emotional Daydreaming and Positive-Vivid Daydreaming.

Confirmation

Originally three scales were written as markers intended for this factor. In our analysis of the data from our Navy sample, the scale for Au1 appeared on a broad factor probably reflecting General Anxiety. The items we had written to measure category Au2 failed at the item-analysis level and so were not included in the factor analyses. A third category of items, "anxiety leading to autistic thinking vs. adjusted, realistic thoughts," turned out to be a good marker for our Calmness factor (category Ca2). Thus our own analyses fail to confirm the factor but do confirm the association of at least some aspects of daydreaming with anxiety or neuroticism.

ETS Marker Scales

None

Published Marker Scales

The following suggested marker scales appear in the Singer and Antrobus Imaginal Processes Inventory.

Scales related to Guilty-Obsessional Emotional Daydreaming: "Guilt Daydreams," "Fear of Failure Daydreams," "Hostile Daydreams," and "Achievement-Oriented Daydreams" in the Imaginal Processes Inventory-- Singer & Antrobus (1972).

Scales related to Positive-Vivid Daydreaming: "Visual Imagery in Daydreams," "Absorption in Daydreaming," "Auditory Images in Daydreams," "Acceptance of Daydreaming," and "Positive Reactions in Daydreaming" in the Imaginal Processes Inventory--Singer & Antrobus (1972).

Factor Ca: Calmness vs. Anxiety

- Ca1. Relaxed, stable, at ease vs. anxious, worried (about self), edgy, uneasy
- Ca2. Relaxed, adjusted, realistic thoughts vs. anxiety and worry that leads to autistic thinking
- Ca3. Physically relaxed vs. fidgets, has nervous habits, twitches, makes restless movements

Literature Evidence

It is important to distinguish between the present, relatively specific primary factor of anxiety and the broader second-order factor of the same name, of which the present factor is a component (Karson & Pool, 1958; Mitchell, 1963; and others). Anxiety, first- or second-order, is also confused by associations with symptoms of neuroticism and by Eysenck's giving of the name Neuroticism to a very broad, perhaps second-order, factor that subsumes many aspects of anxiety (Cattell, 1957a).

A few early studies had primary factors of "anxiety" (French, 1953) but all used data from mental patients so it was not clear whether the results could be generalized to normal subjects. The 16 P. F. manual lists the present primary factor as Ergic Tension or Relaxed vs. Nervous, Q4. The Q4 scales contain items like those of Ca1, Ca2, and Ca3, and additional items concerned with deliberateness and confidence. Cattell and Delhees (1973) confirmed Q4 as well as other factors measured by the 16 P. F. Comrey (1958c, 1958f), using samples comprised of both normals and mental patients, found a factor he labeled "worry" with items in category Ca1. Crumpton et al. (1960), also using a sample more than half of whom were mental patients, obtained a factor involving anxiety, worry, rumination (Ca1 and Ca2) plus feelings of personal inadequacy and the tendency to give up easily. Aside from the Cattell work already noted, several additional factor analytic studies have isolated the Calmness factor using normal subjects. Khan's (1970) "Tension Anxiety" seems to be limited to category Ca1. Factors having category Ca1 with implied relationships to Ca2 and Ca3 appeared as Parker and Veldman's (1969) "Internal Discomfort," Veldman and Parker's (1970) "Neurotic Anxiety," and Mitchell's (1962) "Freedom from Anxiety." The last includes the concept of fearfulness, which did not associate itself with this factor in our studies. Some other analyses have items from all or most of the above categories on an anxiety factor but include additional concepts. O'Connor, Lorr, and Stafford (1956) and Bendig (1961) include self-consciousness and fears. Butt (1970) includes some paranoid attitudes. Howarth and Browne (1972) have a factor called "Adjustment Emotionality," that includes categories Ca1 and Ca3 and some lower loadings on items related to inferiority and self-confidence.

Confirmation

In our original literature survey (French, 1973), instead of Ca2 and Ca3 above, we proposed item categories concerned with deliberateness vs. overreacting and with confidence in the world vs. fears. These two have no consistent loadings in our analyses, and they have very minimal confirmation by other "anxiety" factors in the literature. Category Ca2, as it presently appears, was originally proposed for the factor Autistic Tendency. Category Ca3 was originally proposed for Relaxed vs. Nervous. Our studies fail to reveal a factor like Autistic Tendency or Relaxed vs. Nervous, but they do show the above three concepts, at least as they are depicted by our item pool, to be good markers for what appears to be Calmness vs. Anxiety.

ETS Marker Scales

Bipolar scales are provided for categories Cal, Ca2, and Ca3. Coefficient alpha reliabilities are (for 461, 435, and 512 Naval recruits, respectively): Cal, .77; Ca2, .69; and Ca3, .70.

Cal. Relaxed, stable, at ease vs. anxious, worried (about self), edgy, uneasy

1. Much of the time I am not able to relax. (F)
2. Almost always I feel at ease. (T)
3. Most people would describe me as a relaxed person. (T)
4. I have difficulty falling asleep. (F)
5. Even my sleep is often not relaxed. (F)
6. I usually feel that all is well, and so I can relax. (T)
7. I feel at ease in most situations. (T)
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8. I often feel restless without any reason. (F)
9. I feel tense much of the time. (F)
10. I almost never feel nervous or tense. (T)
11. I am rarely so tense that I can't sleep. (T)

12. My nerves are so on edge that startling or peculiar noises leave me feeling shaky. (F)
13. I am sometimes so upset at bedtime that I have to take something to help me relax. (F)
14. I hardly ever feel restless and fidgety. (T)

Ca2. Relaxed, adjusted, realistic thoughts vs. anxiety and worry that leads to autistic thinking

1. I tend to be relaxed enough so that I can put all thoughts out of my mind. (T)
 2. If I'm worried about something, I can usually solve the problem in my mind and stop worrying about it. (T)
 3. Once I've started worrying about something it seems to influence my whole day. (F)
 4. I can face up to my present problems without yearning for a new kind of life. (T)
 5. I envy a person who can relax and clear his mind for constructive thinking. (F)
 6. There are thoughts that stay with me and make my days unpleasant. (F)
-
7. I fail to understand why some people always worry about things that might go wrong. (T)
 8. I never have vague, indefinite feelings of fear. (T)
 9. For no reason I sometimes have worries that start me thinking about fearsome things. (F)
 10. Sometimes my problems are so great that I have to daydream of better times. (F)
 11. I usually can face my worries rather than think and do nothing about them. (T)
 12. When I'm worried about a problem, I concentrate on thinking of realistic solutions. (T)

13. I get so tense that I often keep thinking about bad things that might happen. (F)
14. There are things in my life that bother me to the point that I retreat into thoughts of happier days. (F)

Ca3. Physically relaxed vs. fidgets, has nervous habits, twitches, makes restless movements

1. Even when I have nothing to do, I am unable to relax physically. (F)
 2. I am often physically tense. (F)
 3. I am able to relax my body very easily and completely. (T)
 4. I am slow to go to sleep at night and almost never sleep in the daytime. (F)
 5. I hardly ever feel relaxed physically. (F)
 6. I can lie still or sleep almost any time. (T)
 7. I can sit still for long periods of time without getting restless. (T)
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8. Often I catch myself tapping on something or fidgeting. (F)
 9. I often pace up and down for no apparent reason. (F)
 10. I am generally free from nervous habits. (T)
 11. Even when I am under great pressure, I do not get physically restless. (T)
 12. I often pick or bite my fingernails. (F)
 13. I am able to sit still for a prolonged period. (T)
 14. People have commented on my apparent calm. (T)

Published Marker Scales

Taylor's "Manifest Anxiety Scale"--Bendig (1961). The items of the Manifest Anxiety scale are taken from the MMPI and can be found in Taylor, J. A. A personality scale of manifest anxiety. Journal of Abnormal and Social Psychology, 1953, 48, 285-290. They are also enumerated (as scale At) in Dahlstrom, W. G.; Welsh, G. S., & Dahlstrom, L. E. An MMPI Handbook, Volume II, Minneapolis: University of Minnesota Press, 1975.

"Overt Anxiety" from the IPAT Anxiety Scale--Bendig (1961).

"Relaxed vs. Tense, Q4" in the 16 P. F. Questionnaire--Cattell & Delhees (1973).

Factor Co: Concentration

Col. Concentration on study or reading, restraint leading to maintenance of attention vs. mind wanders, bored, forgets names.

Literature Evidence

This factor, labeled "poor concentration," has appeared in numerous studies by Comrey and his associates (Comrey, 1958c, 1958e, 1961; Comrey & Margraff, 1958; Comrey & Soufi, 1960). Singer and Antrobus (1963) associated it with daydreaming, boredom, and lack of restraint. Their analysis linked it to neurotic tendencies and used for it the name "Psychasthenia: poorly controlled thought or mind wandering." Khan's (1970) factor in this area was called "Hysteria with physiological reactions." His highest loadings were on concentration on single ideas or tasks, while other high loadings for the same factor were on "feeling no good" and "hand shaking" (tremor). In all of these analyses the interest was centered on the negative qualities of the factor.

Confirmation

We thought that the single scale described above might form a factor with one or two scales intended for other factors, or that it might contribute to the Persistence or Restraint factors. The marker intended for Concentration was found to have little association with any of the factors in the analysis of our college data, while it did have some loading with the neurotic variables in the analysis of our Navy data.

Marker Scales

We cannot provide markers for this factor nor can we suggest published marker scales.

Factor De: Dependability

- De1. Conscientious, scrupulous vs. careless about doing what is right
- De2. Dependable, punctual, keeps promises vs. careless about promises and details
- De3. Self-sentiment control, control of own feelings vs. actions and thoughts are swayed by emotions

Literature Evidence

A factor described by categories De1 and De2 appeared rather clearly in five studies described in French's (1953) monograph and also in Mitchell (1962), Norman (1963), and Borgatta (1964). It was called "Dependability," "Responsibility," or "Conscientiousness" and seems to deserve any or all of these names. Edwards and Abbott (1973) have a factor loading two scales of the Edwards Personality Inventory: "Avoids facing problems" and "Absent-minded." These seem close to the concept of irresponsibility depicted by this factor, although the items in the scales are not obviously similar. Category De3 was included as a category for this factor because it was thought that Cattell's Q3, "Self-sentiment control" or "Controlled vs. Undisciplined self-conflict" might be our De.

Confirmation

The bipolar scales for De1, De2, and De3 failed to form a factor in our analyses. The separate positive and negative poles of De1 and De2, along with several other scales, formed a Dependability-Meticulousness-Persistence factor in a 6-factor analysis of unipolar scales reported in French and Dermen (1974). In the 10-factor rotation in that same report, a good Dependability factor did emerge with high loadings on the positive pole of De1 and the two poles of De2. Although the multiple analyses may have capitalized on chance, the resulting three concepts that finally came together (De1+, De2+, De2-) look meaningfully related. As was mentioned earlier, category De3 was included to reflect Cattell's Q3 but it did not appear on a Dependability factor. An additional scale we wrote concerned with liking rules and plans rather than freedom and change had seemed to represent a part of Dependability in the literature but was deleted from our analyses because it lacked internal consistency. The category was not listed above because, on further study, it appears that our failure to write consistent items was merely a reflection of this category's very spotty presence in the literature.

ETS Marker Scales

Six-item unipolar scales are provided for the positive pole of category De1 and for each pole of category De2.

Del+. Conscientious, scrupulous

1. People who are prim and strict do not usually get along well with me. (F)
2. No matter how important I consider a task, I usually leave out one or two steps in it. (F)
3. Regardless of difficulties, I struggle very hard to complete the full requirements of a job. (T)
4. When I am given a job to do, I am very careful to do it exactly right. (T)
5. Sticking to morals and scruples all the time would make life pretty dull. (F)
6. I make a real point of telling the truth and sticking close to what is right. (T)

De2+. Dependable, punctual, keeps promises

1. Some changing conditions will excuse one from carrying out a promise. (F)
2. Occasionally I must break a promise I have made. (F)
3. I make a point of carrying out every detail of a job. (T)
4. People know they can depend on me to meet whatever commitments I have made. (T)
5. A high degree of reliability and dependability could make life very dull. (F)
6. I hate to be late for an appointment. (T)

De2-. Careless about promises and details (reversed)

1. I tend to get bored trying to keep track of every tiny detail of a job. (F)
2. Too often I find myself making promises and commitments that I know I won't be able to keep. (F)
3. I try very hard not to be careless about details. (T)
4. I am careful about small details. (T)

5. From time to time I forget to return something I have borrowed. (F)
6. I dislike people who seem indifferent to keeping promises. (T)

Published Marker Scales

As noted above, we have no certain evidence that the factor measured by these two scales is the same as the one we have identified as Dependability.

"Avoids facing problems" & "Absent-minded" in the Edwards Personality Inventory--Edwards & Abbott (1973).

Factor Do: Dominance

- Do1. Takes charge socially, wants power vs. submissive, willing to serve
- Do2. Egoistic, pushes own ideas vs. respects others' ideas, self-effacing
- Do3. Rights-conscious, complaining vs. tolerant

Literature Evidence

This factor is Cattell's E, "Dominance vs. Submissiveness" or "Assertive vs. Humble." All three of the above item categories are well represented in Cattell's E (Cattell, 1957b). Guilford and Zimmerman (1956) cover all three categories in their factor A, "Ascendance." Comrey et al. (1968) also cover elements of all three categories in their factor number 11, although some items in these three categories can also be found on some of their other factors. Comrey and Soufi (1961) have a factor called "Ascendance vs. Timidity" that represents mainly category Do3. The following stress Do1 and Do2: Borgatta (1964); Crumpton et al. (1960), which gives it a rebellious or competitive slant; Cattell and Gibbons (1968); and Sciortino (1967). Comrey and Duffy's (1968) factor called "Submission" loads scales for Cattell's factors E and H as well as individual items corresponding to our first two categories; this gives their factor an almost second-order character. Similarly, Becker (1961) showed that Cattell's H correlated even more than did his E with Guilford's Ascendance A. It is not easy to distinguish the item categories of this factor because some other temperamental qualities, such as self-confidence, can contribute to any of the three. It seems reasonable to say that Do2 and Do3 can be seen in Comrey's (1964) "Dominance" and in Howarth and Browne's (1971) "Shyness," while Do1 and Do3 appear as separate factors ("Desire to Dominate" and "Outspoken in Defense of Rights," respectively) in Jernigan and Demaree (1971). Some difficulty in categorization is also present in the following: Jamison and Comrey's (1969) "Submission" seems to have categories Do1 and Do2, while Hallworth, Davies and Gamston (1965), Warr, Lee, and Joreskog (1969), and Pedhazur (1971) seem to have Dominance factors covering only category 2. The last two analyses (both of Rokeach's Dogmatism scale) call the factor "Self-proselytization," since all salient items concern getting wound up in one's own ideas in a discussion and failing to think about or respect the ideas of others. Edwards and Abbott (1973) and Edwards et al. (1972) have factors that load scales that are named "Dominance." Howarth and Browne (1972) have a factor named "Dominance" and Jackson and Guthrie (1968) have a factor loading self-ratings, peer ratings, and an inventory scale all named "Dominance." It is these analyses of inventory scale scores that enable us to suggest published marker scales for the factor.

Confirmation

Despite the rather large and clearly defined evidence for the factor described above, our own scales written to determine it had loadings spread over several factors, none of which was a clear Dominance factor. Items concerned with social confidence or talkativeness seem to be associated with this factor in the literature, but categories representing such items were omitted in order to decrease overlap with other factors such as Sociability, Surgency, and Well-being.

ETS Marker Scales

None

Published Marker Scales

"Ascendance, A" in the Guilford-Martin Inventory of Factors GAMIN or in the Guilford-Zimmerman Temperament Survey--Guilford & Zimmerman (1956).

"Assertive vs. Humble, E" in the 16 P. F. Questionnaire--Cattell (1957b).

"Dominance" in the Edwards Personal Preference Schedule--Edwards & Abbott (1973).

"Is a Leader" and "Assumes Responsibility" in the Edwards Personality Inventory--Edwards & Abbott (1973).

"Dominance" in the Personality Research Form--Edwards & Abbott (1973).

Factor Em: Emotional Maturity

- Em1. Patient, adjusts to frustration vs. verbally aggressive, demanding
- Em2. Modest, shuns attention, outwardly directed vs. self-centered, seeks attention, egotistical
- Em3. Satisfied, cooperates with authority vs. asserts independence from authority, stubborn
- Em4. Tolerant of physical, nonhuman or situational annoyances vs. irritated by mishaps and frustrating circumstances
- Em5. Tolerates the imperfections in things vs. feels hostility toward things that fail to work

Literature Evidence

Early analyses summarized in French's monograph (1953) represented only categories Em1 and Em2. Lingoos (1960) found a factor he called "Social Nonconformity" that strongly emphasized category Em3. It loads a subscale of the MMPI Psychopathic Deviate scale called "Authority Conflict." His factor is definitely not our Individualism, now defined in part by category Em3 above, because it also has the strong flavor of category Em1, patience vs. demanding behavior. Farber's (1962) factor called "Autonomy vs. Emotional control of self in interaction" concerns anger and loss of temper as in categories Em1 and Em4. Finney's (1961) "Oral Aggression and Delinquency" includes aspects of Em1, Em3, and Em4. Bendig and Martin's (1962) "Exhibition, Aggression, and Succorance" has strong emphasis on Em1 and some of Em2. Sells et al. (1970; 1971) have a factor called "Relaxed Composure vs. Suspicious Excitability." Its loadings are somewhat scattered, but most of its salient loadings come from Cattell's D (1957b), "Excitability vs. Emotional Maturity," a factor related to categories Em1 and Em2 and perhaps, Em4 and Em5. Trott and Morf (1972) call one of their factors "Tense, impatience, low frustration tolerance." It fits categories Em1, Em2, and Em3 rather well.

Confirmation

The first three categories are retained from our literature survey (French, 1973). The added fourth category had been originally proposed for the factor Relaxed vs. Nervous, and the fifth category had been originally proposed for Tolerance of Human Nature and Things. These two categories were added to the descriptors of Emotional Maturity because of findings in our study of college students described in Dermen et al. (1974). What we have done here is to switch onto this factor two item categories that seemed in the original survey of the literature to belong elsewhere. In this instance we are allowing the results of our own study to be added in a significant way to the numerous studies in the literature. We are doing this because we recognize that our conception of the literature in terms of our originally conceived item categories and our writing of items representing those categories

may have been in error or ambiguous. Our own studies are taken as sufficient evidence that categories Em1, Em4, and Em5 above, as written by us, are reasonable representatives of this factor. Categories Em2 and Em3 are retained here because, in spite of our own results, the literature does provide evidence that they represent a part of this factor. The final assemblage of the five categories above seems to describe rather well the concept of youthful impatience or Emotional Maturity.

ETS Marker Scales

Marker scales are provided for categories Em1, Em4, and Em5. Coefficient alpha reliabilities are (for 426, 512, and 432 Naval recruits respectively): Em1, .55; Em4, .55; Em5, .54.

Em1. Patient, adjusts to frustration vs. verbally aggressive, demanding

1. If things start going wrong I sometimes get so mad that I have to walk away from the situation. (F)
 2. When others are upset by delays, I seem able to remain patient. (T)
 3. When I get blocked in doing something because of someone's stupidity, I am unable to remain calm. (F)
 4. I have no patience when people mess up something that's important to me. (F)
 5. Frustrating situations seem to bother others more than they bother me. (T)
 6. It doesn't pay to let frustrations stop us from doing our jobs; I usually keep right on going no matter how serious the obstacle. (T)
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7. I get really angry at anything that gets in the way of something I am doing. (F)
 8. When some minor civil servant such as a license clerk makes a mistake, I'm always pleasant about it. (T)

Em4. Tolerant of physical, nonhuman, or situational annoyances vs. irritated by mishaps and frustrating circumstances

1. I am made furious by a car that won't start when I am in a hurry. (F)
2. I can usually laugh about mechanical failures and things beyond my control. (T)
3. If a window or door gets stuck, I tend to react calmly. (T)

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4. I get irritated very quickly when mechanical things go wrong. (F)
 5. Little mishaps almost never get me down the way they do a lot of people. (T)
 6. If I have to wait just a minute or two for an elevator, I feel a little like kicking the door. (F)

Em5. Tolerates the imperfections in things vs. feels hostility toward things that fail to work.

1. When something refuses to work, kick it; this may not fix the thing, but it will help you. (F)
2. It is silly for people to get angry at appliances that don't work. (T)
3. Sometimes the small imperfections in things make them more dear to me. (T)
4. When situations happen to go against you, you may as well keep cool. (T)

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5. When I am irritated, I get furious and swear or curse at something. (F)
 6. I get really angry when my car won't start; I'd almost rather sell it than fix it. (F)
 7. Sometimes I feel like picking up something and smashing it. (F)

8. I almost never have the impulse to hit or kick something that doesn't work. (T)

Published Marker Scales

No published marker scales are recommended for this factor.

Factor Es: Emotional Stability

- Es1. Emotionally stable, tolerant, stolid vs. emotionally sensitive, irritable
- Es2. Optimistic, faces problems vs. worrying, dwells on problems, escapist
- Es3. Feels healthy vs. hypochondriacal

Literature Evidence

This factor is the one most frequently associated with neurotic tendency. However, a second-order factor, which is a combination of this factor, Calmness vs. Anxiety, and others, seems to be a better match for the rather general concept of neuroticism. This factor seems, on the contrary, to be taking on more specificity in recent studies. The 16 P.F. factor C, called "Emotionally Stable vs. Affected by Feelings" or "Ego Strength," which is confirmed in Cattell and Delhees (1973), represents all three of the item categories above, as do many of the factors with this name cited in French (1953). Many of the aforementioned factors also have items on lack of energy (Factor Ac), daydreaming (Factor Au), satisfaction with life (Factor Wb), and moodiness, which is the central theme in the GZTS scale "Emotional Stability, E." This latter interpretation of Emotional Stability is clarified, however, by several analyses having both a cycloid moodiness factor and an emotionality factor (analyses La, Mo, and RTB in French 1953). For this reason we do not identify the GZTS E scale as being the same as the Es factor we are describing. Factors with names similar to Emotional Stability but limited to item category Es1 plus no more than a suggestion of Es2 are found in Comrey and Soufi (1960), Bendig (1962), Borgatta (1962), and Bendig and Martin (1963). Categories Es1 and Es2 but not Es3 are present in Adcock and Adcock's (1967) "Emotionality," and in Jernigan and Demaree's (1971) "Inuredness." Guilford and Zimmerman's (1956) "Emotionality" includes categories Es1 and Es2 plus some extraneous concepts of childishness and daydreaming. Item category Es3 is the only one in Trott and Morf's (1972) factor called "Complains about physical symptoms." Very much in the direction of broadness is Sells et al.'s (1970; 1971) factor called "Emotional Stability," which contains the scales for Guilford's "Nervousness," "Cycloid Disposition," and "Depression," and Cattell's "Guilt Proneness, O" and "Ergic Tension, Q4" as well as a few items from the latter's "Ego Strength, C." This makes it seem more like the second-order anxiety or neuroticism factor; indeed, the last three are the major contributors to Cattell's second-stratum Anxiety factor (Cattell et al., 1970).

Confirmation

Scales fitting the three categories described above and an additional category, "Life is good, life is worthwhile vs. feels frustrated, dissatisfied," which was dropped because it seemed to belong with factor Wb, failed to define an emotional stability factor (Dermen et al, 1974). In the Navy sample the intended emotional stability scales appeared on a broad Neuroticism or General Anxiety factor or on a factor interpreted as Open-mindedness. In the College sample the intended markers appeared on six different factors.

ETS Marker Scales

None

Published Marker Scales

"Hysteria" or "Hypochondriasis" scales in the Minnesota Multiphasic Personality Inventory (Both scales cover category Es3 only.)--
Analyses Co and W1 in French (1953); Trott & Morf (1972).

"Emotionally Stable vs. Affected by Feelings, C" in the 16 P.F. Questionnaire--Cattell & Delhees (1973).

Factor Gs: Gregariousness

Gs1. (reversed) Likes to be alone

Gs2. Likes working or socializing with people vs. likes work alone or isolated

Literature Evidence

There is some opportunity for confusion among the factors Gregariousness, Sociability, Poise, and Individualism, in that all four of these call for wanting to be with people or not with people. Briefly, we can distinguish these four concepts this way: Gregariousness is a liking to be around people; Sociability is a liking to interact with people; Poise denotes pleasure in showing oneself before people; and Individualism denotes pleasure in demonstrating to people one's unique actions and thoughts. The factorial distinctions among these factors are, fortunately, quite clear. Of the nine analyses listed by French (1953) that found a Gregariousness factor, three also contain the Sociability factor and five contain Individualism. Among the more recent analyses cited below, two have separate Sociability and Gregariousness factors, two have separate Gregariousness and Individualism factors, and two, the 16 P.F. and a confirmatory analysis (Cattell and Delhees, 1973), show Sociability to be separate, but they seem to put both Gregariousness and Individualism items on the scale called "Self-sufficiency vs. Group Dependent, Q2." Studies confirming the distinctions between Sociability and Poise are described below under Factor Po. As a whole the results show the four factors to be separable at the primary level. Cattell and Gibbons' (1968) Gregariousness factor is called "Disliking Activity with Others." Jernigan and Demaree (1971) have a good sociability factor called "Social Competence" plus a factor called "Liking for Social Activities," which can be interpreted as Gregariousness since it contains categories Gs1 and Gs2 above. Their factor does also have a few items that could be identified with Individualism. Edwards and Abbott (1973) and Jackson and Guthrie (1968) each have a factor stressing the PRF Play scale: fun with people or gregariousness as contrasted with social relations or skills. In the Edwards and Abbott study the factor includes the EPPS Heterosexuality scale. Howarth and Browne (1972) have factors called "Sociability I" and "Sociability II." The former has to do with social affairs and partying; the latter concerns excitement, going out, and seeing lots of people. This latter factor seems like categories Gs1 and Gs2 above.

Confirmation

Category Gs1, when combined with its opposite, had high loadings on a factor with category Gs2 in our studies of both Navy recruits and college students (Dermen et al., 1974). In order to obtain at least three markers, the positive and negative poles were scored separately, with the result that Gs1 above, and the two separate poles of Gs2 determined a factor

(French & Dermen, 1974). The positive pole of the first category above is described as "Likes to be with people physically," but in the analyses of separate poles that aspect of the first category went with the factor Sociability, and so it cannot reasonably be used to describe this factor. Another item category originally intended to mark the Gregariousness factor was called "Interest in occupations with people vs. interest in occupations isolated from people." This category was deleted since it is not strongly present in the literature, since it is perhaps an interest characteristic rather than a temperamental quality, and since our failure to write an internally consistent scale of items based on this concept throws some doubt on its clarity.

ETS Marker Scales

Eight-item unipolar scales are provided for category Gs1 and for each pole of category Gs2.

Gs1. Likes to be alone (reversed)

1. I usually enjoy spending an evening alone. (F)
2. I think best when I am by myself. (F)
3. I tend to feel lost or bored when I have nobody to see during the evening. (T)
4. I cannot be alone for any length of time. (T)
5. I enjoy being alone to relax, to meditate, or to enjoy nature. (F)
6. I am happiest when I am by myself. (F)
7. I never enjoy going on trips by myself. (T)
8. I feel much more comfortable when there are other people around me. (T)

Gs2+. Likes working or socializing with people

1. I could get along very well without parties or get-togethers. (F)
2. I am a loner at work; I mind my own business and expect others to mind theirs. (F)
3. People are more stimulating to me than anything else. (T)
4. I do my best work when I am working in a group. (T)

5. I would just as soon stay away from most social affairs. (F)
6. I dislike work situations that force people to work together. (F)
7. I usually prefer to work with others. (T)
8. I never turn down an invitation to a party. (T)

Gs2-. Likes work alone or isolated (reversed)

1. I can get so absorbed in my work that I wouldn't notice a lack of close associates. (F)
2. I am more at ease working alone than in groups. (F)
3. I dislike having to work by myself. (T)
4. I work better when I have others to try my ideas out on. (T)
5. Books tend to be more entertaining to me than companions. (F)
6. I would rather have an office to myself than share one. (F)
7. In my spare time I tend to avoid hobbies that are usually pursued by oneself. (T)
8. I couldn't stand a job for long if it kept me away from other people. (T)

Published Marker Scales

"Social" scale of the (Allport, Vernon, Lindsey) Study of Values-- Analysis Du in French (1953). Note: This is not a Sociability marker; it is described as "Interest in and love of people."

"Play" scale in the Personality Research Form--Jackson & Guthrie (1968).

"Heterosexuality" scale in the Edwards Personal Preference Schedule-- Edwards & Abbott (1973).

Factor In: Individualism

- In1. Desires to be different, individualistic, free vs. needs approval of others, conforms, accepts the social order, agrees with group, likes affiliation, complies
- In2. Has unusual ideas, unconventional, idealistic, reflective vs. has majority opinions, tends to have same feelings as others

Literature Evidence

As noted in the write-up for the Self-Sufficiency factor, the literature supports the splitting of our original Self-Sufficiency factor into two, one we are calling Individualism and the other Self-Sufficiency, meaning emotional independence. Several factors in the early literature (French, 1953) and in the literature reported here, show not only the distinction between these two factors, but also their separation from Self-Confidence, Sociability, and Gregariousness. In the 16 P. F. Questionnaire, as confirmed by Cattell and Delhees (1973), and Cattell, Eber, and Delhees (1968), there are separate factors called "Radicalism or Experimenting vs. Conservative, Q1" and "Self-Sufficient vs. Group Dependent, Q2." The former, Q1, we identify with Individualism. Comrey and Duffy's (1968) "Socialization" contains categories In1 and In2 above, while their "Dependence" looks like our Self-Sufficiency. Jamison and Comrey's (1969) "Socialization" is a clear factor with category In1 only. Category In1 also defines Howarth and Browne's (1971) "Group Affiliation" and marks Sciortino's (1970b) "Individuality" along with some items from category Ss1 of Self-Sufficiency. Categories In1 and In2 make good descriptions of Sciortino's (1970a) "Independence," although the name sounds more like Self-Sufficiency. Trott and Morf (1972) cover In1 and In2 in a factor marked by scales named "Rebelliousness" and "Autonomy." Bledsoe and Khatena (1973) have a factor called "Individuality" that stresses In1 and In2 but also has high loadings on an item concerning the preference for working by oneself rather than in a group, an item that sounds more like Self-Sufficiency. Two other analyses having both of the factors Self-Sufficiency and Individualism are also cited in the write-up for Self-Sufficiency: (1) Edwards and Abbott (1973) used the scales "Dependent," "Succorance," and "Wants Sympathy" to determine the reverse of Self-Sufficiency, and used "Independent in his Opinions," "Autonomy," and the reverse of "Conforms" and "Social Recognition" to determine Individualism; and (2) Jackson and Guthrie's (1968) study produced separate factors by using "Succorance" for Self-Sufficiency, and "Social Recognition" for Individualism.

Confirmation

Although we had initially lumped emotional Self-Sufficiency and Individualism as one factor, our analyses (Dermen et al., 1974) separated the two (see factor Ss for more discussion). We found an Individualism factor marked by three bipolar scales: categories In1 and In2, described

above, and an additional category, Em3, originally intended to mark an Emotional Maturity factor. This last category is described as "satisfied, cooperates with authority vs. asserts independence from authority, stubborn." It certainly fits the general concept of Individualism. Because the literature had not indicated the last component to be part of the factor, it is not listed as one of the categories for In.

ETS Marker Scales

This Guide contains three bipolar marker scales for Individualism described by In1 and In2, above, and by category Em3 from the factor Emotional Maturity. (The latter is retained as descriptive of the Emotional Maturity factor but is not used as a marker for that factor; a compromise between the literature and our own findings.) For 470, 470, and 426 Naval recruits, respectively, the coefficient alphas reliabilities are: In1, .50; In2, .36; and Em3, .58.

In1. Desires to be different, individualistic, free vs. needs approval of others

1. I find it difficult to do things that are out of step with the rest of the people I know. (F)
2. A feeling of freedom comes from doing things differently from most people. (T)
3. I seldom follow the dictates of fashion. (T)
4. I feel happiest when I'm in step with the rest of the world. (F)
5. My approach to many ideas and problems is individualistic. (T)
6. I don't like going along with the crowd. (T)
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7. I often conform to other people's desires or standards, because I need their approval. (F)
8. When anyone disapproves of me, I try very hard to change my behavior. (F)
9. In many ways I reject the social order that now exists. (T)
10. It is satisfying to me to conform with social rules most of the time. (F)
11. I like working with a group toward its goals. (F)
12. I think of myself as a nonconformist. (T)

In2. Has unusual ideas, unconventional, idealistic, reflective vs. has majority opinions

1. My ideas about many things seem to be quite unusual. (T)
2. I think my idealism makes me do things differently from most people. (T)
3. I seem to have thoughts that are unlike anyone else's. (T)

4. I always seem to vote for the winning candidate in any election. (F)
5. It is usually best to stick pretty closely to the opinions of the majority. (F)
6. I go along with the majority in most things. (F)

Em3. Asserts independence from authority, stubborn vs. satisfied, cooperates with authority (reversed)

1. When I am told by some authority to do something, it's a pretty safe bet that I won't do it the way he wants. (T)
2. I sometimes refuse to do something just for the sheer pleasure of refusing. (T)

3. I can almost never feel satisfied with authority as it now stands. (T)
4. I don't see much worth in our legal system; no one seems to obey laws anyway. (T)
5. I am a strict believer in following the laws whatever they may be. (F)
6. Most public officials are well-meaning people. (F)
7. On most occasions I am very ready to cooperate with the authorities. (F)
8. I find that rules usually have a good reason behind them, so I obey them. (F)

Published Marker Scales

"Experimenting vs. Conservative, Q1 " in the 16 P. F. Questionnaire--Cattell et al. (1968).

"Independent in his Opinions" and "Conforms" in the Edwards Personality Inventory--Edwards & Abbott (1973).

"Autonomy" in the Edwards Personal Preference Schedule--Edwards & Abbott (1973).

"Social Recognition" and "Autonomy" in the Personality Research Form--Edwards & Abbott (1973).

FHIDs named "Need for Approval," "Intolerance of Non-Conformity," and "Acceptance of Social Order" in the Comrey Personality Scales (category Inl only)--Jamison & Comrey (1969).

Factor Me: Meticulousness

- Me1. Meticulous, orderly, neat, careful, particular about personal effects
- Me2. Messy, careless, or impulsive (reversed)
- Me3. Conscientious, careful, exacting, tidy, orderly

Literature Evidence

Meticulousness appeared in just two analyses reviewed in French (1953), but has since appeared in five of Comrey's studies (Comrey 1964; Comrey & Duffy, 1968; Comrey & Jamison, 1966; Comrey, Jamison, and King, 1968; and Jamison & Comrey, 1969), in Hallworth et al. (1965), and in Guilford, Christensen, Frick, and Merrifield (1961). The last contributed the impulsiveness concept. Included in some of these studies are a few concepts other than those mentioned in the descriptions above. However, these broader aspects of Meticulousness are covered in the markers for other factors. For example, "Cautiousness" often received a high loading in the above cited analyses, but it resembles too closely an aspect of the factor Restraint. Also "drive to finish" received repeated high loadings in Comrey's studies, but a very similar idea is covered in the factor Persistence. Hallworth includes "considerateness," which is similar to parts of Agreeableness and Sensitive Attitude. It is noted here that Meticulousness resembles part of what Cattell and his associates identify as Super-Ego Strength, or Expedient vs. Conscientious, G, in the 16 P. F., particularly in studies using children as subjects (Cattell, 1963 and, to some extent, Cattell & Coan, 1957). Since Super-Ego Strength is also identified with Persistence (as well as Morality), this further underlines the association between Meticulousness and Persistence. In more recent literature the Meticulousness factor is a clear one in Edwards and Abbott (1973) and in Edwards et al. (1972). It is called "Social Inhibition" by Kolton and Dwarshinis (1973), called "Order vs. Compulsive Disorganization" by Trott and Morf (1972), and "Order" by Jackson and Guthrie (1968). The two studies by Edwards, and the Jackson and Guthrie study each demonstrate separate Persistence and Meticulousness factors.

Confirmation

Only a single bipolar concept of Meticulousness (Me1 vs. Me2) was discerned in the literature review (French, 1973). Its bipolar scale fused with the most meticulous of the three Persistence marker scales to define a Meticulousness factor in the analysis of the bipolar scales; an analysis in which a Persistence factor failed to appear (Dermen et al., 1974). Subsequently, when the separate poles of Persistence and Meticulousness were analyzed, distinct factors did emerge for the two traits, with the latter being defined by Me1 and Me2 and one of the Persistence markers, now shown as Me3 (French & Dermen, 1974).

ETS Marker Scales

Presented below are three 8-item unipolar marker scales for Meticulousness described by Me1, Me2, and M3, above.

Me1. Meticulous, orderly, neat, careful, particular about personal effects

1. I rarely make the effort to keep my personal effects in really good order. (F)
2. I could not be considered a neat person by anyone's standards. (F)
3. People think of me as one who keeps his things neat and orderly. (T)
4. I don't like to lend my possessions to others because they don't care for them as I would. (T)
5. Far be it from me to spend time on my appearance. (F)
6. I have trouble finding my possessions because I seldom put them away. (F)
7. I tend to be careful with my belongings. (T)
8. I enjoy seeing my things put in order. (T)

Me2. Messy, careless, or impulsive (reversed)

1. I am a little more messy with my clothes than are most people. (F)
2. My desk or work area is always a mess. (F)
3. I am never so careless that I let my personal appearance become sloppy. (T)
4. I hardly ever lose things. (T)
5. I get annoyed sometimes and push or throw my things around a little. (F)
6. I sometimes give things away on impulse even though I may be sorry later. (F)
7. I dislike people who look untidy. (T)
8. I am very careful of my belongings. (T)

· Me3. Conscientious, careful, exacting, tidy, orderly

1. I admit that my room and my desk are usually pretty messy. (F)
2. I often have to do things over because I was careless the first time. (F)
3. I enjoy activities that require a careful, exacting approach. (T)
4. I rarely make mistakes, but if I do I always find them and correct them. (T)
5. For the greatest creative freedom, it is probably best to avoid a tidy, orderly life. (F)
6. If I've been given a job to do that I don't like, I tend to do a pretty sloppy job of it. (F)
7. In anything I agree to do, I will be scrupulous in every detail. (T)
8. When I take on a job such as painting, I do it carefully and clean up the mess completely when I'm done. (T)

Published Marker Scales

"Order" in Edwards Personal Preference Schedule--Edwards & Abbott (1973).

"Likes Routine" and "Plans and Organizes" in Edwards Personality Inventory--Edwards & Abbott (1973).

"Cognitive Structure" and "Order" in Personality Research Form--Edwards & Abbott, (1973).

"Orderliness vs. Lack of Compulsion, O" in the Comrey Personality Scales; or FHIDs from this scale entitled "Order" (categories Me1 and Me2), "Routine" (category Me2), "Neatness" (category Me1) and "Meticulousness" (category Me2)--Comrey studies cited above.

Factor Mo: Morality

- Mo1. Law-abiding, obedient, well-mannered, patriotic vs. free, progressive, liberal
- Mo2. Moral, knows right from wrong, resists temptation vs. pleasure seeking
- Mo3. Helpful, fair to people

Literature Evidence

Morality, as defined by the above three categories, was not recognized at all as a factor in the earlier studies in the literature. In more recent studies the above categories, with the addition of some items on carefulness and drive to finish (possibly aspects of Persistence, Restraint and Meticulousness) are present in the 16 P. F. Questionnaire as its scale for Superego Strength or "Conscientious vs. Expedient, G," Cattell and Delhees (1973). Evidence for the separation of the Morality factor from Persistence, albeit not strong evidence, comes from analysis Bra in French (1953), a study of sixth graders in which there appeared a factor called "An acceptance of the moral code" along with a separate Persistence factor; and from Cattell and Gibbons (1968), where the short scale of "Persistent Effort" loaded a different factor from the one loaded by "Lack of Moral Restraint." Adcock and Adcock (1967) call a factor "Ego-Ideal" that seems to include items in categories Mo2 and Mo3 above. Howarth and Browne (1971) have a factor called "Conscience" that represents categories Mo2 and Mo3 with a reference to "this country" that could be construed as involving category Mo1. Warr et al. (1969) call one of their factors "Virtuous Self-Denial," the content of which is limited to category Mo3, covering considerateness to people, not generosity with money. Sells et al. (1970; 1971) show a factor they call "Conscientiousness" to be allied to Guilford's "Cultural Conformity, CC" and to Cattell's G.

Confirmation

Our items written to represent Morality failed to define a factor. The item parcel written to represent the assumed negative of category Mo3, specifically, "selfish, uncharitable," aligned itself with the factor interpreted as Sensitive Attitude (French & Dermen, 1974). Because of this result, and a second look at the literature, we were led to revise category Mo3 so as to limit it to helpfulness with people and to drop the "Generosity with money" aspect that had originally been part of that scale.

ETS Marker Scales

None

Published Marker Scales

"Conscientious vs. Expedient, G" in the 16 P. F. Questionnaire
(above three categories plus some items like those in Factors Pe,
Rt, and Me)--Cattell and Delhees (1973) and Sells et al (1970; 1971).

"Cultural Conformity, CC" in the DF Opinion Survey--Sells et al.
(1970; 1971).

L.

Factor Na: Need for Achievement

- Na1. Likes success in competition, likes getting ahead vs. dislikes competition
- Na2. Strives for accomplishment, wants to produce something great

Literature Evidence

This factor had originally been conceived more broadly (see French, 1973). Based on our own findings to be discussed in the Confirmation section and also on reconsideration of the literature, the definition has been narrowed to the two categories described above. There are, to be sure, broader conceptions of Need for Achievement. Jackson, Ahmed, and Heapy (1976) were able to define and confirm six correlated primary factors and three relatively independent second-order factors of achievement; the three second-order factors were labeled, "Competitive Acquisitiveness," "Status," and "Excellence." That there are different ways of slicing Need for Achievement is also shown by the results of Bendig (1964) who factor analyzed items in a Need for Achievement scale and came up with "Personal" and "Social" factors defined somewhat differently for the two sexes. McKinney (1973) factor analyzed college students' values and found factors related to respect for high grades and respect for social recognition; these would appear to correspond to the excellence and status concepts already mentioned.

Factors more clearly related to our own categories Na1 and Na2 are discernible in Bendig and Martin's (1962) Achievement-Dominance factor; in Adcock and Adcock's (1967) "Self-sentiment or Material Aspiration;" in Mitchell's (1962) "Motivation for Intellectual Achievement;" and in Sciortino's "Purposefulness" (1970a) and "Striving" (1967; 1970b). The Achievement factor also appears to be represented by Cattell, Horn and Butcher's (1962) "Self-assertion Erg" and, probably, Comrey's (1964) "Need to Excel" although the FHID for the latter factor appears in Comrey's later studies as a marker for his Activity factor. Warr et al. (1969), in five factor analyses of two sets of intercorrelations among Dogmatism Scale items, replicated a factor labeled "Personal Ambition" that fits our category Na2. Edwards and Abbott (1973) produced a factor defined by scales entitled "Achievement," "Desires Recognition," and "Impressed by Status." Bledsoe and Khatena (1973) defined a factor, "Initiative," that was marked by items concerned with the desire for directing and producing plays, producing new formulas and products, and improving organizations--some fairly specific manifestations of Need for Achievement.

Comparison of the discussion above and that under Persistence makes it clear that the distinction between the two is fuzzy. Marker scales are recommended both on the basis of their apparent content and on the literature review.

Confirmation

The attempt to verify this factor using our own items failed. The two poles of one of the categories originally intended for this factor, "Likes to do his best, works hard, persists until successful vs. play before work," appeared on a Persistence factor, the positive pole only marginally (French & Dermen, 1974). A category of items, "no motivation to do good or to help people," originally intended as the negative pole of category Na2, appeared as a marker for Sensitive Attitude, a factor having a strong flavor of generosity (see Factor Se and French & Dermen, 1974). The remaining categories of items describing Need for Achievement, Na1 and Na2, above, define the factor not in terms of love of work or desire to be helpful, but in terms of wanting to get ahead and to be important. The concept of excellence was not covered very well in our categories and items; perhaps it should have been. With that caveat, the above categories appear to reflect the literature fairly well.

ETS Marker Scales

None

Published Marker Scales

"Achievement" in the Edwards Personal Preference Schedule--Edwards & Abbott (1973).

"Desires Recognition" and "Impressed by Status" in the Edwards Personality Inventory--Edwards & Abbott (1973).

Factor Ob: Objectivity vs. Paranoid Tendency

- Ob1. Objectivity and fairness attributed to others vs. paranoid delusions
Ob2. Credit is given by others vs. blame by others is unfair

Literature Evidence

In the original literature review (French, 1973) the two categories above were joined by a third category: "Depends on others for help, advice, and sympathy vs. not interested in others, independent." This third category was deleted because of our own results and a reexamination of the literature.

In his analysis of the Paranoia scale of the MMPI, using data from a sample of normal and institutionalized subjects, Comrey (1958b) was able to identify several separate factors sharing the characteristics of paranoia. The factor being considered here is the only one that seems to have much variance for normal subjects. The MMPI Paranoia scale covers much of the negative pole of the Objectivity categories but it also contains a number of items more clearly related to our Tolerance factor (as shown in the Comrey study cited above) and contains, not surprisingly, a large proportion of items clearly pathological in reference. Several of Comrey's studies of other of the MMPI scales have also produced an Objectivity factor (Comrey, 1958a; 1958e; Comrey and Marggraff, 1958). Comrey and Soufi's (1960) attempt to confirm the Paranoia factor (our Objectivity) using reworded items and a normal sample met with marginal success, several items intended to measure Paranoia appearing instead on his Cynicism (our Tolerance) factor. A separate weak Paranoia factor did appear. All of the Comrey analyses cited produced a factor with items principally from category Ob1.

Guilford's factor, "Objectivity, 0" in the Guilford-Martin Personnel Inventory and in the Guilford-Zimmerman Temperament Survey is the only instance where the concepts represented by categories Ob1, Ob2, and the deleted third category are brought together on a factor. Two analyses, one by Jernigan and Demaree (1971) and the other by Howarth and Browne (1971) produced factors combining categories Ob1 and Ob2. Several additional analyses that appear to have produced an Objectivity factor should be mentioned. Guilford and Zimmerman (1956) used subscales of the Guilford-Martin GAMIN and Personnel Inventories and found an Objectivity factor that included a vague representation of category Ob1 plus much emphasis on hypersensitivity and guilt. Astin's (1959) factor called Hypersensitivity also combined category Ob1 and Ob2 items with others reflecting sensitivity and guilt. It is possible that sensitivity and guilt simply represent the delusions of reference which constitute the definition of paranoia. Trott and Mori (1972) using published scales as variables, found a factor they called "Pathological interpersonal sensitivity or guilt," which had its highest loading on the MMPI Paranoia scale.

Confirmation

Our analyses (Dermen et al., 1974) of bipolar scales purporting to represent the above categories produced a factor loaded by Ob1 and Ob2 items. A second analysis (French & Dermen, 1974) that used the four separate poles of Ob1 and Ob2 as variables also produced a clear factor marked by all four variables. As mentioned above, the third category of items originally intended to mark the factor proved to be extraneous to the Objectivity factor.

ETS Marker Scales

Eight-item unipolar scales are provided for the two poles of each of the categories Ob1 and Ob2.

Ob1+. Objectivity and fairness attributed to others

1. I'd be better off now if people had been fair to me. (F)
2. If I had been treated fairly I would have been more successful in school or in my work. (F)
3. When people are down on somebody, there is usually good reason for it. (T)
4. For the most part, others have treated me fairly. (T)
5. I have little faith in the jury system because people aren't fair in weighing evidence. (F)
6. People often push you down so that they can get ahead of you. (F)
7. Most of my problems are my own fault. (T)
8. Most of the time I have found that others' criticism of me has been objective and helpful. (T)

Ob1-. Has paranoid delusions (reversed)

1. When I see people talking together, I often feel that they are talking about me. (F)
2. I often feel that someone is out to get me. (F)

3. It is foolish to take personally the general remarks that people make. (T)
4. I have never felt that others have secretly been saying bad things about me. (T)
5. Sometimes I feel that people are trying to influence me toward evil. (F)
6. Even if I make only a small mistake, there is someone ready to jump on me for it. (F)
7. I never feel that people are secretly plotting against me. (T)
8. Even if a friend tells me that someone has said something unkind about me, I don't worry about it. (T)

Ob2+. Credit is given by others

1. Others often try to take the credit for things I have done. (F)
2. Even when I have been responsible for a job well done, others seem to get the credit. (F)
3. I usually receive whatever credit I deserve for doing something well. (T)
4. I get ample credit for things I accomplish. (T)
5. I usually come out on the short end when people are reporting what we all did. (F)
6. Somehow, no matter how much I contribute, I never get mentioned. (F)
7. When things are divided among the members of a group, I usually get my share. (T)
8. I usually get recognition for my accomplishments. (T)

Ob2-. Blame by others is unfair (reversed)

1. I often get blamed for things I didn't do. (F)
2. Time and again I get blamed for things I didn't do. (F)

3. I find that my friends avoid blaming me even when I have done something wrong. (T)
4. If I get blamed for something, I usually deserve it. (T)
5. People sometimes seem to blame me just for being around. (F)
6. People often say it's my fault when things go wrong, even when it isn't. (F)
7. Many people are ready to blame themselves if things go wrong. (T)
8. I have rarely gotten unfair blame for something. (T)

Published Marker Scales

"Objectivity, O" in the Guilford-Martin Personnel Inventory or in the Guilford-Zimmerman Temperament Survey--Analysis Lo in French (1953).

Factor Om: Open-Mindedness vs. Dogmatism

- Oml. Believes many different philosophies (religious or political views) can be reasonable vs. rigid belief in one philosophy, no tolerance of compromise
- Om2. Respect for and interest in the religious and political philosophies of other people vs. strong belief in the rightness or wrongness of principles
- Om3. Innovative, ready for new ideas, flexible, foresighted vs. highly conservative, conventional, and unchangeable in ideas

Literature Evidence

Pedhazur (1971) factor analyzed items in Rokeach's Dogmatism scale and Kerlinger and Rokeach (1966) and Warr et al. (1969) factor analyzed items in both the F (Fascism) scale and the Dogmatism (D) scale. Strikingly similar factors resulted indicating factorial complexity in both the F and D scales as well as distinct differences between the two scales. Among the factors appearing in all three studies was one called "Belief in one truth," category Oml above. Another replicated factor was "Belief in one cause," comprised of items like "... only when devoted to a cause is life meaningful," perhaps a general attitude or value unrelated to our categories. Jay (1969) did a Q-technique factor analysis of the Rokeach Dogmatism Scale. He called one factor "Open-Mindedness." It contained some items in category Oml and even more in category Om2. Another of Jay's factors, called "Authoritarian or Need for Power" emphasized the perception that others need reform or enlightenment. This has a subtle difference from Dogmatism. Sciortino (1969b, 1970a, 1970b), in his analyses of several of his adjective check lists, found factors in separate studies that he called "Innovativeness," "Flexibility," and "Open-Mindedness." All of them concur well with category Om3 above. Kolton and Dwarshinis' (1973) "Environmental Sensitivity" describes openness to ideas of others but also includes some extraneous concepts related to sensitivity.

Confirmation

In the literature there is no factor analytic proof that Oml and Om2 share a factor with Om3 above, but the concurrence of Oml, Om2, and Om3 on the same factor was very clear in our own analyses of the scales written to represent these categories (Dermen et al., 1974).

Marker Scales

Presented below are three bipolar marker scales for Open-Mindedness vs. Dogmatism described by Oml, Om2, and Om3. For 446 Naval recruits the coefficient alpha reliabilities are: Oml, .61; Om2, .52; and Om3, .54.

Oml. Believes many different philosophies (religious or political views) can be reasonable vs. rigid belief in one philosophy, no tolerance of compromise

1. There is only one correct and true religion. (F)
2. I can't approve of anyone who sees his country as less than perfect. (F)
3. In areas like religion or politics many different positions can be called reasonable. (T)
4. I believe that many different philosophies, religions, or political views can be reasonable. (T)
5. My political position is right; those who differ from it are in need of enlightenment. (F)
6. I believe in certain religious and political ideas, but I respect different viewpoints. (T)
7. There is room in this country for many divergent political views. (T)

8. There are two kinds of people: Those who stand for the truth and those who are against it. (F)
9. This country would be a better place if we stopped tolerating those who don't believe in our system of government. (F)
10. Sometimes one must compromise conflicts in philosophies with other sincere people. (T)
11. In religion or politics one should stick to the one philosophy that is clearly correct. (F)
12. I have the conviction that my religious beliefs are right and others are mistaken. (F)
13. We should be able to tolerate religious and political views that differ from our own. (T)
14. It is the tolerance of many different beliefs and philosophies that provides the hope for the future of this country. (T)

Om2. Has respect for and interest in the religious and political philosophies of other people vs. strong belief in the rightness or wrongness of principles

1. I cannot respect a person who persists in believing in a religion that is false. (F)
2. I see no point in listening to other people expound their personal philosophies. (F)
3. I respect sincere people whose religious or political ideas conflict with mine. (T)
4. I try to listen to the political candidates of all parties in major elections. (T)

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5. There is only one religion that can be based on truth. (F)
 6. There are good arguments in favor of many different religions. (T)
 7. So many different political viewpoints can only be the result of ignorance or stupidity. (F)
 8. A politician's reasoning on important issues is more important than his party. (T)

Om3. Innovative, ready for new ideas, flexible, foresighted vs. highly conservative, conventional, and unchangeable in ideas

1. I have a hard time accepting or even keeping up with the changes around me. (F)
2. I like to try new ways of doing things. (T)
3. The exciting thing about these times is the willingness of young people to try out new ideas. (T)

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4. The more I see of innovations and changes, the less convinced I am of their worth. (F)
 5. People must learn to swing with the times; change is a fact of life. (T)
 6. I become impatient with all the changes that are suggested for our church and our country. (F)
 7. I wish this country could stick to basic principles; all this change is too much. (F)

8. My own religious belief is open-minded enough to permit basic changes if they are good ones. (T)

Published Marker Scales

We have no suggestions for published marker scales.

Factor Pe: Persistence

- Pe1. Persistent, persevering, determined vs. quitting, fickle, needs change, gets discouraged
Pe2. Play before work (reversed)

Literature Evidence

Sciortino's (1970a) factor called "Diversion" includes items in category Pe1. Cattell and Gibbons (1968) have a factor that can be identified as Persistence since its highest loading is on "persistent effort." It is identified by the authors as "Controlled vs. Undisciplined Self-Conflict, Q3," one of the scales in the 16 P. F. Questionnaire, but it is not a well-determined factor. Edwards and Abbott (1973) have a factor loading scales on Achievement, Hard Work, Persistence, and Endurance. Edwards et al. (1972) have a factor loading scales called Change, as well as a factor loading Endurance and Achievement. It is the latter factor that can best be interpreted as Persistence. Jackson and Guthrie (1968) also have a factor concerned with change, as well as a factor loading scales on Endurance and Achievement. From this evidence it seems reasonable to see Persistence, not as shying away from the delights of change and novelty, but as the positive desire to endure and achieve, with an abhorrence of quitting or failing to see a job through.

Confirmation

In our recent analyses, the scales constructed for this factor formed factors somewhat different from those posited in French (1973). In our study of the separate poles of the item categories (French & Dermen, 1974), both the positive and negative poles of category Pe1 loaded a factor along with the negative of "Play before work" and, to a lesser extent, its opposite pole, "Likes to do his best, works hard." These latter are the two poles of an item category proposed for the factor Need for Achievement. Because of these factorial results, we have deleted from the description of this factor two item categories: one was concerned with liking stable tasks, the other concerned conscientiousness and orderliness. Perhaps the category on liking stable tasks was an unwise one, anyway, because we are trying to avoid interest variables. The category concerned with conscientiousness and orderliness was placed, according to its factor loadings, with the factor Meticulousness, where, indeed, it seems to fit.

ETS Marker Scales

Presented below are three 8-item unipolar marker scales for Persistence; the two poles of Pe1 and the single pole, Pe2.

Pel+. Persistent, persevering, determined

1. Life is too short to worry about sticking with a job that hasn't much real meaning. (F)
2. If I've once decided that a problem is too difficult, I go on to something else. (F)
3. I feel it is important to persist in completing any job I start. (T)
4. Once I start a job I see it through to the end. (T)
5. It is quite reasonable to stop working on something if you find it is not what you expected it to be. (F)
6. Once I've given up on something, I never go back to it. (F)
7. I get so determined to do something that I hate even brief distractions until it is done. (T)
8. The more difficult the problem, the more I stick to it. (T)

Pel-. Quitting, fickle, needs change, gets discouraged (reversed)

1. I find some jobs are pretty dull and deserve to be left undone. (F)
2. I sometimes get so fed up with something I'm working on that I have to do something else. (F)
3. I don't understand people who always seem dissatisfied and ready to quit. (T)
4. Even if I can't find an immediate solution to a problem, I don't quit working on it. (T)
5. If a job gets too hard for me, I'd rather say so and let somebody else do it. (F)
6. After I've been working on something for a while, I have to do something else different or take a break. (F)
7. I hate to abandon a task no matter what obstacles arise. (T)
8. I have no sympathy for people who give up on something without trying their very best. (T)

Pe2. Play before work (reversed)

1. I believe the road to a satisfying life is to put play before work. (F)
2. I cannot work well unless I have rested and had some recreation first. (F)
3. I dislike people who consider their pleasures more important than productive effort. (T)
4. I can't really relax and enjoy myself until I've finished my work. (T)
5. We must work to live, but it is life's pleasant recreations that make it worthwhile. (F)
6. I can always be persuaded to put off some work for a good time. (F)
7. I feel uneasy when vacation or illness keeps me from my work for more than a week or so. (T)
8. I can't understand people who can stop in the middle of something important to play some game. (T)

Published Marker Scales

"Achievement" in the Personality Research Form--Edwards articles cited above.

"Is a Hard Worker" and "Persistent" in the Edwards Personality Inventory--Edwards & Abbott (1973).

("Endurance" scales on the Personality Research Form and on the Edwards Personal Preference Schedule are also possible--Jackson & Guthrie, 1968; both Edwards articles.)

Factor Po: Poise vs. Self-Consciousness

- Po1. Enjoys group attention, exhibitionistic, poised vs. dislikes being in front of people
- Po2. Enjoys performing in public, feels pride in speaking to a group vs. dislikes performing in public
- Po3. Withdrawn, fears public speaking and social responsibilities (reversed)

Literature Evidence

Comrey and Soufi (1961) found a "Poise vs. Self-Consciousness" factor defined by items in all of the above categories. The factor was also found in two earlier analyses (La and Mo in French, 1953), where all three of the above categories of items had salient loadings. In these earlier analyses, items in an additional category concerning the attention of important people also had substantial but lower loadings (see discussion below under Confirmation). Edwards and Abbott (1973), Edwards et al. (1972), and Jackson and Guthrie (1968) each have a factor coming mainly from scales called "Exhibition." Howarth and Browne (1972) demonstrate Gregariousness, Sociability, and Poise all in the same analysis, although their factors are not very clear. The one that we are interpreting as Poise emphasizes enjoyment at a party, probably item category Po1. Trott and Morf (1972) have a factor called "Introversion-Extraversion (maladjusted vs. playful, sociable)," that combines Poise and Sociability just as did our own studies prior to testing the positive and negative poles separately.

Confirmation

Our development of scales to measure this factor included a category described as "Seeks comment and attention from important people vs. self-conscious with superiors, avoids criticism." Items in this category were developed to match those in some of the published studies mentioned above, but that category has been deleted because our scale representing it had substantially lower loadings on a factor merging the factors Poise and Sociability than did categories Po1 and Po2. When using only the full scales, we found it impossible to separate Poise and Sociability for either our Navy or College samples (Dermen et al., 1974). However, by placing the separate poles of Po1 and Po2 in the same factor analysis with the separate poles of three Sociability categories, we were able to secure separate factors for Poise and Sociability, although there was still some overlap (French & Dermen, 1974). For the Poise factor the variables with high loadings were the two poles of Po1 and Po2 plus one pole of a Sociability category (now shown as Po3) which can be seen to relate to the Poise items because of the public speaking concept that it contains. The other unipolar scales originally written for Sociability scattered between the two factors, but an adequate number of markers for Sociability remained on that factor.

ETS Marker Scales

Presented below are five 8-item marker scales for Poise vs. Self-Consciousness. These are described by the two poles of categories Pol and Po2 and the single pole of category Po3.

Pol+. Enjoys group attention, exhibitionistic, poised

1. Performing in any way in front of people is embarrassing to me. (F)
2. I could never be a lecturer. (F)
3. I like to wear attention-getting clothes at a big gathering. (T)
4. I am at my best when I have an audience. (T)
5. I fail to understand why some people dress in a way that attracts attention. (F)
6. I hate to be the center of attention. (F)
7. It pleases me to be where people will watch me. (T)
8. I enjoy meeting new groups of people, and I especially like talking before such groups. (T)

Pol-. Dislikes being in front of people (reversed)

1. I hate to enter the front of a large hall after most people are already seated. (F)
2. I feel sick when I know I have to speak in front of a group of people. (F)
3. It doesn't bother me to be up in front of a lot of people. (T)
4. I speak best and most interestingly when there are people listening. (T)
5. I find it embarrassing to talk and attract attention at a group meeting. (F)
6. I could never hold a job in which I had to speak in public. (F)
7. When I am busy doing something, people are quite welcome to watch me. (T)
8. I would like to be an actor or actress. (T)

Po2+. Enjoys performing in public, feels pride in speaking to a group

1. After speaking to an audience, I seem to worry a lot about what kind of impression I made. (F)
2. I can speak to groups, but I really don't enjoy it. (F)
3. I was usually eager to recite in class. (T)
4. I would like to join a chorus or an acting group. (T)
5. After reciting in class, I used to feel sure that I had made some mistakes. (F)
6. I get embarrassed when I'm asked to join some silly group game at a party. (F)
7. I get a real lift in spirits when I have the opportunity to speak to an audience. (T)
8. Few things provide me with as much satisfaction as speaking well before an audience. (T)

Po2-. Dislikes performing in public (reversed)

1. I get stage fright more than most people. (F)
2. I hate to have to speak to groups. (F)
3. I can relax and act naturally in front of an audience. (T)
4. I don't really mind getting up and speaking before large groups of people. (T)
5. Reciting in class was always embarrassing to me. (F)
6. Even if I were very talented, I could never become a performing artist. (F)
7. I enjoy volunteering to do something in front of a group. (T)
8. If I know what I'm doing, I don't mind performing before an audience. (T)

Po3. Withdrawn, fears public speaking and social responsibilities
(reversed)

1. It is easier to do a job yourself than to persuade others to do it. (F)
2. Whenever I know I will be called on to speak, I get extremely nervous. (F)
3. I have overcome the feelings of panic in public speaking that some people have. (T)
4. I don't mind being called on to introduce people to each other. (T)
5. Being responsible for the success of a party makes me uncomfortable. (F)
6. When I go to public places, I most often stand by and watch other people. (F)
7. Being brave enough to lead and organize people is fun. (T)
8. I enjoy being host to my friends. (T)

Published Marker Scales

"Exhibition" in the Edwards Personal Preference Schedule--Edwards articles cited above.

"Exhibition" in the Personality Research Form--Edwards articles and Jackson & Guthrie (1968).

"Enjoys Being the Center of Attention" in the Edwards Personality Inventory--Edwards & Abbott (1973).

Factor Rt: Restraint vs. Rhathymia

Rt1. Planning vs. acting without thought, impulsive

Rt2. Serious, responsible vs. lively, carefree, irresponsible, no thought of the future

Rt3. Enjoys stable pursuits vs. wants excitement, change, wildness

Literature Evidence

This factor appeared in several early studies by Guilford and others (see references below to French, 1953) and is represented by scales in Guilford's An Inventory of Factors STDCR and its successor, the Guilford-Zimmerman Temperament Survey. The Restraint vs. Rhathymia scales of these two inventories cover all three categories of items described above. In Guilford and Zimmerman (1956) category Rt2 seems to be emphasized on the factor, whereas variables representing impulsiveness, category Rt1, had higher loadings on a different factor, General Activity. Cattell and Gibbons (1968) called "Residual" a factor which loaded scales for "Rhathymia" and "Carefreeness," while impulsiveness failed to load any factor. Comrey and Soufi (1961) brought together Rt2 and Rt3 in a factor labelled "Rhathymia." They also obtained a separate factor called "Restraint" that included items like those in category Rt1. Adcock and Adcock's (1967) factor called "Ego Control" reflects aspects of Rt1 and Rt2. Barratt (1965) had only category Rt3 items in a factor called "Risk Taking," and had another factor called "Impulsiveness" that contains items from categories Rt1 and Rt2. Some doubt is thrown on the unity of Rt1 and Rt2 by studies by Butt (1970) and by Howarth and Browne (1971), both of which produced one factor with category Rt2 items and another "Impulsiveness" factor with category Rt1 items. This situation is similar to analyses GuB and RTC in French (1953), different rotations of the same data, both of which produced one factor called "Rhathymia" and another factor composed of impulsiveness items. The items marking the impulsiveness factor also loaded the "Rhathymia" factor. Another study by Howarth and Browne (1972) and one by Trott and Morf (1972) found a factor they called "Impulsivity" with items only from category Rt1. Scales for impulsivity and aggression go together on a factor in an analysis carried out by Jackson and Guthrie (1968). (For comparison of this factor with Surgency, see the discussion under Su.)

Confirmation

The item categories that seem to be present on this factor in some of the analyses published in the literature did not hold together at all when they were analyzed in terms of the items that we wrote to represent them (Dornier et al., 1973).

ETS Marker Scales

None

Published Marker Scales

Scale "R" in An Inventory of Factors STDCR or the Guilford-Zimmerman Temperament Survey--Analysis DT in French (1953) and Guilford & Zimmerman (1956).

"Impulsivity" in the Personality Research Form--Jackson & Guthrie (1968) and Trott & Morf (1972).

Factor Sc: Self-Confidence

- Sc1. Feels confident physically, personally, and career-wise vs. needs encouragement, feels inferior, afraid of failure
- Sc2. Claims to have abilities, skills, and good experiences vs. claims handicaps, ineptitude, and unfavorable experiences
- Sc3. Perceives others as having been positive toward him vs. negative

Literature Evidence

The Self-Confidence factor is comprised of the above concepts in most of the published analyses in which it is found, although, as in one of our own analyses (see below), there are occasions when these ideas are not completely isolated from other factors. "Inferiority Feelings," Factor I in the Guilford-Martin Inventory of Factors GAMIN covers the three categories listed above. To some extent in that inventory and in Guilford and Zimmerman's study (1956) as well as in a few others noted below, Self-Confidence is accompanied by items concerned with social confidence, poise, nervousness, being easily upset, not happy, or being self-centered. These more social or more emotional facets of self-confidence are omitted from the descriptive categories for this factor in order to avoid overlap with other factors such as Sociability, Calmness, Emotional Stability, or Well-Being. The problem here is that there are many different kinds of reasons for a person to have confidence in himself. Analyses by Butt (1970) and by Khan (1970) have isolated this factor, although their items are limited to those in category Sc1 mixed with some items with more social and emotional aspects. O'Connor et al. (1956) have a factor called "Sense of Personal Adequacy" that contains items in categories Sc1 and Sc2 and also an item on being "easily upset." Howarth and Browne's (1972) factor called "Inferiority" is based on hurt feelings and people finding fault, an emotional aspect of category Sc3. Bledsoe and Khatena's (1973) factor called "Self-Strength" is represented by our item categories Sc1 and Sc2. Edwards and Abbott (1973) have a factor marked by scales measuring the negative side of the factor: "Anxious about His Performance" and "Sensitive to Criticism." These seem to include categories Sc1 and Sc3. They have another factor marked by EPPS Deference (a part of category Sc1) and by PRF Abasement (parts of categories Sc1 and Sc2). The two Edwards and Abbott factors are interpreted as a split in Factor Sc. Another study by Edward (Edward et al., 1972) also has a factor loading EPPS Deference and PRF Abasement. The breadth of the Self-Confidence factor is shown in an analysis described in the Manual for the Edwards Personality Inventory (Edwards, 1970).

Confirmation

The scales written to represent the three item categories for Self-Confidence were found to define a clear factor in our analysis of the responses of Naval recruits, although they did merge with scales for the Objectivity factor in our analysis of the responses of college students (Dermen et al., 1974). We will interpret this as adequate confirmation of a rather clear literature, and so will use these scales as markers for the factor.

ETS Marker Scales

Presented below are three bipolar marker scales for Self-Confidence described by categories Sc1, Sc2, and Sc3. For 457 Naval recruits, coefficient alpha reliabilities were Sc1, .67; Sc2, .73; and Sc3, .71.

Sc1. Feels confident physically, personally, and career-wise vs. needs encouragement, feels inferior, afraid of failure

1. I am afraid I may not have the push I need in order to succeed. (F)
2. I am never sure of myself either socially or professionally. (F)
3. I feel sure I can cope with whatever the future is likely to bring. (T)
4. I know exactly where I am going in my life, and I know I shall succeed. (T)
5. I think I am held back by my lack of social poise. (F)
6. I am confident that I have the personal qualities necessary to get along with people. (T)
7. I can usually accomplish everything I set out to do. (T)

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8. Without someone to aid me and to cheer me on, I'm not sure that I can do much of anything. (F)
 9. I am able to take criticism and discouragement in my stride. (T)
 10. My associates are pretty smart; it is hard for me to measure up. (F)

11. I think I could accomplish more than I do, but I am afraid to try. (F)
12. I am less afraid of failure than are most of the people I know. (T)

Sc2. Claims to have abilities, skills, and good experiences vs. claims handicaps, ineptitude, and unfavorable experiences

1. In just about every area my associates seem to have had better experiences than I. (F)
 2. I don't feel that I am competent at many things. (F)
 3. My schoolwork and test scores show that I have the ability to succeed. (T)
 4. I can do a great many things well. (T)
 5. I have a terrible record of failures or near-failures. (F)
 6. Most of what I have attempted has turned out well. (T)
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7. Sometimes I am held back by my bad memory. (F)
 8. I usually botch things in one way or another. (F)
 9. When it comes to competition with others, I really feel I have no disadvantages. (T)
 10. I am a fairly competent person. (T)
 11. I tend to be so absent-minded that certain jobs would be impossible for me. (F)
 12. Because I am physically clumsy, I am not good at any task requiring coordination. (F)
 13. In my education and experience I have been able to avoid the pitfalls so many others have had. (T)
 14. When I try something new, it usually turns out fairly well. (T)

Sc3. Perceives others as having been positive toward him vs. negative

1. Because of my experiences with some people, I am often afraid that new acquaintances won't like me. (F)
2. I am not popular. (F)
3. I am confident I can get along with new people, because people always seem to like me. (T)
4. For some reason I rarely get the attention or approval that I want from other people. (F)
5. I am not the sort of person that people confide in. (F)
6. I have found that people like to associate with me. (T)
7. Most people think well of me. (T)

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8. When I was a child, other children often picked on me. (F)
 9. I guess I am as well-received as anybody else by the people I meet. (T)
 10. I have never had a really close friend. (F)
 11. It is encouraging to me that people almost never treat me badly. (T)
 12. I probably have fewer enemies than most other people. (T)

Published Marker Scales

"Inferiority Feelings, I" in the Guilford-Martin Inventory of Factors GAMIN - Guilford & Zimmerman (1956).

"Abasement" in the Personality Research Form (categories Sc1 and Sc2)--Edwards articles cited above.

"Deference" in the Edwards Personal Preference Schedule (category Sc1)--Edwards articles cited above.

"Anxious about His Performance" and "Sensitive to Criticism" in the Edwards Personality Inventory--(Note: In the supporting study these two scales formed a separate factor from the one marked by Abasement and Deference, although both factors seem to concern self-confidence.) "Anxious about His Performance" contains items from category Sc1; "Sensitive to Criticism" contains items from categories Sc1 and Sc3--Edwards & Abbott (1973).

Factor Se: Sensitive Attitude

- Se1. Warm, soft, cooperative, kind, considerate vs. hard, stern, bossy
- Se2. Emotionally sensitive, empathic, delicate, quiet
- Se3. Interest in people's welfare, religious
- Se4. Interested in people's welfare, helpful
- Se5. Selfish, uncharitable (reversed)
- Se6. Motivation to do good or to help people

Literature Evidence

Sensitive Attitude factors defined in earlier analyses (French, 1953) include elements of Se1, Se2, and Se3. Cattell's Factor I, called "Tender-minded vs. Tough-minded" in the 16 P.F. Questionnaire, includes Se1, Se2, Se3, and Se4 plus items from a category we have deleted concerned with imagination and art. Items concerned with interest in imagination and art occur only in Cattell's studies. Cattell and Gibbons (1968) follow Cattell's emphasis on imagination, art, interest in welfare, and religion. Their factor is also characterized by items like those in Guilford's "Masculinity." Indeed, Cattell's I has always been closely related to the sex of the respondent. Categories Se1 and Se3 are represented in Adcock and Adcock's (1967) "Compassion," in Richard's (1966) "Sensitivity to others," and in Veldman and Parker's (1970) "Social Warmth." Categories Se2 through Se6 are combined in the factor called "Empathy" in Comrey and Jamison (1966), Comrey et al. (1968), and Jamison and Comrey (1969). Comrey and Duffy (1968) have some representation of all six categories above. Mitchell's (1962) factor called "Warm Hearted Attitude Towards Others" is limited to items in category Se1. Edwards and Abbott (1973) have a factor loading scales described by categories Se1 and Se3. Jackson and Guthrie's (1968) "Nurturance" factor is based on a scale and trait ratings encompassing Se1, Se3 (less its religious aspect), and Se4.

Confirmation

In our tryouts, the item categories originally hypothesized for this factor proved to be too broad (Dermen et al., 1974; French & Dermen, 1974). The bipolar scales representing categories concerned with Se2 vs. its presumed opposite, "robust, noisy, active, tough, fearless," and with interest in imagination and art vs. practical interests, were deleted from our studies of bipolar categories as being internally inconsistent or too heterogeneous, probably due partly to their poles not being opposites. The two remaining bipolar categories, Se1 and Se3 with its assumed opposite, "interest in people for companionship or fun," did not determine a factor.

In our study of separate positive and negative poles, the six categories above, with the two poles of Se1 in unipolar form, determined a factor that was clear in meaning but narrower than the factor originally

hypothesized for Sensitive Attitude. Categories Se1, Se2, and Se3 are from the original list, with the opposites of Se2 and Se3 omitted. Category Se4 comes from Agreeableness; Se5 from Morality; and Se6 from Need for Achievement. The cooperative, sensitive, interested in people's welfare aspect remains central to the factor, but it is represented more specifically now by the ideas of generosity and interpersonal concern, while some of the presumed opposites and the concept of imagination vs. practical interests have been deleted.

ETS Marker Scales

Presented below are the seven unipolar scales that defined the factor interpreted as Sensitive Attitude.

Sel+. Warm, soft, cooperative, kind, considerate

1. I find it impossible to feel really kindly toward most people in this world. (F)
2. Few people would think of coming to me for a favor. (F)
3. I feel warm and kindly toward almost everyone. (T)
4. I like to help people. (T)
5. I no longer show much concern for other people's problems; they don't consider mine. (F)
6. I am not very good at figuring out what other people need in the way of help. (F)
7. I like to consider other people's needs and learn how to cooperate with them. (T)
8. I can never pass a stopped car on the highway without at least pausing to offer help. (T)

Sel-. Hard, stern, bossy (reversed)

1. I guess I take a pretty realistic and critical attitude toward others. (F)
2. I don't like to work with other people unless I can be in charge. (F)
3. I can never find it in myself to be hard on other human beings. (T)

4. I am known for my easygoing nature. (T)
5. If I am to get along with other people at all, they must be the kind who will listen to me. (F)
6. People are frequently afraid of me. (F)
7. I hate to be the one to tell others what to do and what not to do. (T)
8. I am incapable of being tough with people. (T)

Se2. Emotionally sensitive, empathic, delicate, quiet

1. People can usually take care of themselves, so I don't worry much about their feelings. (F)
2. I often unintentionally hurt other people's feelings. (F)
3. In a group, I seem to react strongly to other people's feelings. (T)
4. I frequently have the experience of knowing just how another person feels. (T)
5. I tend to express my ideas readily without much concern for my inner feelings. (F)
6. I have lost friends because they thought I was cruel or inconsiderate. (F)
7. I think I am more sensitive to emotions than most people are. (T)
8. Loud noises are jarring to me. (T)

Se3. Interested in people's welfare, religious

1. I tend to avoid involvement in other people's problems. (F)
2. Organized religion has no appeal for me. (F)
3. I would enjoy a job counseling people, sensing their problems, and trying to help. (T)
4. I go to church regularly. (T)
5. My friends are usually people who have little or nothing to do with religion. (F)

6. I'm too busy taking care of my own life to spare time to worry about other people's problems. (F)
7. I am very interested in the religious aspects of life. (T)
8. If a friend or neighbor is in trouble I can be counted on

Se4. Interested in people's welfare, helpful

1. I find it very tiring to work for people who continually need or want something. (F)
2. There are not many social causes that I feel are worth my time and effort. (F)
3. I particularly enjoy a job where I can personally give pleasure to many people. (T)
4. I enjoy being part of a group effort, particularly one that is important to people. (T)
5. Efforts to help people often turn out to be thankless or even resented. (F)
6. My principal pleasure in life is to find a way to help somebody. (T)

Se5. Selfish, uncharitable (reversed)

1. I believe that charity should start at home. (F)
2. Before I help out on a community project or some charity, I ask, "What's in it for me?" (F)
3. In the long run I will deny myself a good many things for other people. (T)
4. I freely lend my possessions to others. (T)
5. I intend to help myself; if I don't do it, nobody else will. (F)
6. I almost never give to people collecting for charities. (F)
7. Whenever I help myself at the expense of other people, I get an uncomfortable feeling. (T)
8. Most people would describe me as an unselfish person. (T)

Se6. Motivation to do good or to help people

1. I feel no obligation to devote myself to improving the world. (F)
2. So long as I have a good time, I really don't care if I never do good in the usual sense. (F)
3. I have a strong desire to do something good in this world. (T)
4. A life that is self-serving is a life that is wasted. (T)
5. If everyone spent his time trying to make others happy, nobody would have time to be happy himself. (F)
6. I have no desire to help anyone else; no one has ever helped me. (F)
7. I would like to spend most of my life trying to do something to help other people. (T)
8. I believe that we were put on earth to help one another; if we don't, we are wasting ourselves. (T)

Published Marker Scales

FHIDs called "Helpfulness," "Generosity," and "Sympathy" in the Comrey Personality Scales--Comrey articles cited above.

"Kind to Others" and "Helps Others" in the Edwards Personality Inventory--Edwards and Abbott (1973).

"Nurturance" in the Edwards Personal Preference Schedule--Edwards and Abbott (1973).

"Nurturance" in the Personality Research Form--Edwards and Abbott (1973) and Jackson and Guthrie (1968).

Factor So: Sociability

- So1. Glib talker, has superficial social know-how vs. aloof, doesn't know or care what should be said
- So2. Hardened socially, confident in social contacts vs. shy, socially insecure
- So3. Competent socially, social organizer, enjoys attention vs. withdrawn, fears public speaking and social responsibilities

Literature Evidence

The Sociability factor was recognized and thoroughly researched quite long ago. It was at least tentatively recognized in 23 analyses in French (1953). Factor H, "Venturesome vs. Shy," in the 16 P. F. Questionnaire and Factor S, "Social Introversion-Extraversion" in the Inventory of Factors STDCR and "Sociability" in the Guilford-Zimmerman Temperament Survey all have a rather even distribution of the three item categories listed above. Sells et al. (1970) bring the Sociability factors in those different inventories together in their conjoint analysis. Recent studies having "Sociability" or "Shyness" factors that cover So1, So2, and So3 are Comrey and Duffy (1968); Hallworth (1964); Hallworth et al. (1965); Comrey and Jamison (1966); Comrey et al. (1968); Jamison and Comrey (1969); and Cattell and Delhees (1973). Numerous other analyses listed below have identified this factor, relying on only one or two of the above item categories. It is not a precise process to place items in one or another of these categories or even to distinguish such items from those that belong on other factors, such as Social Poise, Gregariousness or Self-Sufficiency. For brief discussions of the contrasts among these constructs, see presentations for Gregariousness (Gs) and Individualism (In).

Additional studies:

<u>Author(s)</u>	<u>Date</u>	<u>Factor Name</u>	<u>Categories</u>
Astin	1959	Self-Esteem	So1, So2
Baldwin	1961	Social Aggressiveness	So2
Borgatta & Eschenbach	1955	Social Acceptability	So2, So3
Cattell & Gibbons	1968	"H"	So2, So3
Comrey	1957b	Shyness	So1, So2
Comrey	1958a	Shyness	So1, So2
Comrey	1958d	Shyness	So1, So2
Comrey	1958f	Shyness	So1
Comrey & Soufi	1960	Shyness	So2, So3
Comrey & Soufi	1961	Social Initiative	So2
Comrey	1964	Friendliness	So2
Guilford & Zimmerman	1956	Sociability	So2, So3
Howarth & Browne	1971	Sociability	So2, So3
Howarth & Browne	1972	Social Conversation	So2, So3

<u>Author</u>	<u>Date</u>	<u>Factor Name</u>	<u>Categories</u>
Jernigan & Demaree	1971	Social Competence	So1, So2
Lingoes	1960	Denial of Social Anxiety	So2, So3
Mitchell	1962	Social Poise	So2, So3
Parker & Veldman	1969	Introversion- Extraversion	So1, So2
Richards	1966	Sociability	So2, So3
Sciortino	1969	Sociability	So2
(Second factor)		Articulateness	So1
Sciortino	1970b	Congeniality	So2
(Second factor)		Articulateness	So1
Veldman & Parker	1970	Introversion- Extraversion	So1, So2

It seems reasonable to conclude that Sciortino has broken the primary factor of Sociability into two of the parts that are listed as item categories above.

Confirmation

As described for the factor Poise vs. Self-Consciousness, that factor and Sociability merged when we analyzed the full item categories (Dermen, et al. 1974). However, when we analyzed the positive and negative poles of the categories as separate variables, these two factors separated, although it should be added that the two factors correlated around .60 (French & Dermen, 1974). Four high loadings for Sociability, not shared with other factors, were found. These were the two poles of category So1, the negative pole of category So2, and a unipolar variable from Gregariousness, "Likes to be with people physically." Since the latter does not fit the concept of Sociability in the literature as well as it fits Gregariousness, it is not listed here. In our study of the positive and negative poles, category So3 did not load the factor. However, it remains in the above list of concepts defining Sociability, since it exists clearly in the literature. Perhaps the items that we wrote failed to represent this category properly. It is to be noted that the negative pole of So3 has become a marker for Poise vs. Self-Consciousness, possibly because the fear of public speaking is a concept central to the Poise factor. Also, the positive pole of So2, while it had good loadings for this factor, had higher loadings for Poise. Therefore, because of its mixed loadings, the positive pole of So2 will not be used as a marker for either factor.

ETS Marker Scales

Presented below are three 8-item unipolar marker scales for Sociability reflecting the two poles of category So1 and the negative pole of So2.

Sol+. Glib talker, has superficial social know-how

1. In social groups I often enjoy listening and doing less than my share of talking. (F)
2. I'm not usually able to come up with quick, witty responses to the remarks of others. (F)
3. It is easy for me to chat with my acquaintances about many things. (T)
4. I am good at "small talk." (T)
5. I tend to remain quiet at a party when people are engaged in small talk. (F)
6. I often think of things I could have said long after the opportunity has passed. (F)
7. I like to start up conversations with strangers. (T)
8. I can fake my way through almost any social situation. (T)

Sol-. Aloof, doesn't know or care what should be said (reversed)

1. I can express myself better in writing than in speech. (F)
2. I have trouble knowing what to say to people I don't know well. (F)
3. I usually make the effort to stay in the midst of a conversation. (T)
4. I can usually talk my way out of a tight spot. (T)
5. Even amidst friends, I tend to be deep in thought most of the time. (F)
6. I seldom take part in small talk and if I do I sometimes hurt people's feelings. (F)
7. Quiet people ought to be urged to do more talking. (T)
8. I am never at a loss for words in a social situation. (T)

So2. Shy, socially insecure (reversed)

1. My shyness makes me quiet in social groups. (F)
2. I usually prefer to go to parties with another person rather than to face all those people alone. (F)
3. It is fun to look for interesting people in a room full of strangers. (T)
4. I never have difficulty mixing at social functions. (T)
5. I usually feel that a stranger will be annoyed if I try to talk to him. (F)
6. I would sooner stay at home than go to a social function by myself. (F)
7. Some people are silly the way they act tongue-tied when they are introduced. (T)
8. When I meet new people on the job I tend to fit right in. (T)

Published Marker Scales

"Venturesome vs. Shy, H" in the 16 P. F. Questionnaire--Cattell (1957b), Cattell and Delhees (1973).

Scale "S" in the Inventory of Factors STDCR or in the Guilford-Zimmerman Temperament Survey--Guilford and Zimmerman (1956).

FHIDs called "Lack of Reserve," "Lack of Seclusiveness," "No Loss for Words," and "Lack of Shyness" in the Comrey Personality Scales--Comrey articles cited above.

Fac . Ss: Self-Sufficiency

- Ss1. Self-sufficient, likes to be alone in stress, in planning, in facing problems, makes own plans, dislikes being served, self-reliant, decisive vs. dependent, needs help from others, group dependent
- Ss2. Emotionally independent vs. needs love, friends, succorance, and protection

Literature Evidence

After surveying the literature and concluding that a factor of Self-Sufficiency had been established on the basis of the four concepts, Ss1 and Ss2, above, and In1 and In2 for what is now defined as Individualism, the separation of this factor into two factors in our own studies (Dermen et al., 1974; French & Dermen, 1974) was a surprise (see Confirmation section below). However, the presence of two factors in this area is by no means unsupported by the literature. No single study, among those reviewed, included all four item categories for the two factors in their analyses, although there was some overlap in several of them. Categories Ss1 and Ss2 above and at least some elements of category In1 for Individualism seem to appear in the factor called "Dependence" by Comrey (1964), by Comrey and Jamison (1966), and by Comrey et al. (1968). Comrey and Duffy's (1968) "Dependence" has only category Ss2, while another factor in the same analysis, called "Socialization" could be said to contain the Individualism categories and some aspects of category Ss1 above. Category Ss1 also appears with Individualism items in a factor of Sciortino (1970b) called "Individuality." Cattell and Delhees (1973) find a factor loading portions of the 16 P. F. scale, "Self-Sufficient vs. Group Dependence, Q2," but the items in that scale look more like parts of Sociability or Gregariousness than either Self-Sufficiency or Individualism. Edwards et al. (1972) have a factor that is a mixture of Self-Sufficiency and Individualism, while the two are well separated by Edwards and Abbott (1973), who use the scales "Dependent," "Succorance," and "Wants Sympathy" to determine the reverse of Self-Sufficiency, and they use "Independent in his Opinions," "Autonomy," and the reverse of "Conforms" and "Social Recognition" to determine Individualism. Jackson and Guthrie (1968) also separate the two factors, using a "Succorance" scale for the Self-Sufficiency factor and "Social Recognition" for Individualism. Perhaps more complete titles for the two factors would clarify the distinctions between them: Emotional self-sufficiency vs. dependence and Individualism vs. conformity.

Confirmation

As noted above, the two item categories listed for Self-Sufficiency and the two listed for Individualism were thought to belong to a single factor of Self-Sufficiency (French, 1973). However, when the item categories were factored (Dermen et al., 1974), they split quite clearly

in both the analyses of our Navy and of our College samples into Ss1 and Ss2 above, to be called Self-Sufficiency, and In1 and In2 for Individualism. To reach our goal of obtaining at least three markers for each factor, we placed the separate positive and negative poles of Ss1 and Ss2 above into an analysis of unipolar variables and found the resulting four parts of the factor to have salient loadings (French & Dermen, 1974).

ETS Marker Scales

Presented below are four 8-item unipolar marker scales for the separate poles of categories Ss1 and Ss2.

Ss1+. Self-sufficient, likes to be alone in stress, in planning, in facing problems, makes own plans, dislikes being served, self-reliant, decisive

1. It is very hard for me to face my problems alone. (F)
2. I am easily swayed by others. (F)
3. I consider myself to be self-sufficient in most ways. (T)
4. When things upset me, I prefer to be by myself. (T)
5. I would rather be with people when I have troubles than try to be self-reliant. (F)
6. I don't like to face difficulties alone. (F)
7. When I must make plans, I prefer to think alone rather than consult someone. (T)
8. I like to feel that I am the master of my own fate. (T)

Ss1-. Dependent, needs help from others, group dependent (reversed)

1. I am content to be dependent on other people for important things. (F)
2. I feel safest when I am with other people. (F)
3. It is best to avoid expecting help from others. (F)
4. I don't need others to tell me what to do. (F)
5. I often seek the help of other individuals or groups. (F)
6. I need others around me, particularly in times of stress. (F)

7. I hate to be dependent on anybody. (T)
8. I dislike ever feeling that I must rely on others. (T)

Ss2+. Emotionally independent

1. To be independent is really to be lonely or unwanted. (F)
2. How I feel about myself is greatly influenced by the way my friends treat me. (F)
3. I tend to be happiest when I feel independent of other people's affections. (T)
4. I consider myself to be a self-contained person. (T)
5. A feeling of dependence on good people is a very satisfying state of mind. (F)
6. I depend on my friends for many things. (F)
7. It is very satisfying to be free from emotional dependencies. (T)
8. I rarely need other people's moral support. (T)

Ss2-. Needs love, friends, succorance, protection (reversed)

1. I seem to need love as much as or more than most people. (F)
2. I like to know that I am being taken care of. (F)
3. I can get along very well without friends and loved ones around me. (T)
4. When I am ill or not feeling well, I prefer to be left alone. (T)
5. Friends and the protection that they can give are very important to me. (F)
6. My friends mean more to me than anything else in my life. (F)
7. Strong love is very likely to be more disturbing than helpful. (T)
8. I feel I can take care of myself in any situation. (T)

Published Marker Scales

"Dependent" and "Wants Sympathy" in the Edwards Personality Inventory (category Ss1)--Edwards & Abbott (1973).

"Succorance" in the Edwards Personal Preference Schedule--both Edwards articles cited above.

"Succorance" in the Personality Research Form--both Edwards articles cited above and Jackson & Guthrie (1968).

Factor Su: Surgency

Su1. Exuberant, enthusiastic, cheerful vs. repressed, reserved, inhibited
Su2. Talks without inhibition, expressive, frank

Literature Evidence

This factor uses one of Cattell's names, Surgency, since it seems identical to his original concept using that name. It is reasonably close to Factor "F" in the 16 P. F. Questionnaire and to Cattell and Delhees' (1973) confirmation study, except that the name now used by the 16 P. F. is "Sober vs. Happy-go-Lucky," and the factor in that inventory does have elements of liking excitement and impulsiveness similar to Factor Rt, Restraint vs. Rhathymia, and some aspects of Sociability. However, in French (1953), Surgency occurs concomitantly with Sociability in five analyses, three of which are Cattell's. In more recent analyses, they occur together in Cattell (1963), Cattell and Coan (1975), and Lingoes (1960). Also, Surgency (vs. Repression) is not easy to distinguish from Well-being (vs. Depression). Fortunately, Lingoes (1960) separates Sociability, Surgency, and Well-Being all in the same analysis, the only trouble being that the extent of their overlap in the study casts doubt on the outcome. Although both Barratt (1965) and Becker (1961) show a high correlation between scales designed to measure the two factors, Barratt's study also provides some evidence (in a factor analysis of his Impulsiveness scale) for the separation of the Surgency and Restraint factors. In that analysis, which splits factors into ones that are more specific than ours, his factor called "Adventure Seeking" has items in category Su1 with some items that imply talkativeness, category Su2. The same analysis also has a factor called "Risk Taking," which is interpreted here as category Rt3 of Restraint, because it has more of the excitement concept in it than does "Adventure Seeking." Another factor in Barratt's analysis, called "Impulsiveness," supplies categories Rt1 and Rt2 of the Restraint factor. Consequently, Su can be regarded as enthusiastic cheerfulness vs. inhibition, while Rt can be interpreted as lack of control, risk taking, and impulsiveness vs. responsibility. Norman's (1963) factor called "Extraversion or Surgency" might be Factor Su or So or a combination of the two. His items on this factor that concern adventurousness may be interpreted as exuberance. Thus items in categories Su1 and Su2 above seem recognizable in Norman's factor.

Confirmation

Analyses of three bipolar item categories for this factor started with the deletion of one category as being internally inconsistent. This was category Su2 with its presumed negative pole, "Cautious in talking, precise, secretive." The factor analysis showed category Su1, and a third category called "likes to stimulate and cheer up people

vs. quiet stay at home" to be completely disparate. Since category Sul seems much closer to the factor as it appears in the literature, the third category was removed as a descriptive part of the factor. In the study of positive and negative poles of the categories, we found the two separate poles of Sul and the positive unipolar scale shown above as Su2 to form a good factor when six factors in a 38-variable matrix were rotated. When ten factors were rotated, the positive pole of category Sul broke up among several factors. While this factorial evidence was less than fully satisfying, the resulting three variables on the factor seemed to be psychologically similar to one another and very close to the factor that had been replicated in the literature.

ETS Marker Scales

Presented below are three 8-item unipolar marker scales for the separate poles of Sul and for category Su2.

Sul+. Exuberant, enthusiastic, cheerful

1. People who are cheerful all the time wear me out. (F)
2. Most of the time I feel depressed. (F)
3. People think of me as exuberant and cheerful. (T)
4. When I really like something, everybody knows about it. (T)
5. The way things usually are, I can try hard, but it is difficult to feel enthusiastic. (F)
6. Few things really excite me. (F)
7. I tend to approach things with lots of enthusiasm. (T)
8. I find it difficult to conceal my enthusiasm. (T)

Sul-. Repressed, reserved, inhibited (reversed)

1. In everyday activities I tend to hold back and take a critical point of view. (F)
2. I find it difficult to talk about my feelings. (F)
3. The most effective people are those who can throw off their worries and let go. (T)
4. I am usually quite willing to express myself to anyone who will hear me out. (T)

5. I get along best with people who are thoughtful and reserved. (F)
6. I feel most comfortable in situations in which my emotions are not involved. (F)
7. It is hard to discourage me. (T)
8. I fly off the handle easily. (1)

Su2. Talks without inhibition, expressive, frank.

1. At parties I usually stay out of the noisy conversations. (F)
2. I don't like to bare my soul to others. (F)
3. In a social group I like to tell stories and jokes. (T)
4. I usually speak my mind, no matter who I'm with. (T)
5. I avoid being very expressive or frank about my personal affairs. (F)
6. I keep my opinion to myself most of the time. (F)
7. If I say the wrong thing, it's easy for me to talk my way out of it. (T)
8. I often offend people with the bluntness of my remarks. (T)

Published Marker Scales

"Surgency, F," also called "Sober vs. Happy-go-Lucky," in the 16 P. F. Questionnaire (representing a concept that is somewhat broader than categories 1 and 2)--Cattell and Delhees (1973). A word of caution is due here. The GZTS Restraint scale and the 16 P. F. Surgency scale are correlated to such an extent as to raise some doubt as to the feasibility of separating Surgency and Restraint if these two scales are employed as markers.

Factor Th: Thoughtfulness

- Th1. Likes to think, reflect, meditate vs. prevented from doing it by social or business activity
- Th2. Likes to think about people or with people vs. enjoys the company of people without analyzing them
- Th3. Thinks about self vs. carefree about self
- Th4. Intellectual interests vs. active interests

Literature Evidence

This is Guilford's Factor "T," originally called "Liking Thinking" or "Thinking Introversion," now called "Thoughtfulness" in the Guilford-Zimmerman Temperament Survey, where items can be classified into all four of the above categories. Guilford and Zimmerman's (1956) "Reflectiveness" has items in categories Th1, Th2, and Th3. Guilford et al. (1961) has a factor called "Meditative Thinking" that seems limited to category Th1. Others having all four item groups are Comrey et al.'s (1968) "Thoughtfulness" and Sciortino's (1969b) "Meditativity." Combinations of Th1, Th2, and Th3 are found in Jernigan and Demaree's (1971) "Thoughtfulness." Th1, Th3, and Th4 appear in Sciortino's (1970b) "Meditativeness" and Bledsoe and Khatena's (1973) "Intellectuality." Sciortino's (1970a) "Self-Awareness" has Th1 and Th3. Parker and Veldman's (1969) "Intracception" has only category Th1 plus a flavor of "Self-Sufficiency." Edwards and Abbott (1973) have a factor consisting of published scales called "Intracception" and "Interested in the Behavior of Others" and, with lesser loadings, "Understanding" and "Sentience." This factor seems to cover item categories Th1, Th2, and, to some extent Th3 and Th4. Edwards et al. (1972) report a similar factor defined by "Intracception," "Understanding" and "Sentience." Although category Th4 did not adhere well to this factor in our studies, it does seem to represent a part of the factor as seen in the literature.

Confirmation

Our analysis using college students as subjects, but not the one using Naval recruits, brought out this factor reasonably well (Dermen et al., 1974). Item category Th2 had a high loading; Th1 and Th3 had loadings just above .30; and Th4 (which was represented by a set of only 4 items) had a positive but inadequate loading.

ETS Marker Scales

Presented below are three bipolar marker scales for Thoughtfulness categories Th1, Th2, and Th3. For 211 Naval recruits, the coefficient alpha reliabilities are: Th1, .61; Th2, .66; and Th3, .56.

Th1. Likes to think, reflect, meditate vs. prevented from doing them by social or business activity

1. When the day is done, I hate to waste time going over it in my mind. (F)
2. I don't really enjoy going back over things and events in my mind. (F)
3. I like to think about the great problems of civilization. (T)
4. Sometimes I like to just sit and think. (T)
5. I don't like people who want to talk a lot about religion and philosophy. (F)
6. It is important to take time out now and then for reflection or meditation. (T)
7. At the end of the day I often think about the events of the day and the prospects for tomorrow. (T)

8. I am too busy living to spend time meditating about the reason for doing it. (F)
9. My life is too busy for me to have any quiet time alone. (F)
10. Even though I am busy, I make time for quiet thought or meditation. (T)
11. I enjoy being with people so much that I rarely stop to analyze what I am doing. (F)
12. There are too many things to be done to allow me to spend any time thinking about them. (F)
13. You should get away by yourself enough to enjoy thinking about life and understanding it. (T)
14. My various commitments don't prevent me from spending some time each day just thinking. (T)

Th2. Likes to think about people or with people vs. enjoys the company of people without analyzing them

1. I get bored when my friends discuss the details of people's thoughts and behavior. (F)

2. I am more interested in what a person does than in why he does it. (F)
3. I often like to analyze people's behavior. (T)
4. I like to explore other people's motives. (T)
5. I think the study of human behavior is a bore. (F)
6. I like to discuss life and human society with other people. (T)
7. Human nature fascinates me--I love to figure out what makes people tick. (T)

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8. I like people who are fun to be with rather than intellectual. (F)
 9. I don't probe into my friend's motives; I just enjoy them for what they are. (F)
 10. My enjoyment of a party is with the interesting people rather than with the festivities. (T)

Th3. Thinks about self vs. carefree about self.

1. I dislike analyzing my own ideas and feelings. (F)
2. I don't much worry about my future; I think it will take care of itself. (F)
3. Very often I think about how I can improve myself. (T)
4. I often think about myself and how I'm doing. (T)
5. I rarely think about myself. (F)
6. I often think hard about my future. (T)
7. I spend a great deal of time trying to analyze why I do the things I do. (T)

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8. I take a pretty happy-go-lucky attitude about myself and my future. (F)
 9. I have a very relaxed attitude about myself. (F)

10. It is impossible for me to feel casual about my own future.
(T)
11. I often go over some of my actions in my mind to see how I could have acted differently. (T)
12. I'm pretty satisfied about the way I am, so I just don't worry about myself. (F)

Published Marker Scales

"Intracception" in the Edwards Personal Preference Schedule--Edwards articles cited above.

"Interest in Behavior of Others" in the Edwards Personality Inventory--Edwards & Abbott (1973).

"Understanding" in the Personality Research Form (Th1 and Th4)--Edwards articles cited above.

"Thinking Introversion, T" in the Inventory of Factors STDCR or "Thoughtfulness, T" in the Guilford-Zimmerman Temperament Survey--Guilford & Zimmerman (1956).

Factor To: Tolerance of Human Nature vs. Cynicism

- To1. Naive, impunitive, believes people are honest and fair vs. believes people lie and are unfair to gain an advantage
- To2. Believes people are capable of good work vs. critical, fault finding
- To3. Tolerant of human nature vs. cynical about human nature

Literature Evidence

In the literature review for the factor (French, 1973), five item categories had been defined, the three above plus two others, hostility for people and hostility for things. Of the latter two, the "hostility for people" scale proved to lack internal consistency, and the "hostility for things" scale failed to load a tolerance factor (see Confirmation section below). Because of the thinness of our own factorial evidence and because several studies (Comrey, 1957a; and Trott & Morf, 1972) demonstrated separate hostility and tolerance factors, we have chosen the more narrow definition of Tolerance of Human Nature. As can be observed in the literature summarized below, many of the factors do include at least some aspects of hostility in them, in fact, several have been so labeled.

Factor Co, "Cooperativeness," in the Guilford-Martin Personnel Inventory includes the above categories To1, To2, and To3, plus many items that are stated so strongly that they suggest but do not actually mention hostility toward people and institutions. In the factor "Trusting vs. Suspicious, I" in the 16 P. F. Questionnaire, a few items suggest the factor Objectivity vs. Paranoid Tendency, but the main emphasis is on To1, To2, and To3. Several studies by Comrey and his coworkers have produced factors that cover all three of the Tolerance categories plus some extreme items that could be characterized as reflecting hostility (Comrey & Duffy, 1968; Comrey & Jamison, 1966; and Jamison & Comrey, 1969). An additional Comrey study (Comrey et al., 1968) found a similar factor using FHIDs from the GZTS Personal Relations scale. This last factor is similar to Sells et al.'s (1970, 1971) "Personal Relations" factor which is defined predominantly by Guilford items.

Additional studies:

Author(s)	Date	Factor Name	Item Categories	Other concepts also appearing on the factor
Bendig	1961	Covert Hostility	To1, To2, To3	Guilt, hostility
Bendig	1962	Covert Hostility	To1, To2, To3	Hostility

<u>Author(s)</u>	<u>Date</u>	<u>Factor Name</u>	<u>Item Categories</u>	<u>Other concepts also appearing on the factor</u>
Comrey	1957a	Cynicism	To3	Persistence
Comrey	1957b	Cynicism	To1,To3	
Comrey	1958b	Cynicism	To1	
Comrey	1958f	Cynicism	To1	
Comrey	1964	Hostility	To1,To3	Hostility
Comrey & Soufi	1960	Cynicism	To1,To3	Lack of objectivity
Comrey & Soufi	1961	Hostility	To3	Hostility as a separate factor from one of friendliness
Guilford & Zimmerman	1956	Cooperativeness, tolerance	To1,To2,To3	Self-Centeredness, self-pitying
Howarth & Browne	1971	Trust vs. Suspicion	To1,To3	
Jernigan & Demaree	1971	Personal Relations	To2,To3	
Krug	1961	Cynicism	To3	Prying
Lingoes	1960	Denial of distrust & hostility	To1	Need for affection, paranoia
Mitchell	1962	Offensive social conduct	To2	Stubbornness
Pedhazur	1971	Isolation, alienation	To2,To3	Hostility
Warr et al.	1969	Isolation, alienation	To2,To3	Hostility

Confirmation

As already noted, two of the original Tolerance item categories were eliminated, one because of failure to construct an internally consistent scale; the other because the scale failed to load the Tolerance factor. A fairly clear Tolerance of Human Nature factor appeared in the factor analysis of the data from the College sample but not in the analysis of the Navy recruit data (Dermen et al., 1974). Thus the evidence for the marker scales listed below can best be described as tentative.

ETS Marker Scales

Presented below are the items that marked a Tolerance factor in our college student sample. Note that all of the scales are quite short. These might be considered to be representative of what did define the factor rather than as adequate marker scales. Note, too, that the reliability data are based on the sample for which the factor did not appear.

For 432 Naval recruits, coefficient alpha reliabilities are: To1, .48; To2, .39; and To3, .42.

To1. Naive, impunitive, believes people are honest and fair vs. believes people lie and are unfair to gain an advantage

1. Most people will forget about honesty in order to keep out of trouble. (F)
2. I tend to trust most people. (T)
3. Most people are honest, even when they could not possibly be caught. (T)
4. Most people will be unfair if it is to their advantage. (T)

To2. Believes people are capable of good work vs. critical, fault finding

1. If you want something done right, you must do it yourself. (F)
2. People try hard and do surprisingly well when faced with highly responsible jobs. (T)
3. Nowadays workmen rarely take pride in doing their work well. (F)
4. Repairmen today do just plain shoddy work. (F)

5. When people do things incorrectly, it is instruction that they need, not criticism. (T).
6. In spite of all you hear about lousy workmanship, I've found most repairmen to do good reliable work. (T)

To3. Tolerant of human nature vs. cynical about human nature

1. I have no respect for human weakness. (F)
2. I tend to accept my friends for what they are, not try to change them. (T)
3. I've seen very little that makes me think much of the human race. (F)
4. I have a good deal of faith in the worth of most people. (T)
5. I feel little else but disgust for the way human beings usually behave. (F)
6. I feel there is reason to respect almost every human being. (T)

Published Marker Scales

"Cooperativeness" in the Guilford-Martin Personnel Inventory--(The negatively stated items in this scale are a danger to its interpretation.) Guilford and Zimmerman (1956); or

"Personal Relations" in the Guilford-Zimmerman Temperament Survey--Comrey et al. (1968).

FHIDs called "Lack of Cynicism," "Lack of Defensiveness," "Trust in Human Nature," and "Belief in Human Worth" in the Comrey Personality Scales or the total scale, "Trust vs. Defensiveness, T" from which these FHIDs are drawn--several of the Comrey articles cited above.

Factor Wb: Well-being vs. Depression

- Wb1. Has feeling of well-being, euphoria vs. depressed, blue, lonely
- Wb2. Hopeful, interested in life vs. fear and worry about doom or vague dangers
- Wb3. Confident, can stand criticism vs. guilt prone, feels worthless and spurned, worries about self

Literature Evidence

As can be observed in the studies cited below, this factor, Well-being vs. Depression has often been confused or mixed up with neurotic characteristics. Perhaps it should not be considered to be established as a separate factor from neuroticism, but a few analyses make a rather clean distinction, and, indeed, depression is recognized clinically as a reasonably distinctive syndrome.

Well-being vs. Depression is difficult to distinguish from Surgency vs. Repression, as well as from second-order neuroticism. Fortunately, the factors Surgency and Well-being appear separately as "Surgency" or "Happy-go-lucky, F" and as "Self-assured vs. Apprehensive, O", respectively, in the 16 P. F. Questionnaire. The two are also distinguished in several studies with child subjects, Cattell and Coan (1957) and Cattell (1963), and in Lingo (1960). Cattell (1957) calls his factor O "Guilt Proneness vs. Confidence." He "projects his factors into the abnormal," saying that Guilt Proneness becomes "Anxious Depression" and that Surgency becomes "Euphoric mania vs. Simple Depression." According to this analysis, then, the negative of this factor constitutes a more serious, more abnormal, depression than the negative of Surgency. Numerous additional analyses are covered in the table below. Many of them isolate either neurotic depression or euphoria, rather than a bipolar concept.

Additional Studies:

<u>Author(s)</u>	<u>Date</u>	<u>Factor Name</u>	<u>Item Categories</u>	<u>Other concepts also appearing on the factor</u>
Cattell & Gibbons	1968	Placid vs. Apprehensive, O	Wb1, Wb2, Wb3	Emotional stability
Comrey	1957a	Neuroticism	Wb1, Wb2, Wb3	
(same analysis)		Euphoria	Wb1	Energy
(same analysis)		Depression	Wb1	
Comrey	1957b	Neuroticism	Wb1, Wb2	
Comrey	1958a	Neuroticism	Wb1, Wb2	
(same analysis)		Euphoria	Wb1	

<u>Author(s)</u>	<u>Date</u>	<u>Factor Name</u>	<u>Item Categories</u>	<u>Other concepts also appearing on the factor</u>
Comrey	1958c	Neuroticism	Wb1, Wb3	
Comrey	1958e	Euphoria	Wb3	Energy
Comrey	1958f	Euphoria	Wb1	Energy
Comrey & Jamison	1966	Neuroticism	Wb1, Wb2, Wb3	Agitation
Comrey et al.	1968	Neuroticism	Wb1, Wb2, Wb3	Agitation, moodiness
Comrey & Soufi	1961	Cheerfulness vs. Depression	Wb1, Wb2, Wb3	
Howarth & Browne	1971	Emotional Stability	Wb1	Dreams, gets upset
Howarth & Browne	1972	Superego I	Wb3	
Jamison & Comrey	1969	Neuroticism	Wb1, Wb2, Wb3	Agitation, inferiority
Jernigan & Damaree	1971	Emotional Stability	Wb1	Fatigue, moodiness
Trott & Morf	1972	Depressed withdrawn v' Affiliation	Wb1	
(same analysis)		Depression, inadequacy vs. Dominance, self confidence	Wb1, Wb2, Wb3	Dominance, self-confidence, neuroticism

The analysis by Trott and Morf and the two analyses by Comrey (1957a; 1958a), where more than one factor is mentioned, are possibly instances in which the extraction of too many factors has split some factors that we are calling primary.

Confirmation

In our tryout analyses (Dermen, et al., 1974), the scales developed to represent the Well-being concepts had high loadings, but only on a factor with even higher loadings on other characteristics associated with general neuroticism. Thus, we have failed in our attempt to confirm the Well-being vs. Depression factor.

ETS Marker Scales

None

Published Marker Scales

The evidence for the scales recommended below is less than ideal. Guilford's D correlates very highly with his C (Cycloid Disposition), perhaps mostly due to item-overlap, and was subsequently combined with C to produce the Emotional Stability scale in the Guilford-Zimmerman Temperament Survey.

Lingoes' (1960) study cited in support of special MMPI scale, D_1 , is flawed by extensive item-overlap among certain of the subscales analyzed. Comrey's (1957a) analysis does lend support to the suggestion of D_1 in that the three depression-related factors in his study account for the bulk of the items in D_1 .

"Depression" in the Inventory of Factors STDCR--Analyses DT and No in French (1953) and Guilford & Zimmerman (1956).

Harris and Lingoes' special scale D_1 , "Subjective Depression," from the Minnesota Multiphasic Personality Inventory--Lingoes (1960) and Comrey (1957a). The items are enumerated in Dahlstrom, W. G., Welsh, G. S., and Dahlstrom, L. E. An MMPI Handbook, Volume II, Minneapolis: University of Minnesota Press, 1972.

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References

- Adcock, N. V., & Adcock, C. J. A factorial study of the ego reference system. Journal of Genetic Psychology, 1967, 110, 105-115.
- Astin, A. W. A factor study of the MMPI psychopathic deviate scale. Journal of Consulting Psychology, 1959, 23, 550-554.
- Baldwin, T. S. The relationships among personality, cognitive, and job performance variables. Dissertation Abstracts, 1961, 21, 3171.
- Barratt, E. S. Factor analysis of some psychometric measures of impulsiveness and anxiety. Psychological Reports, 1965, 16, 547-554.
- Becker, W. C. A comparison of the factor structure and other properties of the 16 P. F. and the Guilford-Martin Personality Inventories. Educational and Psychological Measurement, 1961, 21, 393-404.
- Bendig, A. W. A factor analysis of scales of emotionality and hostility. Journal of Clinical Psychology, 1961, 17, 189-192.
- Bendig, A. W. A factor analysis of personality scales including the Buss-Durkee Hostility Inventory. Journal of General Psychology, 1962, 66, 179-183.
- Bendig, A. W. Factor analytic scales of need achievement. Journal of General Psychology, 1964, 70, 59-67.
- Bendig, A. W., & Martin, A. M. The factor structure and stability of fifteen human needs. Journal of General Psychology, 1962, 67, 229-235.
- Bendig, A. W., & Martin, A. M. The factor structure of temperament traits and needs. Journal of General Psychology, 1963, 69, 27-36.
- Bledsoe, J. C., & Khatena, J. Factor analytic study of Something about Myself. Psychological Reports, 1973, 32, 1176-1178.
- Borgatta, E. F. The coincidence of subtests in four personality inventories. Journal of Social Psychology, 1962, 56, 227-244.
- Borgatta, E. F. The structure of personality characteristics. Behavioral Science, 1964, 9, 8-17.
- Borgatta, E. F., & Eschenbach, A. E. Factor analysis of Rorschach variables and behavior observation. Psychological Reports, 1955, 1, 129-136.
- Butt, D. S. Socialization dimensions and their correlates. Proceedings of the 78th Annual Convention of the American Psychological Association, 1970, 5, 475.

- Cattell, R. B. The conceptual and test distinction of neuroticism and anxiety. Journal of Clinical Psychology, 1957, 13, 221-233. (a)
- Cattell, R. B. Personality and motivation: Structure and measurement. New York: World Book Company, 1957. (b)
- Cattell, R. B. Teachers' personality description of six-year-olds: A check on structure. British Journal of Educational Psychology, 1963, 33, 219-235.
- Cattell, R. B., & Coan, R. W. Child personality structure as revealed in teachers' behavior ratings. Journal of Clinical Psychology, 1957, 13, 315-327.
- Cattell, R. B., & Delhees, K. H. Seven missing personality factors in the questionnaire primaries. Multivariate Behavioral Research, 1973, 8, 173-194.
- Cattell, R. B., & Gibbons, B. D. Personality factor structure of the combined Guilford and Cattell personality questionnaires. Journal of Personality and Social Psychology, 1968, 9, 107-120.
- Cattell, R. B., Eber, H. W., & Delhees, K. H. A large sample cross validation of the personality trait structure of the 16 P. F. with some clinical implications. In R. B. Cattell (Ed.) Progress in clinical psychology through multivariate experimental design, Multivariate Behavioral Research, 1968, Special Issue, 107-131.
- Cattell, R. B., Eber, H. W., & Tatsuoka, M. M. Handbook for the Sixteen Personality Factor Questionnaire (16 P. F.). Champaign, Ill.: Institute for Personality and Ability Testing, 1970.
- Cattell, R. B., Horn, J., & Butcher, H. J. The dynamic structure of attitudes in adults: A description of some established factors and of their measurement by the Motivational Analysis Test. British Journal of Psychology, 1962, 53, 57-69.
- Comrey, A. L. A factor analysis of items on the MMPI depression scale. Educational and Psychological Measurement, 1957, 17, 578-585. (a)
- Comrey, A. L. A factor analysis of items on the MMPI hysteria scale. Educational and Psychological Measurement, 1957, 17, 586-592. (b)
- Comrey, A. L. A factor analysis of items on the MMPI psychopathic deviate scale. Educational and Psychological Measurement, 1958, 18, 91-98. (a)
- Comrey, A. L. A factor analysis of items on the MMPI paranoia scale. Educational and Psychological Measurement, 1958, 18, 99-107. (b)

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- Comrey, A. L. A factor analysis of items on the MMPI psychasthenia scale. Educational and Psychological Measurement, 1958, 18, 293-300. (c)
- Comrey, A. L. A factor analysis of items on the MMPI hypomania scale. Educational and Psychological Measurement, 1958, 18, 313-323. (d)
- Comrey, A. L. A factor analysis of items on the F scale of the MMPI. Educational and Psychological Measurement, 1958, 18, 621-632. (e)
- Comrey, A. L. A factor analysis of items on the K scale of the MMPI. Educational and Psychological Measurement, 1958, 18, 633-639. (f)
- Comrey, A. L. Factored homogeneous item dimensions in personality research. Educational and Psychological Measurement, 1961, 21, 417-431.
- Comrey, A. L. Personality factors compulsion, dependence, hostility, and neuroticism. Educational and Psychological Measurement, 1964, 24, 75-84.
- Comrey, A. L. EITS manual for the Comrey Personality Scales. San Diego: Educational and Industrial Testing Service, 1970.
- Comrey, A. L., & Duffy, K. E. Cattell and Eysenck factor scores related to Comrey personality factors. Multivariate Behavioral Research, 1968, 3, 379-392.
- Comrey, A. L., & Jamison, K. Verification of six personality factors. Educational and Psychological Measurement, 1966, 26, 945-953.
- Comrey, A. L., & Marggraff, W. M. A factor analysis of items on the MMPI schizophrenia scale. Educational and Psychological Measurement, 1958, 18, 301-311.
- Comrey, A. L., & Soufi, A. Further investigation of some factors found in MMPI items. Educational and Psychological Measurement, 1960, 20, 777-786.
- Comrey, A. L., & Soufi, A. Attempted verification of certain personality factors. Educational and Psychological Measurement, 1961, 21, 113-127.
- Comrey, A. L., Jamison, K., & King, N. Integration of two personality factor systems. Multivariate Behavioral Research, 1968, 3, 147-159.
- Crumpton, E., Cantor, J. M., & Batiste, C. A factor analytic study of Barron's Ego Strength scale. Journal of Clinical Psychology, 1960, 16, 283-291.

- Dermen, D., French, J. W., & Harman, H. H. Verification of self-report temperament factors. ETS Project Report, PR-74-21, Princeton, N. J.: Educational Testing Service, 1974. Available as ED 104 912 from ERIC Document Reproduction Service, Computer Microfilm International Corporation, P. O. Box 190, Arlington, VA 22210.
- Edwards, A. L. Edwards Personality Inventory manual. Chicago: Science Research Associates, 1967.
- Edwards, A. L., & Abbott, R. D. Relationships among the Edwards Personality Inventory scales, the Edwards Personal Preference Schedule, and the Personality Research Form scales. Journal of Consulting and Clinical Psychology, 1973, 40, 27-32.
- Edwards, A. L., Abbott, R. D., & Klockars, A. J. A factor analysis of the EPPS and PRF personality inventories. Educational and Psychological Measurement, 1972, 32, 23-29.
- Ekstrom, R. B., French, J. W., & Harman, H. H. Kit of Factor-Referenced Cognitive Tests, Princeton, N. J.: Educational Testing Service, 1976.
- Finney, J. C. The MMPI as a measure of character structure as revealed by factor analysis. Journal of Consulting Psychology, 1961, 25, 327-336.
- French, J. W. The description of personality measurements in terms of rotated factors. Princeton, N. J.: Educational Testing Service, 1953.
- French, J. W. Toward the establishment of self-report temperament factors through literature search and interpretation. ETS Project Report PR-73-29, Princeton, N. J.: Educational Testing Service, 1973. Available as ED 080 579 from ERIC Document Reproduction Service, Computer Microfilm International Corporation, P. O. Box 190, Arlington, VA 22210.
- French, J. W., & Dermen, D. Seeking markers for temperament factors among positive and negative poles of temperament scales. ETS Project Report PR-74-22, Princeton, N. J.: Educational Testing Service, 1974. Available as ED 104 909 from ERIC Document Reproduction Service, Computer Microfilm International Corporation, P. O. Box 190, Arlington, VA 22210.
- Guilford, J. P., & Zimmerman, W. S. Fourteen dimensions of temperament. Psychological Monographs, 1956, 70, No. 10.
- Guilford, J. P., Christensen, P. R., Frick, J. W., & Merrifield, P. R. Factors of interest in thinking. Journal of General Psychology, 1961, 65, 39-56.

- Hallworth, H. J. Personality ratings of adolescents: A study in a comprehensive school. British Journal of Educational Psychology, 1964, 34, 171-177.
- Hallworth, H. J., Davies, H., & Gamston, C. Some adolescents' perceptions of adolescent personality. British Journal of Social and Clinical Psychology, 1965, 4, 81-91.
- Harman, H. H. Modern factor analysis. Chicago: University of Chicago Press, 1976.
- Howarth, E., & Browne, J. A. Investigation of personality factors in a Canadian context: 1. Marker structure in personality questionnaire items. Canadian Journal of Behavioral Science, 1971, 3, 161-173.
- Howarth, E., & Browne, J. A. An item factor analysis of the Eysenck Personality Inventory. British Journal of Social and Clinical Psychology, 1972, 11, 162-174.
- Jackson, D. N., & Guthrie, G. M. Multitrait-multimethod evaluation of the Personality Research Form. Proceedings of the 76th Annual Convention of the American Psychological Association, 1968, 3, 177-178.
- Jackson, D. N., Ahmed, S. A., & Heapy, N. A. Is achievement a unitary construct? Journal of Research in Personality, 1976, 10, 1-21.
- Jamison, K., & Comrey, A. L. A comparison of personality factor structure in British and American university students. Journal of Psychology, 1969, 71, 45-57.
- Jay, R. L. Q technique factor analysis of the Rokeach Dogmatism Scale. Educational and Psychological Measurement, 1969, 29, 453-459.
- Jernigan, L. R., & Demaree, R. G. Item-factor analysis of the Guilford-Zimmerman Temperament Survey. Proceedings of the 79th Annual Convention of the American Psychological Association, 1971, 6, 111-112.
- Karson, S., & Pool, K. B. Second-order factors in personality measurement. Journal of Consulting Psychology, 1958, 22, 299-303.
- Kerlinger, F. N., & Rokeach, M. The factorial nature of the F and D scales. Journal of Personality and Social Psychology, 1966, 4, 391-399.
- Khan, S. B. Dimensions of manifest anxiety and their relationship to college achievement. Journal of Consulting and Clinical Psychology, 1970, 35, 223-228.

- Kolton, M. S., & Dwarshinis, L. A clinical factor analytic method for inferring construct meaning. Educational and Psychological Measurement, 1973, 33, 653-661.
- Krug, R. E. An analysis of the F scale: I. Item factor analysis. Journal of Social Psychology, 1961, 53, 285-291.
- Lingoes, J. C. MMPI factors of the Harris and Wiener subscales. Journal of Consulting Psychology, 1960, 24, 74-83.
- McKinney, J. P. The structure of behavioral values of college students. Journal of Psychology, 1973, 85, 235-244.
- Mitchell, J. An analysis of the factorial dimensions of the Bills' Index of Adjustment and Values. Journal of Social Psychology, 1962, 58, 331-337.
- Mitchell, J. V., Jr. A comparison of the first and second order dimensions of the 16 P. F. and CPI inventories. Journal of Social Psychology, 1963, 61, 151-166.
- Norman, W. T. Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. Journal of Abnormal and Social Psychology, 1963, 66, 574-583.
- O'Connor, J. P., Lorr, M., & Stafford, J. W. Some patterns of manifest anxiety. Journal of Clinical Psychology, 1956, 12, 160-163.
- Parker, G. V. C., & Veldman, D. J. Item factor structure of the Adjective Check List. Educational and Psychological Measurement, 1969, 29, 605-613.
- Pedhazur, E. J. Factor structure of the Dogmatism Scale. Psychological Reports, 1971, 28, 735-740.
- Richards, J. M., Jr. A factor analytic study of the self-ratings of college freshmen. Educational and Psychological Measurement, 1966, 26, 861-870.
- Sciortino, R. Factorial analysis of motivational self-ratings from a combined sample of male and female subjects. Psychological Reports, 1967, 21, 573-576.
- Sciortino, R. Factorial study and analysis of factor variance of general adaptability self-ratings from a combined sample of male and female subjects. Journal of Psychology, 1969, 72, 169-177. (a)
- Sciortino, R. Factorial study and analysis of factor variance of intellectual self-ratings from a combined sample of male and female subjects. Journal of Psychology, 1969, 71, 261-269. (b)

- Sciortino, R. Personality Characteristics Inventory: I. Factor structure for a combined sample of male and female college students. Psychological Reports, 1970, 27, 619-622. (a)
- Sciortino, R. Personality Adjective List: I. Factor structure for a combined sample of male and female college students. Psychological Reports, 1970, 27, 815-817. (b)
- Sells, S. B., Demaree, R. G., & Will, D. P., Jr. Dimensions of personality: I. Conjoint factor structure of Guilford and Cattell trait markers. Multivariate Behavioral Research, 1970, 5, 391-422.
- Sells, S. B., Demaree, R. G., & Will, D. P., Jr. Dimensions of personality: II. Separate factor structures in Guilford and Cattell trait markers. Multivariate Behavioral Research, 1971, 6, 135-185.
- Singer, J. L., & Antrobus, J. S. A factor-analytic study of daydreaming and conceptually-related cognitive and personality variables. Perceptual and Motor Skills, 1963, 17, 187-209.
- Singer, J. L., & Antrobus, J. S. Daydreaming, imaginal processes, and personality: A normative study. In P. Sheehan (Ed.), The nature and function of imagery. New York: Academic Press, 1972.
- Trott, D. M., & Morf, M. E. A multimethod factor analysis of the Differential Personality Inventory, Personality Research Form, and MMPI. Journal of Counseling Psychology, 1972, 19, 94-103.
- Veldman, D. J., & Parker, G. V. C. Adjective rating scales for self description. Multivariate Behavioral Research, 1970, 5, 295-302.
- Warr, P. B., Lee, R. E., & Jöreskog, K. G. A note on the factorial nature of the F and D scales. British Journal of Psychology, 1969, 60, 119-123.

PUBLISHED INVENTORIES CONTAINING MARKER SCALES

Comrey Personality Scales (1970)

Andrew L. Comrey

Grades 9-16 and adults

Measures (listed by Scale and component Factored Homogeneous Item Dimensions):

T - Trust vs. Defensiveness (also called Hostility) (To)

1. Lack of cynicism (To)
2. Lack of defensiveness (To)
3. Belief in human worth (To)
4. Trust in human nature (To)
5. Lack of paranoia

O - Orderliness vs. Lack of compulsion (also called Compulsion) (Me)

6. Neatness (Me)
7. Routine (Me)
8. Order (Me)
9. Cautiousness
10. Meticulousness (Me)

C - Social conformity vs. Rebelliousness (also called Socialization)

11. Law enforcement
12. Acceptance of social order (In)
13. Intolerance of Nonconformity (In)
14. Respect for law
15. Need for approval (In)

A - Activity vs. Lack of Energy (also called General Activity) (Ac)

16. Exercise (Ac)
17. Energy (Ac)
18. Need to Excel
19. Liking for work (Ac)
20. Stamina (Ac)

S - Emotional Stability vs. Neuroticism (also called Neuroticism)

21. Lack of Inferiority Feelings
22. Lack of Depression
23. Lack of Agitation
24. Lack of Pessimism
25. Mood Stability

E - Extraversion vs. Introversion (also called Shyness)

26. Lack of Reserve (So)
27. Lack of Seclusiveness (So)
28. No Loss for Words (So)
29. Lack of Shyness (So)
30. No Stage Fright

M - Masculinity vs. Femininity (also called Masculinity)

31. No Fear of Bugs
32. No Crying
33. No Romantic Love
34. Tolerance of Blood
35. Tolerance of Vulgarity

P - Empathy vs. Egocentrism (also called Empathy)

36. Sympathy (Se)
37. Helpfulness (Se)
38. Service
39. Generosity (Se)
40. Unselfishness

Publisher: Educational and Industrial Testing Service
P. O. Box 7234
San Diego, California 92107

D F Opinion Survey (An Inventory of Dynamic Factors) (1954)

J. P. Guilford, P. R. Christensen, N. A. Bond, Jr.

Grades 9-16 and adults

Measures:

- NA - Need for attention
- LT - Liking for thinking
- AS - Adventure vs. security
- SR - Self-reliance vs. dependence
- AA - Aesthetic appreciation
- CC - Cultural conformity (Mo)
- NF - Need for freedom
- RT - Realistic thinking
- NP - Need for precision
- ND - Need for diversion

Publisher: Sheridan Psychological Services, Inc.
P. O. Box 6101
Orange, California 92667

Edwards Personal Preference Schedule (1953-59)

A. L. Edwards

Grades 13-16 and adults

Measures:

Achievement (Na)
Deference (Sc)
Order (Me)
Exhibition (Po)
Autonomy (In)
Affiliation
Intracception (Th)
Succorance (Ss)
Dominance (Do)
Abasement
Nurturance (Se)
Change
Endurance (Pe?)
Heterosexuality (Gs)
Aggression

Publisher: The Psychological Corporation
757 Third Avenue
New York, New York 10017

Edwards Personality Inventory (1966-1967)

A. L. Edwards

Grades 9-16 and adults

Measures: Booklets 1A and 1B

Plans and organizes things (Me)
Intellectually oriented
Persistent (Pe)
Self-confident
Has cultural interests
Enjoys being the center of attention (Po)
Carefree
Conforms (In)
Is a leader (Do)
Kind to others (Se)
Worries about making a good impression on others
Seeks new experiences
Likes to be alone
Interested in the behavior of others (Th)

Booklet 2

Anxious about his performance (Sc)
Avoids facing problems (De)
Is a perfectionist
Absent-minded (De)

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Sensitive to criticism (Sc)
Likes a set routine (Me)
Wants sympathy (Sa)
Avoids arguments
Conceals his feelings
Easily influenced
Feels misunderstood

Booklet 3

Motivated to succeed
Impressed by status (Na)
Desires recognition (Na)
Plans work efficiently
Cooperative
Competitive
Articulate
Feels superior
Logical
Assumes responsibility (Do)
Self-centered
Makes friends easily
Independent in his opinions (In)
Is a hard worker (Pe)
Neat in dress

Booklet 4

Self-critical
Critical of others
Active
Talks about himself
Becomes angry
Helps others (Se)
Careful about his possessions
Understands himself
Considerate
Dependent (Ss)
Shy
Informed about current affairs
Virtuous

Publisher: Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

The Guilford-Martin Inventory of Factors GAMIN (1943, renewed 1970)

J. P. Guilford and H. G. Martin
Grades 9-16 and adults

Measures:

- G - General activity (Ac)
- A - Ascendance (Do)
- M - Masculinity
- I - Inferiority feelings (Sc)
- N - Nervousness

Publisher: Sheridan Psychological Services, Inc.
P. O. Box 6101
Orange, California 92667

The Guilford-Martin Personnel Inventory (1943, renewed 1970)

J. P. Guilford and H. G. Martin
Grades 9-16 and adults

Measures:

- O - Objectivity (Ob)
- Ag - Agreeableness
- Co - Cooperativeness (To)

Publisher: Sheridan Psychological Services, Inc.
P. O. Box 6101
Orange, California 92667

The Guilford-Zimmerman Temperament Survey (1949, renewed 1976)

J. P. Guilford and W. S. Zimmerman
High school through college and adult

Measures:

- G - General activity (Ac)
- R - Restraint (Rt)
- A - Ascendance (Do)
- S - Sociability (So)
- E - Emotional stability
- O - Objectivity (Ob)
- F - Friendliness
- T - Thoughtfulness (Th)
- P - Personal relations (To)
- M - Masculinity

Publisher: Sheridan Psychological Services, Inc.
P. O. Box 6101
Orange, California 92667

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Imaginal Processes Inventory (1966, 1970)
J. L. Singer and J. S. Antrobus
Adults

Measures:

Part I Daydreaming frequency;
Night dreaming frequency

Part II Structural and Content Daydreaming Scales
and Scales of Curiosity and Attention

Absorption in daydreaming
Acceptance of daydreaming
Positive reactions in daydreaming
Frightened reactions to daydreams
Visual imagery in daydreams
Auditory images in daydreams
Problem solving daydreams
Present-oriented daydreams
Future in daydreams
Past in daydreams
Bizarre improbable daydreams
Mind wandering
Achievement-oriented daydreams
Hallucinatory-vividness of daydreams
Fear of failure daydreams
Hostile daydreams
Sexual daydreams
Heroic daydreams
Guilt daydreams
Curiosity: Interpersonal
Curiosity: Impersonal-mechanical
Boredom
Mentation rate
Distractibility
Need for external stimulation
Self-revelation scale

Publisher: Microfiche copies may be ordered, for
research purposes, from:
Tests in Microfiche
ETS Test Collection
Educational Testing Service
Princeton, New Jersey 08541

An Inventory of Factors STDCR (1940, renewed 1967)

J. P. Guilford

Grades 9-16 and adults

Measures:

- S - Social introversion-extraversion (So)
- T - Thinking introversion-extraversion (Th)
- D - Depression (Wb)
- C - Cycloid disposition
- R - Rhythymia (Rt)

Publisher: Sheridan Psychological Services, Inc.

P. O. Box 6101

Orange, California 92667

IPAT Anxiety Scale (1957-1976)

R. B. Cattell

Ages 14 and over

Measures: Total anxiety; subscores for covert anxiety and overt anxiety (Ca)

Publisher: Institute for Personality and Ability Testing

1602 Coronado Drive

Champaign, Illinois 61822

Minnesota Multiphasic Personality Inventory (1942-1967)

S. R. Hathaway and J. C. McKinley

Ages 16 and over

Measures:

- Hs - Hypochondriasis (Es)
- D - Depression
- Hy - Hysteria (Es)
- Pd - Psychopathic deviate
- Mf - Masculinity and femininity
- Pa - Paranoia
- Pt - Psychasthenia
- Sc - Schizophrenia
- Ma - Hypomania
- Si - Social introversion
- ? - Question
- L - Lie
- F - Validity
- K - Test taking attitude

Publisher: The Psychological Corporation

757 Third Avenue

New York, New York 10017

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Personality Research Form (1965-1974)

D. N. Jackson

Grades 7 - 12 and adults

Measures: Standard edition--

Achievement (Pe)

Affiliation

Aggression

Autonomy (In)

Dominance (Do)

Endurance (Pe?)

Exhibition (Po)

Harmavoidance

Impulsivity (Rt)

Nurturance (Se)

Order (Me)

Play (Gs)

Social recognition (In)

Understanding (Th)

Infrequency

Long edition--above, plus:

Abasement (Sc)

Change

Cognitive structure (Me)

Defendance

Sentience

Succorance (Ss)

Desirability

Publisher: Research Psychologists Press, Inc.

P. O. Box 984

Port Huron, Michigan 48060

Sixteen Personality Factor Questionnaire (16 P. F.) (1949-1970)

R. B. Cattell, H. W. Eber, M. M. Tatsuoka

Ages 16 and over

Measures:

A - Sizothymia vs Affectothymia (cyclothymia vs. schizothymia) (Ag)

B - Low intelligence vs High intelligence

C - Emotional instability or ego weakness vs Higher ego strength (Es)

E - Submissiveness vs Dominance or ascendance (Do)

F - Desurgency vs Surgency (Su)

- G - Low superego strength vs Superego strength (Mo)
 - H - Threctia vs Parmia (Venturesome vs. shy) (So)
 - I - Harria vs Premsia
 - L - Alaxia vs Protension
 - M - Praxernia vs Autia
 - N - Naivete vs Shrewdness
 - O - Untroubled adequacy vs Guilt proneness
 - Q1 - Conservatism of temperament vs Radicalism or
experimenting (In)
 - Q2 - Group dependency vs Self-sufficiency
 - Q3 - Low self-sentiment integration vs High strength
of self-sentiment
 - Q4 - Low ergic tension vs High ergic tension (Ca)
- Plus six second-stratum factors.

Publisher: Institute for Personality and Ability Testing
1602 Coronado Drive
Champaign, Illinois 61822

Study of Values (1931-1970)

G. W. Allport, P. E. Vernon, and G. Lindzey
Grades 10-16 and adults

Measures:

- Theoretical
- Economic
- Aesthetic
- Social (Gs)
- Political
- Religious

Publisher: Houghton Mifflin Co.
Pennington-Hopewell Road
Hopewell, New Jersey 08525