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BEHAVIORAL OBSERVATION VERSUS BEHAVIORAL EXPECTATION RATING SCALES: DEVELOPMENTAL AND PSYCHOMETRIC PROPERTIES

A Thesis Presented to the Department of Psychology and the Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment of the Requirements for the Degree Master of Arts University of Nebraska at Omaha

> by Calvin C. Hoffman August 1981

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THESIS ACCEPTANCE

Accepted for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Arts, University of Nebraska at Omaha.

Thesis Committee Department Name Sus

<u>)ennis</u> Chairman Just

17, 1981 Date And

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July 27, 1981

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Behavioral Observation Versus Behavioral Expectation Rating Scales: Developmental and Psychometric Properties

Rating scales to assess the level of proficiency of human performance have come in a wide variety of formats. The objectives of the scales, types of questions asked, and procedures followed vary widely. Prior to 1960, most rating scales utilized what is known as the graphic format. According to Guion (1965) the rating scale was relied on in 81% of the validation studies using rating scales. While this has declined somewhat (Landy & Trumbo, 1976) performance ratings still play a major part in validation. This study will compare behavioral observation and behavioral expectation scales in terms of psychometric properties. Central to these scales is the question whether either of the scale development procedures is superior.

Theory and research related to the evaluation of criteria (including performance) reflects two major points of view (Schmidt & Kaplan, 1971). One viewpoint maintains that performance should be considered and measured as an overall composite. The second viewpoint regards performance as a multidimensional construct with several independent dimensions. The unidimensional viewpoint stresses the use of performance appraisals for making decisions; the multidimensional viewpoint also recognizes the usefulness of appraisal, but stresses that performance for even relatively simple tasks is psychologically complex. According to Dunnette (1963) it is important to capture this complexity if one is to understand or influence performance. The unidimensional versus multidimensional controversy is one major issue relevant to this topic area.

A second major issue involves the most appropriate way to describe

effective versus ineffective performance. Performance evaluation measures can be placed on a continuum. At one end are traditional performance evaluation measures that employ trait or general evaluative approaches. These scales typically have poorly defined dimensions, such as "quality," and poorly defined scale values, such as "above average," or "below average." While graphic rating scales often view performance as multidimensional, their inherent ambiguity often facilitates the combination of their scores into a global composite for administrative purposes. At the other end of the continuum are "behavior-specific" measures. These scales try to define performance dimensions and phrase scale values in behavioral terms. Evaluations from these instruments are hypothesized to show higher validity and reliability than evaluations made from general, trait-based measures (Schwab, Heneman, & DeCotiis, 1975).

In an industrial setting, the score an employee achieves on a rating scale in a performance appraisal is often the most important factor determining pay and advancement. In this type of situation, an employee's score on a rating scale represents his performance on the criterion of interest. A criterion can be defined as a standard or rule by which a decision is made (Smith, 1975). In psychology it has come to mean a predicted or dependent measure that is used to judge the effectiveness of persons, organizations, or treatments (Smith, 1975). Several requirements for criteria are listed by Thorndike (1949); these include relevance, practicality, and reliability. A criterion must be relevant to some important goal, be it individual or organizational. Reliability is important in that it sets the upper limit of validity. Practicality, the third requirement, refers to the feasibility of a criterion. A criterion thus must satisfy all three requirements to be useful; a criterion that is practical and relevant, but cannot be measured reliably, is useless.

Since the score on a performance rating scale often constitutes the criterion, it is important that the universe of behaviors included in a job be sampled in the rating scale. To the extent effective performance can be understood and predicted, the performance appraisal can be either very deficient or very contaminated with regard to the criterion of interest. When contamination is present, the appraisal instrument measures irrelevant variance and weakens the validity of the instrument. To the extent that an instrument is deficient, variance that would help in understanding and predicting effective performance remains unmeasured. In either case, validity is weakened and a measurement problem exists. Possible sources of contamination and deficiency will be discussed later in this review.

An important consideration with any rating scale is its susceptibility to errors by the rater. To the extent that a scale format contributes to rater error, the ratings derived from it are deficient, contaminated, or both in regard to the criterion. Rating errors that are of vital interest in scale evaluation include halo error, central tendency, leniency, "similar-to-me," and contrast effects. According to Guion (1965) halo is perhaps the most common rating error. This is a tendency to rate a person similarly on a number of different traits because of a general, overall impression. This impression can be either favorable or unfavorable. Halo is due to the rater's inability to discriminate between the different traits on which he rates people. Central tendency is evidenced by a predominance of ratings near the center of the scale. This reduces variability and tends to lower correlations in a prediction situation. Leniency is the tendency for ratings to form skewed distributions. This skewness can be either positive or negative, and is caused by a rater consistently using categories that are at one end of the scale. "Similar-to-me" is just what the name implies: Dissimilar persons are rated lower while persons similar to the rater are rated more favorably. Contrast refers to inaccurate ratings caused by exaggerating differences between ratees. In this situation, the ratee is rated relative to another person rather than evaluating performance relative to the requirements of the job. An average performer thus may be rated higher than he deserves because a highly deficient performer preceded him during a performance rating. Likewise, an average ratee might be rated worse than he deserves because he was preceded by a high performing individual.

Effects of Rater Training on Rating Errors

A study by Latham, Wexley, and Pursell (1975) reported the effectiveness of a training program directed toward minimizing the rater errors that occur in performance appraisals and selection interviews. These errors included contrast effects, halo effects, similar-to-me, and first impressions. Results six months after the intervention showed that a control group committed similarity, contrast, and halo effects. Trainees in a group discussion format committed first impression errors, and trainees in a workshop training group committed none of these errors. The authors note a possible limitation of the study in that the testing was a simulation rather than a measure of the trainees' on-the-job behavior.

Vance, Kuhnert, and Farr (1978) had a rater training condition in

their study comparing behavioral and graphic scale ratings. Results showed no effect for rater training in terms of halo, leniency, and central tendency errors. Subjects in the training condition typically spent only a few minutes reviewing materials on rater errors, and listened to short descriptions of the above-mentioned errors prior to the ratings they performed. It is possible that not enough time was spent on the training session. Subjects in the Latham et al. (1975) study went through a much more extensive training session lasting approximately three days. This could easily account for the differences in the results found in these two studies.

Bernardin and Pence (1980) assigned trainees to one of three groups: a control group, an accuracy group concerned with rating true score performance, and an error group concerned with definition and illustration of rating errors. Results showed that the rater error training group had significantly fewer leniency and halo errors as compared to the accuracy and control groups. When ratings were compared to previously developed true scores, the error training group was significantly <u>less</u> accurate. No significant accuracy differences were found between the accuracy training and control groups. The authors suggest that rater error training lowered halo and leniency errors, and also decreased accuracy due to facilitation of response sets. Rater training may thus result in the replacement of one response set with another.

In contrast, Pursell, Dossett, and Latham (1980) found that rater training tended to minimize rater error. These authors ' found no validity in five instruments to predict job performance developed from a job analysis for electricians. They hypothesized that rater errors were causing the low validity coefficients. 5

The supervisors involved in rating performance were given an eight hour training program on rating errors and how to avoid them. Four of the five rating scales showed correlations significant at the .05 level. The range of coefficients before training ranged from -.02 to -.12. After training, excluding one coefficient of +.01, the correlations ranged from .36 to .63. The authors conclude that the training program teaches raters how to accurately observe and rate behavior; however, only one measure of rater error is described, so these results are unequivocal. They do illustrate that training programs must be more than a few minutes in length if any decrease in rating error is to be expected.

Behaviorally Anchored Rating Scales

The behaviorally anchored rating scale (BARS) is an evaluative procedure that attempts to capture performance in behavior-specific, multidimensional terms. BARS are hypothesized to be superior to alternative evaluation methods in several respects (Smith & Kendall, 1963; Campbell, Dunnette, Lawler, & Weick, 1970, pp. 119-125). The scale is derived from and referable to actual observed behavior. Evaluations of the behavior are made by judges comparable to those who will use the scales, traits and qualities are behaviorally defined, and dimensions and performance level of specific behaviors are agreed upon; thus ratings by different raters can be treated as comparable so long as they agree with interpretations of the developmental judges.

The term BARS has come to be synonymous with the term behavioral expectation scale (BES). This term comes from the use of scaled expectations as anchors for the rating scale. The format proposed for such a scale by Smith and Kendall (1963) is a series of continuous graphic rating scales, arranged vertically (see Figure 1). Each scale represents a dimension of performance. Behavioral descriptions which exemplify the various degrees of each dimension are printed beside the line at different heights. These positions represent the average value or favorability of the behavior as determined by a panel of judges who are subject-matter experts. Often, the same people who will be using the scale participate in its development. The behavioral examples are intended as behavioral anchors to define the level of a characteristic or dimension and serve as operational definitions of the dimension being rated. Ratings are made by checking the position along the line which best exemplifies the expected behavior of the ratee.

While minor variations are involved, the development of BES typically follow five steps (Schwab et al., 1975):

1. Critical incidents. Patterned after Flanagan's (1954) critical incidents technique; persons with knowledge of the job to be investigated (supervisors of job holders) describe specific instances of effective or ineffective behavior.

2. Performance dimensions. The developer clusters the incidents into a smaller set of performance dimensions. The number of dimensions varies, but usually ranges from five to ten. The original Smith and Kendall (1963) methodology has this as the first step. More recent investigations (Campbell, Dunnette, Arvey, & Hellervik, 1973; Fogli, Hulin, & Blood, 1971) have used the present procedure as a way of keeping participants focused on specific behaviors (critical incidents). If this is not done, the participants may instead focus on traits, which are global dimensions varying in their degree of relevance to performance.

3. Retranslation. A second group of participants, who are also

7

Figure 1*

Interpersonal Relations with Students--The Professor's Rapport with and Sensitivity to Students

	f
7	When a class doesn't understand a certain concept or feels "lost," this professor could be expected to sense it and act to correct the situation.
6	This professor could be expected to answer the student's questions about learning and conditioning without making the student feel stupid and without making the student feel that he's bothering the professor.
	When confronted with questions after class, this statistics profes- sor could be expected to stay and talk to the students until the next class must begin.
5	This professor, when a student comes to his office for help, could be expected to go through one explanation of the material and tell the student to read certain chapters of the text and come back if he still has troubles understanding the material.
4	During lectures, this professor could often be expected to tell students with questions to see him during his office hours.
3	If a student asks this statistics professor to help him with "t"- tables a few days before the final exam, this professor could be expected to say that he has no time because he is very busy compos- ing the exam, and to tell the student to ask a TA.
5	This professor could be expected to not see students individually, except during his regularly scheduled office hours.
2	This professor is never in his "official office." He could be expected to maintain his office in another part of the campus where he does his research and in order to learn of its whereabouts, students must ask him individually.
	In this experimental psychology class, if a student approaches this professor after a lecture on visual-search and tells the professor that he is interested in devising an apparatus that will measure visual-search time more efficiently than present methods, the professor's attitude could be expected to be an "I-really-don't- care-if-you-do-it-or-not."
1	This professor could be expected to try to humiliate or embarrass students who disagree with him.

^{*}Note. From "Development of behaviorally anchored scales for the evaluation of faculty teaching" by Harari, O., & Zedeck, S., Journal of Applied Psychology, 1973, 58(2), 261-265.

knowledgeable of the job, are then asked to retranslate or reallocate the critical incidents. They are given dimension definitions and the critical incidents, and are asked to place the incidents into the proper dimensions. A retranslation criterion of reproducibility is employed (usually 50% to 80%). To the extent the judgments in the second group agree with the judgments in the first group, the incidents will be retained for inclusion in the final instrument. Such incidents are said to be retranslated.

4. Scaling incidents. The second group is usually also asked to rate the level of effectiveness (seven or nine point scale) of the described behavior on the appropriate dimension. The average rating the behavior receives describes the degree to which the behavior represents effective performance. The standard deviation reflects the agreement among raters on how the behavior should be scaled. The lower the standard deviation, the higher the interrater agreement. While the cut-off level varies, typically, incidents that have a standard deviation of 1.5 or less on a seven point scale are retained.

5. Final instrument. A subset of incidents, usually six or seven, that meet both the retranslation and scaling criteria are used as behavioral anchors for the performance dimensions. The final instrument consists of a series of vertical scales (one per dimension) with the retained incidents used as anchors. Incidents are placed on the scales according to their mean rating established in step four.

While BES have many hypothesized advantages, as described earlier, they also have a number of disadvantages. Schwab et al. (1975) noted that a substantial number of critical incidents obtained in step one are discarded in subsequent steps. If one assumes that the original pool of incidents generated in any BARS study all represent behaviors that an evaluator may see and assess in an applied setting, instruments defined and anchored by relatively few examples could create at least two problems. First, the evaluator may have difficulty assigning observed behaviors to specific dimensions. Second, the evaluator may have difficulty deciding the value or effectiveness of the observed behavior against the examples provided. Both of these problems would obviously be potential sources of error variance. (Schwab et al., 1975, p. 558)

A second problem also noted by these authors is that the subjective process used to develop individual appraisal criteria may result in nonindependent criterion categories. To the extent that dimensions are nonindependent, the instrument tends to be a unidimensional global measure. Atkin and Conlon (1978) summarized a number of problems with BES.

1. The format used in BES is a Thurstone scale. Endorsement of an incident above the neutral point on the BES implies endorsement of all other incidents between the neutral point and the incident in question.

2. Standard or noncritical behavior may not be processed and stored in the same way as critical or nonstandard behavior. At the time the rating occurs, the rater may not have enough information concerning standard performance to use in a BES context.

3. Atkin and Conlon suggest that, to the extent a particular supervisor feels a particular dimension is more important than others, s/he will tend to define a narrow range of acceptable behaviors, a null set of neutral behaviors, and a broad set of unacceptable behaviors.

To a large extent, the criticisms of Atkin and Conlon evolve from the use of the Thurstone scaling technique.

Research Results with BES

Smith and Kendall (1963) are generally credited with developing the BES. These authors felt that the use of expected behaviors would increase conscientiousness of the rater, and make predictions so concrete that central tendency would be minimized. Scale reliabilities for the six scales developed in their study ranged from .982 to .998. Reliabilities were calculated by correlating the mean evaluation of items by four groups of subjects with the ratings from a holdout sample of subjects. While the authors hypothesized that central tendency would be minimized, no estimate of this error was reported. The sample of the Smith and Kendall (1963) study comprised four separate groups of head nurses totalling 457 subjects. These head nurses served as judges in the various steps of the BES development procedure outlined earlier. Six separate dimensions of nurses' behavior were developed.

Borman and Dunnette (1975) compared behavior-based (BES) and traitoriented (graphic) scales. Navy officers were rated on the basis of behaviorally anchored scales, scales without behavioral anchors, and a series of scales involving trait-oriented dimensions, also without anchors. Research summarized by the authors indicated that the major advantage of behavioral scaling methodology may reside more in the processes of discovering and developing performance dimensions than in the use of behavioral anchors in the performance rating format. Results of the study showed the behaviorally anchored format clearly superior to the other two formats in terms of halo, leniency, and interrater agreement. The authors noted that interrater agreement was best with the anchored format, even though it was new to the raters. The officers performing the ratings had used the trait rating format up to the time of the study. The authors conclude that while the behaviorally anchored format was superior on all measures obtained, the magnitude of superiority was not great, and in no case accounted for more than an extra 5% of the variance accounted for by either of the other two formats. Given the time and effort required to develop behavior-based job performance scales, the authors state that the results do not warrant their development if their only use is to evaluate performance. More important is the wealth of information about job requirements and performance yielded by the technique.

The question of the effectiveness of the participation in scale development was addressed by Keaveny and McGann (1975) along with comparing BES and graphic scales. The BES ratings resulted in less halo error than did the graphic scale, but did not correct for leniency in the ratings. These results were duplicated for raters who did not take part in the scale development process. According to the authors, participation in scale development does not appear to have a major impact. The results of a factor analysis indicate that ratings gathered by BES have a different structure than ratings gathered by a graphic method. While the factor structures were different, they were essentially equivalent in "cleanness," so neither format could be judged superior in this respect.

Vance et al. (1978) performed a study comparing the psychometric properties of BES and graphic scales in making interview judgments, and also compared the efficiency of rater training in reducing rater errors. Results showed the BES ratings were more accurate relative to external criteria, less subject to halo and leniency errors, and exhibited greater interrater reliability than graphic scale ratings. As stated earlier, rater training had no effect on rater errors.

In a recent study, Green, Carney, and Serey (1978) compared BES and graphic scales (GRS), but not on the usual psychometric properties. Instead, the authors were interested in the informational content of the two scale formats, and what effects this information would have on the rater's view of the ratee. The authors see the traditional graphic rating scale as presenting the evaluator with simply defined performance dimensions and vaguely defined scale values. The behaviorally anchored scale, on the other hand, defines performance in behavioral terms and anchors the scale values with behavioral examples that could actually occur on the job. The difference in information content might present the evaluator reading two different types of appraisal instruments with very different views of the person to be rated. A pilot study performed by the authors indicated that BES could affect judgments about the ratee in terms of future potential and in terms of confidence of ratings. The ratee was seen as more likely to succeed in his company when he was evaluated on a behaviorally anchored instrument as opposed to a graphic rating scale. Green et al. suggest that behavioral anchors offer insight into what types of job behaviors are required, what types of situations are likely on the job, and how many types of behaviors are necessary to achieve performance excellence. The GRS format offers no such insights. Accordingly, they hypothesized that, relative to the GRS instrument, the behaviorally anchored scale allows the rater to feel s/he can better judge task difficulty, the ratee's level of ability,

and/or level of effort. These factors are among the most salient causal factors people use in understanding and making attributions about task performance (see Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971). Besides the causal attribution factors, the authors hypothesized that the behaviorally anchored instrument would tend to cause raters to perceive a task as more difficult than when information was supplied by a GRS. Results of the study indicated that the behaviorally anchored instrument allowed raters to feel they could judge causal factors underlying performance. The BARS appeared to help the decision maker to better judge ability, effort, and task difficulty. Task difficulty was found to be the single factor most strongly related to both confidence (of ratings) and expectancy of future performance ratings. The authors suggest that the BARS-type evaluation instrument might have much to recommend it over a GRS-type instrument even if it is only at parity in terms of ratee errors such as leniency and halo errors.

A recent literature review on the BES by Schwab et al. (1975) summarized a number of studies utilizing BES methodology. Landy and Guion (1970) developed BES with seven dimensions to rate the performance of two separate groups of engineers (N = 19, N = 14). Dimension intercorrelations ranged from .11 to .70, and interrater reliability from .51 to .69. Campion (1972) developed BES with two dimensions to appraise the performance of maintenance mechanics (N = 32). The two dimensions intercorrelated highly (r = .72); no other measures were given. Zedeck and Baker (1972) developed a BES with five performance dimensions for use with a sample of 98 nurses. Dimension intercorrelations ranged from .38 to .82, and interrater reliabilities ranged from .24 to .52. Arvey and Hoyle (1974) developed a BES with 11 performance dimensions and utilized a sample of 200 systems and programmer analysts. Dimensions intercorrelated .40 to .71; no other measures were reported.

As can be seen from the above review, the number of performance dimensions vary widely (two to eleven) and few measures other than dimension intercorrelations and interrater reliability are reported. The BES has been developed and utilized for a wide range of jobs, however.

Behavioral Observation Scales

Behavioral observation scales (BOS) (Latham & Wexley, 1977) are a recent development in the area of behaviorally anchored appraisal instruments. BOS are similar to BES in that both are based on the critical incident job analysis procedure. The BOS is based on a Likert-type (summative) format, while the BES is based on a Thurstone format.

The BOS typically is developed through a more quantitative process than most rating scales. In the first step, a large number of critical incidents and statements related to the performance in question are collected. Individuals are observed and rated on a scale (usually five points) as to the frequency with which they engage in each behavior described in the incidents or statements in step one (see Figure two). Total scores for individuals are determined by summing responses of the observer to the behavioral items. When a large sample is available, factor analysis is used to determine the number of dimensions (e.g., Latham & Wexley, 1977). The use of factor analysis, according to these authors, tends to increase dimension reliabilities. When a large sample is not available, BOS are developed by means of a qualitative cluster

Figure 2*

Typical BOS Item

"Knows the price of competitive products."

Never	Seldom	Sometimes	Generally	Always
1	2	3	4	5

The manager simply records the frequency (0-19%, 20-39%, 40-59%, 60-79%, 80-100%) with which he has actually observed the employee demonstrate this behavior.

^{*}Note. From "Behavioral observational scales for performance appraisal purposes" by Latham, G. P., & Wexley, K. N., <u>Personnel</u> <u>Psychology</u>, 1977, <u>30</u>, 255-268.

analysis (Campbell et al., 1973). Items correlating most highly with the total score on the resulting dimensions are retained to form a behavioral criterion.

Ronan and Latham (1974) stress that while a procedure similar to retranslation as suggested by Smith and Kendall (1963) is used in the development of the critical incidents, there are two important differences. First, behaviors must be observed, they are not evaluated on the basis of expected behavior. Second, Smith and Kendall suggest that behavioral categories for the job in question should have defined anchor points based on the behavioral subcategories. The resulting categories are thus evaluated on a seven- or nine-point scale, with each point representing a specific subcategory. Ronan and Latham required the observer to evaluate the extent to which he actually saw a behavior being demonstrated; the Likert-type format was used. Thus, anchor points were the relative percentage of time the rater observed a particular behavior.

Hypothesized advantages of BOS are described by Latham, Fay, and Saari (1979).

1. BOS are developed from data supplied by the scale users for the scale users. Commitment to the use of, and understanding of the scales should thus be facilitated.

2. BOS are content valid. A range of behaviors differentiating successful and unsuccessful performers are included on the scales.

3. The BOS can be used alone or as a supplement to job descriptions; required behaviors are made explicit.

4. BOS should tend to improve performance feedback in that generalities are avoided. Overt behaviors are emphasized and praised;

17

the employee is encouraged to demonstrate these behaviors on the job.

5. EEOC guidelines are satisfied in terms of validity and reliability by BOS.

Criterion bias is hypothesized to be reduced in that supervisors do not have to extrapolate (as in BES) from what they have observed to the placement of a mark next to an anchor that expresses what the rater might expect to observe in the future. With the BOS format the rater is simply asked to report what he has actually observed during the period included in the performance appraisal.

Research Results Using BOS

The following two studies are described by their authors as comparing BES and summated rating scales. The summated scales amount to behavioral items developed from the scale points on dimensions of BES. A Likert-type format was used in both studies, in that raters were asked to rate a subject in terms of frequency of performance on a fourpoint scale. Since the summated scales in these studies are the same as BOS, these studies are included in this section. The remaining studies in this section specifically involve BOS.

Campbell et al. (1973) developed a BES with nine separate dimensions. The authors state that a distinction should be made between criterion measures that assess individual performance in terms of concrete job functions, and those that reflect organizational outcomes several steps removed from performance of the actual behavior. They argue that psychologists should be concerned with measuring and predicting the former, and suggest a method of scaled expectations as appropriate.

The scales they developed were compared with a summated rating

scale (BOS) that utilized scale definitions from the BES for each of the dimensions. Definitions from the BES were broken down into their major elements and each of the separate statements were used as a Likert-type item with a four-point response format (1, very rarely, to 4, almost always). The number of items ranged from five to eleven for the different dimensions. An individual's rating for a dimension was the average item response for that dimension.

The authors considered the two forms to be highly comparable since identical dimension definitions were used. The major weakness in the scale development was the lack of any type of item-analysis procedure on the summated scale. Good psychometric practice suggests that itemanalysis be performed to get rid of items that do not discriminate well; this procedure should have increased the reliability of the summated scale.

The two scales were compared on a sample of 537 managers. Results indicated that the behavioral scales yielded less method variance, less halo error, and less leniency error than the summated scale. No measures of reliability for either scale type were given. The two scales were each subjected to a factor analysis; the BES showed a clearer factor structure. Both scales were compared in a multi-trait, multi-method matrix (Campbell & Fiske, 1959). The BES showed better convergent and discriminate validity than the summated scale. Given the lack of rigor in developing the summative scale as compared to the BES, the study can be considered somewhat confounded. The use of item analysis procedures could possibly have improved the factor structure of the summated scale, and could easily have affected the various measures of rating error in the study.

Bernardin, Alvares, and Cranny (1976) evaluated BES and summated scales after noting some design deficiencies in earlier studies. The Campbell et al. (1973) study (reviewed in this section) compared BES and summated scales. Bernardin et al. noted that less rigor was used in developing the summated scales. Item analysis is usually performed in this procedure; this was not done in the Campbell et al. study. Thus, the two scales were not equivalent in terms of rigor in development, confounding them to some degree. Bernardin et al. developed their BES and summated scales with equivalent amounts of effort; results from the study were not encouraging for the BES. Leniency error was less, and interrater agreement was greater for the summated scale. Generally, the BES performed more poorly, although it was superior on constancy of rater individual differences across dimensions, an index of halo. The implications of the study, according to the authors, are clear: any form of rigorously developed scale, regardless of format, may be psychometrically superior to scales less rigorously developed. When comparing scale formats, the method of scale development should be examined first. The authors also note that the BES did not show the hypothesized advantage of less leniency error and better interrater agreement.

Latham and Wexley (1977) developed BOS to appraise the performance of logging supervisors. They utilized factor analysis to reduce the 78 behavioral items to 38 and 33 for two sets of observers who had rated the observed performance of the supervisors. These items in turn, constituted ten and eleven factors or criteria for appraisal purposes. The BOS that were developed showed an average test-retest reliability of .78 (range .66 to .84) for one group of observers (dealers) and an average test-retest reliability of .80 for the second group (foresters), with a range of .72 to .90. Unfortunately, no measures of halo, leniency, or central tendency error were reported.

Latham, Mitchell, and Dossett (1978) utilized BOS to assess the performance of engineers and scientists in a study relating goal setting and anticipated rewards to goal difficulty and job performance. The BOS consisted of 37 behaviors which constituted eight dimensions. The scales were developed with the use of critical incidents and utilized a five-point Likert format. Items were phrased in terms of observed behaviors, with scale anchors describing frequency of occurrence. Latham et al. hypothesized that the use of observed frequency of behavior should decrease rater error, but included no measures of common rater errors such as halo, leniency, or contrast effects. Measures of internal consistency (coefficient alpha) ranged from .69 to .90 for the eight dimensions with an alpha of .92 for the entire item pool.

Latham, Fay, and Saari (1979) developed BOS for appraising the performance of first-line supervisors (foremen). Internal consistency on the BOS after an iterative item analysis procedure ranged from .80 to .95 for the four scale categories. While a training session was implemented, no results were reported concerning halo, central tendency, leniency, or other rater errors.

Dossett, Latham, and Mitchell (1979) used BOS in a performance appraisal conducted as part of a study on goal-setting. The population in this study was a group of 28 word processing operators. Psychometric properties of the scales included an internal consistency (Cronbach's alpha) of .93 for 32 behavioral items. Average test-retest reliability over two separate three-month periods was .63. The scales were of a Likert-type format utilizing a five-point anchor phrased in terms of frequency of occurrence of behavior.

While the BOS has shown reasonably good test-retest reliability, and good internal reliability, research on this method has been lacking in the area of effectiveness of resisting (or encouraging) rater error. Unresolved Issues in Behavioral Scaling

Smith and Kendall (1963) in their original paper on the BES stressed that critical incidents tend to be too extreme for good psychometric policy. Instead, these authors had groups decide what were the required dimensions on the job in question (nurses) and give examples of high, low, and average performance for each dimension. Some critical incidents were also gathered to insure coverage of important aspects, but they were not relied on totally. It should be noted in the Smith and Kendall procedure that dimensions are obtained, and items are developed to fit the dimensions. Many BES studies since the original study have relied upon critical incidents totally (Campbell et al., 1973; Bernardin et al., 1976). The studies comparing BES with graphic formats typically find little, if any, improvement in terms of halo error, leniency, and other measures of rater error. It is the contention of the author that using only critical incidents, and asking the rater to extrapolate to expected behaviors, will tend to inflate rater errors. Halo and leniency, in particular, should be affected by such practices, since the rater is asked to rate based on what he expects, not what he has observed.

The BOS procedure makes use of the critical incidents technique exclusively. As outlined earlier, the typical BOS development procedure

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involves gathering critical incidents and clustering them into dimensions by means of facet analysis. Latham and Wexley (1977) utilized factor analysis to develop their dimensions. According to these authors, either procedure is acceptable, depending on sample sizes and time constraints. BOS development also typically makes use of item-analysis to get rid of nondiscriminating items, and to improve internal consistency. This is a distinct advantage over BES, which cannot be appraised as to their internal consistency in a conventional manner (see Smith & Kendall, 1963).

Little research has been done comparing BOS versus BES, and that research typically has either put non-equivalent effort into developing the BOS (Campbell et al., 1973), or has utilized critical incidents in developing the BES (Bernardin, Alvares, Cranny, 1976). Given that neither approach has optimized scale development for either of the formats in question, the present study attempted to rectify this.

The proposed study had several purposes. First, equivalent forms of BOS and BES were developed, following the procedures outlined by their respective proponents. This allowed a more reasonable comparison in terms of rater errors. Second, from the items and dimensions comprising the BES, a "hybrid" form of BOS was developed; likewise, a "hybrid" form of BES was developed using BOS dimensions and items. This allowed comparisons to be made between the critical incidents versus the Smith and Kendall method to determine the relative advantages of these procedures. Another related question is whether there are any advantages in deriving dimensions first and then items (as in BES), or obtaining items and then developing dimensions (as in BOS). To the extent dimensions guide (or hinder) item development, differences

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may be evident in terms of item content.

A third purpose was to ascertain which of the two techniques is most efficient in terms of time required to develop a pool of useable items. The comparison was made between items that survived retranslation in the BES versus items that survived the item analysis in the BOS.

The specific hypotheses tested in this study were:

1. BOS will produce significantly less halo error and leniency error than BES. This prediction was based on the BOS's use of observed behaviors rather than expected behaviors. Since no extrapolation is required in the use of the BOS, rating errors should decrease.

2. The BOS scale will show a much greater degree of internal consistency than will the hybrid BOS scale developed through BES methodology.

3. A higher proportion of useable items will be derived from the BOS developmental procedure than from the BES development due to the inductive procedure used in BOS development.

The job evaluated with the scales developed was that of college instructor. Students were used as subjects during scale development and actual rating of teacher performance.

Method

Subjects

<u>Scale development</u>. A total of 406 undergraduate students participated in the various stages of scale development, 200 males and 206 females. Table 1 shows the breakdown of subjects by sex for each step of scale development. All subjects were given extra credit in their respective psychology classes for participating in the study.

Scale application. A total of 154 undergraduate students in four

Table 1

Breakdown of Subjects by Scale Development Stages

	Males	Females	Total
Behavioral Expectation Scale			
1) Group meeting one	4	3	7
Gruop meeting two	5	2	7
3) Step one retranslation4) Step two retranslation	15	14	29
and scaling items	4	3	7
Behavioral Observation Scale 1) Critical incident interviews 2) Rating by classes	20 140	26 162	46 302
Development of Hybrid Behavioral Expectation Scale (using items derived from critical incidents)			
 Thurstone scaling of BOS items 		6	18
TOTAL	200	206	406

classes participated in the final phase of the study, the actual use of the completed rating scales. See Table 2 for breakdown by sex and class. Students who participated in this stage were given extra credit in their respective courses by their instructors.

Scale Development

<u>Behavioral Expectation Scales (BES)</u>. Following the Smith and Kendall (1963) procedure outlined earlier, two group meetings were held in which undergraduate students participated in developing dimensions and definitions of the dimensions. Each subject then wrote three descriptions of behavior for each dimension. The descriptions were of high, average, and low performance. With 14 subjects (7 in each group) each writing three descriptions for each of seven dimensions, a total of 296 behaviors were obtained. Of these, 53 behavioral items had to be discarded as duplications of others or for incompleteness, leaving a total of 243 unique behaviors.

The next step was retranslation; 36 naive subjects were provided with seven cards containing the dimension titles and definitions, and with a deck of cards containing behavioral items. On the back of each card was a code made up of a sequence of random numbers and letters; embedded in the code was a letter specifying the dimension to which the item belonged and an identifying number for the item within that dimension. This procedure was used to minimize subjects sorting on the basis of identifying numbers or letters. Since there were 243 items at the beginning of this step, it was felt that any one subject would become too fatigued to do an accurate job of sorting them all. The behavioral items were then split into three equal decks of 81 cards each. The subjects sorted their cards into the seven dimensions and the

Table 2

Breakdown of Subjects by Class and

Sex for Completed Scales

Class ^a	Male Raters	Female Raters	Total per Class
A	8	6	14
В	13	16	29
С	20	19	39
D	33	39	72
TOTAL	74	80	154

 a The instructors of the four classes were all males.

number of times a behavior was correctly retranslated to its original dimension was recorded. Nine different subjects individually sorted each set of cards. A total of 27 subjects thus sorted the items in this step of the retranslation.

In this second step of retranslation a percentage agreement score was calculated for each item. A cutoff level of 67% (six out of nine subjects sorting an item into the same dimension) was used for the items in the initial sort. The cutoff was kept purposefully lenient so more items would survive to the second sort which utilized all remaining items. Of the original 243 items, 70, or 28.9%, survived the initial sort. In the second sort, seven subjects sorted the 70 cards into dimensions. A more strict cutoff of 85% (six out of seven) was used for this sort. Of the 70 items, 60 survived the second sort. It should be noted that out of these 60 behaviors, 40 had perfect (100%) agreement from all seven judges (see Table 3).

The 60 behaviors were then rated by seven judges on a seven-point scale reflecting effectiveness. Means and standard deviations were calculated; items with a standard deviation greater than 1.50 were rejected, leaving a final pool of 53 items on the seven dimensions. The mean values were used to place the respective items along the vertical BES scale for each dimension. Items per dimension surviving retranslation and assignment of scale values ranged from a low of 10.3% to a high of 29.5% (see Table 3).

<u>Behavioral Observation Scales (BOS)</u>. Individual critical incident interviews were held with 46 undergraduate students. Interviews were approximately one-half hour in length. During the interview subjects were asked to describe critical incidents related to teacher behavior

Breakdown of Items per Dimension:

BES Development

			Sort 1 Criterion	Sort 2 Criterion		
	Dimension	Total Number of Items	c 6/9 (67%)	6/7 (86%)	Number of Items with SD ≤ 1.50	Percent Surviving Retranslation
A)	Student/teacher interactions	39	8	6	4	10.3
B)	Empathy	21	6	4	4	19.0
C)	Explanation of Concepts	26	7	7	7	26.9
D)	Objectivity	39	12	9	8	20.5
F)	Course material covered	36	8	8	7	19.4
G)	Preparedness	44	15	13	13	29.5
H)	Testing	38	14	<u>13</u>	10	26.3
	TOTAL	243	70	60	53	21.7

they had observed in the preceding six-month period. Subjects were asked to describe in detail what they had observed, and were asked how the described behavior was illustrative of high (or low) performance. A total of 160 critical incidents were obtained. Due to duplications and/or lack of clarity in some incidents, 89 of the incidents were discarded; a total of 71 behavioral items were retained from the original item pool. Appendix A contains this list of items.

Each item was scaled numerically (one to five) in terms of observed relative frequency of behavior. Scale anchors were one: 0 to 19% of the time; two: 20 to 39% of the time; three: 40 to 59% of the time; four: 60 to 79% of the time; five: 80 to 100% of the time. The scaled items were administered to undergraduate students in a variety of psychology classes. The 302 subjects were in seven separate classes taught by four different instructors. Three instructors were male; each taught one class in this sample. One instructor was female, and taught four of the classes in this sample. Subjects were asked to rate their instructor's performance on the scaled items.

Scores for the instructors were then analyzed via principal components factor analysis using a varimax (orthogonal) rotation. Twenty-two separate factors accounted for 63.9% of the variance of the behavioral items. The large number of factors seemed to be the result of the highly specific behaviors derived from the critical incidents, as evidenced by some factors having only one or two behaviors with high $(\geq .40)$ factor loadings. Since this factor solution was difficult to interpret, three principal components factor analyses using varimax solutions and orthogonal rotation were then performed. The number of factors were pre-specified in these analyses at five, seven, and nine. Variance accounted for by each solution was 34%, 39.2%, and 45.7%. Since the limited number of factors in these solutions did not capture a very large proportion of the total variance, it was decided at this point to try an oblique rotation.

Principal components factor analyses were performed using oblique rotation and specifying Delta parameters of 0, .25, and .50. The solution at Delta = .25 was deemed most interpretable, with 22 factors accounting for 64.7% of the variance. The factor (pattern) matrix of 22 oblique factors was subjected to a second order principal components analysis, with varimax (orthogonal) rotation and <u>no</u> limit on the number of factors. The result was a six-factor solution which accounted for 80% of the variance in the 22 factor oblique-rotation solution.

The second order factor analysis was more easily interpreted than the original, first order orthogonal solutions. This was due, in part, to the fact that each second order factor had both positive and negative loadings of items, resulting in a continuum of undesirable to desirable behaviors. Table 4 contains BOS dimensions and the number of items in each.

<u>Behavioral Expectation Scales-hybrid form (BES-H)</u>. The BES hybrids were a set of expectation scales developed using items derived from the critical incidents technique for use in the Behavioral Observation Scale. The pool of 71 behavioral items developed for the BOS was given to 27 student judges. Each judge rated all items on a seven-point scale as to the effectiveness of the behavior, with a one as very ineffective, and seven as very effective. No actual retranslation of items into dimensions was performed, since the dimensions were formed on the basis of a statistical analysis (see BOS development section, above). Of the original 71 items, seven items had a standard deviation greater than 1.5, which

BOS Dimension Titles and Number

of Items per Dimension^a

Dimension Number	Number of Items	Dimension Name	
1	15	Instructor competency	
2	12	Helpfulness and positive student regard	
3	11	Concern for classroom control	
4	12	Concern for student understanding	
5	11	Organization and clarity	
6	8	Proper emphasis on time usage	

^aDimensions formed by factor analysis, and listed in descending order of variance accounted for. Dimensions are named on the basis of item content. was used as the criterion for rater agreement. The mean value for each item determined its position on the vertical BES dimension.

<u>Behavioral Observation Scales-hybrid form (BOS-H)</u>. The BOS hybrids were a set of behavioral observation scales developed using items derived from the Smith and Kendall methodology and used in developing the behavioral expectation scales. Dimensions for the BES were originally developed from group discussions (see BES development section, above). Items were written in the format of the BOS, i.e., summative rating scales of observed frequency. Items were included in the BOS-H that had survived retranslation and scaling in the BES development. Reliability of Measures

Internal consistency reliabilities were calculated for all BOS dimensions after they were formed on the basis of factor analysis (see BOS development, above). Reliabilities were also calculated for BOS and BOS hybrid scales after the completed scales were administered during the study. These reliabilities are reported in Table 5. It should be noted that the dimensions do not have the same number of items. In particular, the BOS hybrid dimensions have approximately one-half as many items as the corresponding BOS dimensions. Where this is the case, the Spearman-Brown prophecy formula was used to give an estimate of what the reliability would be if the number of items were the same as the <u>minimum</u> number of items (8) in the BOS dimensions. Alpha coefficients for BOS hybrid scales are not available for the developmental sample, since these items were derived from Smith and Kendall developmental procedures (see BOS hybrid development above). Summary of Scale Development

Four rating scales were developed using two general formats:



BUS and BUS-H Reliabilities	BOS	and	BOS-H	Reliabilities ^a
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Scale	Dimension	Number of Items	Developmental Alpha ^b	Experimental Alpha ^c	Estimated Alpha ^d
BOS	1	15	.776	.783	
	2	11	.752	.789	
	3	11	.542	.518	
	4	12	.782	.800	
	5	11	.808	.806	
	6	8	.56	.135	~~ ~~
BOS-H	1	7		.746	.746
D 00	2	8		.629	.629
	- 3	5		.402	.573
	4	6		.673	.755
	5	5		.754	.821
	6	4		.775	.873
	7	4		.247	.395

^aCronbach's alpha

$${}^{b}N = 302$$

 $c_{\rm N} = 154$

^dBOS-H dimension alpha estimated at the same number of items as the shortest BOS dimensions using the Spearman-Brown prophecy formula.

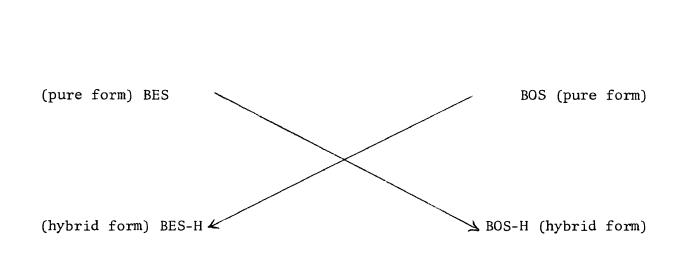
(1) the vertical dimensions of the BES; (2) the summative format of the BOS. Each of these formats was a "pure" form, following the developmental steps outlined by their respective authors. Hybrid forms of the two formats were also developed. Each hybrid was developed with items coming from the "other" format, i.e., BES-H were developed from BOS items and BOS-H were developed from BES items. In Figure 3 scales in a column share format, scales in the diagonals share developmental procedures. With this type of design, the analysis of format and developmental differences become possible. Appendix B contains the completed scales. Procedure

Students in four classes rated the performance of their respective instructors on the completed rating scales. All students rated their teachers' performance on all four types of scales. Verbal instructions on how to complete the various scales were given prior to the actual rating; in addition, detailed written instructions were included in each questionnaire.

Since the total questionnaire was approximately 20 pages in length, there was some concern as to whether fatigue or lack of attention might affect ratings near the end of the booklet. To control this and potential order effects, the order of presentation of the various scales was counterbalanced. Half of the subjects received scales in the order BES, BES-H, BOS-H, BOS (Form A). The other half of the subjects received the scales in the order BOS-H, BOS, BES, BES-H (Form B).

Results

Twenty-six separate \underline{t} -tests were performed between rating forms to determine whether the relative position of a dimension within the questionnaire affected the ratings a ratee received. Of the 26 tests,





Development and Scale Format

two were significant at the .05 level. Since these tests were nonindependent (from the same sample), the chances of an inflated alpha level are high. A procedure Cook and Campbell (1979) suggest is to divide the alpha level by the number of non-independent tests to determine a more acceptable alpha level. In this case, .05/26 = .0019. At this alpha level none of the t-tests were significant (see Table 6). While these t-tests assess possible mean differences for a dimension depending on its position within the questionnaire, they do not address possible interaction effects of form and scale format. To assess this, 13 analyses of variance were performed, two by two-within (form X format). Scores for subjects on the two dimensions from different formats (sharing development) were analyzed. Prior to analysis, all scores were transformed to standard scores. Thus, the mean for any given format overall is zero; thus, all format main effects by definition equal zero. The main effect of form (questionnaire A or B), was significant for only one of the 13 (non-independent) comparisons as chance would dictate. Interactions were all non-significant except for one, also probably a chance occurrence (see Table 7). Since these analyses suggested a lack of order effects, all further analyses ignored questionnaire form and pooled across form for each dimension.

Twenty-six one-way analyses of variance were calculated to compare ratee performance on each of the dimensions. These analyses tested whether the items in a dimension with one format discriminate better (or worse) among the four course instructors than the same items in the other (hybrid) format (see Table 8). As assessed on the BES scales, ratees showed significant differences on six out of the seven dimensions. Two of these differences were significant at the .05 level, and four at

Т	ab	1	е	6
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Dimension	T value	Probability ^a
1	1.71	.089
2		.381
3		.197
4		.183
5		.917
6		.752
7	20	.839
	1.25	.214
2		.576
3		.787
4		.471
5		.889
6	.92	. 358
1	2 56	.012
1		.966
2 3		.013
3		.103
т 5		.934
5		.758
7	62	.539
	11	. 890
2		.446
2 3		.337
Л		.681
т 5		.788
5 6	1.03	.305
	$ \begin{array}{c} 1\\ 2\\ 3\\ 4\\ 5\\ 6\\ 7\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 2\\ 3\\ 4\\ 5\\ 1\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$

^acritical alpha = .05/26 = .0019

2 X 2 Analyses of Variance^a

Form	by	Format

	Form <u>F</u>	Format <u>F</u>	Interaction <u>F</u>
BES 1/BOS-H 1	3.61	.0	.01
BES 2/BOS-H 2	.28	.0	.73
BES 3/BOS-H 3	1.24	.0	.43
BES 4/BOS-H 4	.50	.0	2.34
BES 5/BOS-H 5	.05	.0	.05
BES 6/BOS-H 6	1.58	.0	9.11 ^{***}
BES 7/BOS-H 7	4.57 *	.0	2.23
BES-H 1/BOS 1	2.01	.0	.06
BES-H 2/BOS 2	.01	.0	.77
BES-H 3/BOS 3	.10	.0	.00
BES-H 4/BOS 4	1.21	.0	.06
BES-H 5/BOS 5	.00	.0	.07
BES-H 6/BOS 6	1.04	.0	.02

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^adf = 1, 152 * p <.05 * ★ P <.01

Scale	F _.	p	Scale	F	P
* BES 1	3.832	.001	BOS-H 1	6.717	.000
* BES 2	2.678	.049	BOS-H 2	3.929	.010
> BES 3	4.138	.007	BOS-H 3	.864	.461
* BES 4	3.767	.012	BOS-H 4	5.254	.002
* BES 5	2.356	.074	BOS-H 5	2.548	.058
* BES 6	6.943	.000	BOS-H 6	13.153	.000
> BES 7	2.814	.041	BOS-H 7	.390	.761
* BES-H 1	4.122	.008	BOS 1	2.876	.038
< BES-H 2	2.451	.066	BOS 2	2.981	.033
* BES-H 3	3.875	.011	BOS 3	5.872	.001
< BES-H 4	2.574	.056	BOS 4	5.600	.001
> BES-H 5	2.672	.050	BOS 5	2.209	.089
> BES-H 6	2.915	.036	BOS 6	2.404	.070

One-way Analyses of Variance for Ratees

* 7/13 pairs - results agree on reject or not

> 4/13 pairs - BES shows more discrimination

< 2/13 pairs - BOS shows more discrimination

the .01 level. Of the BOS hybrid scales which were formed from the BES dimensions and items, four of seven showed significant ratee differences, all at less than the .01 level. One other BOS-hybrid dimension was marginally significant ($\underline{p} = .058$). Of the six BOS scales, four showed significant ratee differences, two at the .05 level, two at the .001 level. Four of the six BES-hybrid scales (formed with BOS items and dimensions) showed significant differences, two at the .05 level, two at the .01 level. Of the 13 pairs of dimensions (see Table 8), seven pairs of dimensions in different formats appear to be equally capable of demonstrating ratee differences. This pattern of results suggests that either pure scale can discriminate among ratees.

Twenty-six Kolmogorov-Smirnov goodness of fit tests were performed on the standardized data. The criterion of comparison for each dimension was a normal distribution with a mean of zero and standard deviation of one (see Table 9). These tests were performed as a measure of skewness and were used to detect leniency or strictness in rater distributions. All 13 (100%) BES and BES-hybrid dimensions deviated significantly from normal, showing a high degree of negative skew (p <.001). In other words, raters appear to have been systematically lenient using the BES rating format. Of 13 BOS and BOS-hybrid dimensions, five (38.5%) differed significantly from normal, three at the .05 level, two at the .001 level. The difference between these two proportions was significant, $\underline{z} = 10.256$, $\underline{p} <.0001$, indicating that the BES format showed a stronger tendency to form skewed distributions than the BOS format.

All dimensions within each of the four scale types were intercorrelated. All dimensions between a scale and its hybrid (BES and BOS-hybrid, BOS and BES-hybrid) were also intercorrelated (see Table 10). Using the

Format BES	<u>Z</u>	two-tailed <u>p</u>	Format BOS	<u>Z</u>	two-tailed <u>P</u>
BES 1	3.278	.000	BOS-H 1	1.152	.140
BES 2	2.397	.000	BOS-H 2	1.376	.045
BES 3	2.320	.000	BOS-H 3	1.497	.023
BES 4	2.634	.000	BOS-H 4	1.254	.086
BES 5	2.201	.000	BOS-H 5	1.362	.049
BES 6	2.316	.000	BOS-H 6	1.062	.210
BES 7	3.574	.000	BOS-H 7	2.735	.000
BES-H 1	3.440	.000	BOS 1	.710	.695
BES-H 2	2.844	.000	BOS 2	.820	.513
BES-H 3	2.986	.000	BOS 3	1.123	.160
BES-H 4	1.991	.001	BOS 4	1.130	.156
BES-H 5	2.238	.000	BOS 5	1.233	.095
BES-H 6	2.997	.000	BOS 6	2.422	.000

Kolmogorov-Smirnov Goodness of Fit Tests

Fisher transformation, the average intercorrelation for BES dimensions was +.40 (range = +.22 to +.60). Average intercorrelation for BEShybrid dimensions was +.39 (range = +.29 to +.50). BOS dimensions had an average intercorrelation of +.34 (range = +.13 to +.56). BOS-hybrids had an average intercorrelation of +.36 (range = -.11 to +.59).

The patterns of intercorrelations were suggestive of hypothesized format differences for halo error. A multivariate analysis of variance (MANOVA) was used to test the intercorrelation of dimensions (halo) in the various correlation matrices. A program provided by Cooley and Lohnes (1962) was used to test this hypothesis between the scale formats. Raw scores were used to calculate dimension intercorrelations for each of the four sets of scales.

The determinant of each correlation matrix is a single number representing the generalized variance/covariance in a set of dimensions. H1 is a multivariate test of homogeneity of dispersion; this is equivalent to a test for homogeneity of variance in a univariate analysis of variance. The test of H2, which asserts that population centroids are equal, is the multivariate equivalent of a one-way analysis of variance. H2 is also a test of the discriminating power of a group of dimensions.

The determinants for the BOS and BES-hybrid matrices, respectively, were .027 and 1.442. The analysis of BOS and BES-hybrid matrices resulted in highly significant F-ratios for both H1 and H2. The H1 <u>F</u>-ratio was 11.114, df (21, 344393), <u>p</u> <.001. The <u>F</u>-ratio for H2 was 32.525, df (6, 301), <u>p</u> <.0001. The determinants illustrate large differences in generalized variances for the two matrices, with the BES-hybrid possessing a much larger generalized variance. This is

Table	10	
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1 2 3 4 5 6 7	BES 1 1.00		3 .44 .24 1.00	4 .60 .45 .42 1.00	5 .45 .35 .39 .49 1.00	6 .56 .40 .31 .60 .48 1.00	7 .27 .23 .22 .22 .41 .34 1.00	Zr transformation average r = .400 range = .22 to .60
1 2 3 4 5 6	BES-H 1 1.00	2 .38 1.00	3 .40 .47 1.00	4 .39 .41 .47 1.00	5 .32 .43 .39 .50 1.00	6 .34 .29 .27 .35 .38 1.00		Zr transformation average r = .390 range = .29 to .50
1 2 3 4 5 6	BOS 1 1.00		3 .13 .15 1.00	4 .33 .24 .44 1.00	5 .36 .25 .44 .56 1.00	6 .28 .16 .27 .27 .55 1.00		Zr transformation average r = .34 range = .13 to .56
1234567	BOS-H 1 1.00			.38 11	.54	6 .47 .49 10 .35 .47 1.00	7 .35 .31 .00 .39 .50 .44 1.00	Zr transformation average r = .355 range =11 to .5

Dimension Intercorrelatio	ons by	Scale	Туре	а
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^aAverage correlations were obtained using Fisher's <u>r</u> to <u>z</u> transformations.

illustrated by the H1 \underline{F} -ratio. Since this \underline{F} -ratio was significant, the matrix variances are heterogeneous and the test of H2 must be disregarded. The test of H2 is meaningless since it is based on the pooled heterogeneous variances in the denominator of the Fratio.

The determinants for the BES and BOS-hybrid matrices were 2.69 and .049, respectively. The <u>F</u>-ratios for H1 and H2 were both highly significant. H1 <u>F</u>-ratio was 7.39, df (28, 326281), $p \le .0001$. The <u>F</u>-ratio for H2 was 50.55, df (7, 300), $p \le .0001$. The generalized variance for the BES format was much larger than for the BOS-hybrid, as illustrated by the determinants. This difference was significant as the H1 <u>F</u>-ratio illustrates. Due to the H1 significance, the H2 <u>F</u>-ratio must be disregarded, since the denominator of this <u>F</u>-ratio utilized pooled heterogeneous variances.

In both sets of multivariate comparisons, format differences seem to affect the amount of generalized variance (halo). In both comparisons, items in the BOS format produced significantly less interdimension correlation than the <u>same</u> items utilized in the BES format.

Dimension pairs (BES dimensions and their BOS-H counterparts; BOS dimensions and their BES-H counterparts) were subjected to simple regression analysis. Twenty-six regressions were calculated, 13 with the BES and BES-H dimensions as dependent variables, 13 with the BOS and BOS-H dimensions as dependent variables. For all 13 pairs, the standard error of estimate was smaller with the BOS format as the criterion variable than with the BES format as the criterion (see Table `11). Thirteen \underline{t} -tests for correlated variances were calculated, using squared standard errors of estimates as the paired variances. The obtained

\underline{t} Test for Differences Between Correlated

	Standard Error as Criterion		Standard Erro as Criterion		
BES	(as Y)	BOS	(as Y)	<u>t</u> a	Pearson <u>r</u>
BES 1	1.064	BOS-H 1	. 572	9.975	.576
BES 2	1.333	BOS-H 2	.535	15.101	.522
BES 3	1.300	BOS-H 3	.571	12.577	.475
BES 4	1.153	BOS-H 4	.780	4.562	.564
BES 5	1.147	BOS-H 5	.761	6.449	.591
BES 6	1.232	BOS-H 6	.614	11.005	.535
BES 7	1.082	BOS-H 7	. 543	9.3 50	185
BES-H 1	1.132	BOS 1	. 509	11.244	. 232
BES-H 2	.966	BOS 2	.696	4.437	.375
BES-H 3	1.238	BOS 3	.706	8.662	.539
BES-H 4	1.307	BOS 4	.462	15.830	.265
BES-H 5	1.117	BOS 5	.452	14.422	.468
BES-H 6	.991	BOS 6	.385	14.465	. 391

Standard Errors of Estimate

^aAll <u>t</u>-tests significant $p \leq .001$, df = 152

<u>t</u>-values were all significant at $\underline{p} < .05$. Calculating a more stringent critical value by dividing alpha by the number of tests performed (.05/13) gives a two-tailed <u>p</u>-value of .0002. Since the degrees of freedom are so large (152), the <u>z</u> table was used to find the critical <u>z</u>-value (3.60). All obtained values exceeded this critical value.

Discussion

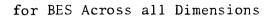
The present study is the first to systematically compare Behavioral Expectations Scales and Behavioral Observation Scales while developing each format as their respective authors suggest. As hypothesized, the BOS format, regardless of item development, showed less skewed distributions. BES scales tended to form negatively skewed distributions, with most teachers receiving a rating of five, six, or seven. BOS scales, again regardless of item development, were much less likely to produce skewed rating distributions. Only one of six "pure" BOS dimensions showed a significant departure from normality. To the extent that all teachers received the same rating on the BES scales, there could be difficulty in discriminating among different performance levels. This pattern of skewed distributions might be explained by examining what the BES scale asks the raters to do: Raters must basically predict what they expect the ratee would do. Expectations of performance (predictions) could be affected by factors such as attributional processes or social desirability response sets. The BOS asks the raters what they have observed, so observations should be less subject to these distortions. Later researchers should consider asking ratees to answer items relating to their causal attributions of task difficulty, skill, luck, and effort on the part of the ratee. If this is done,

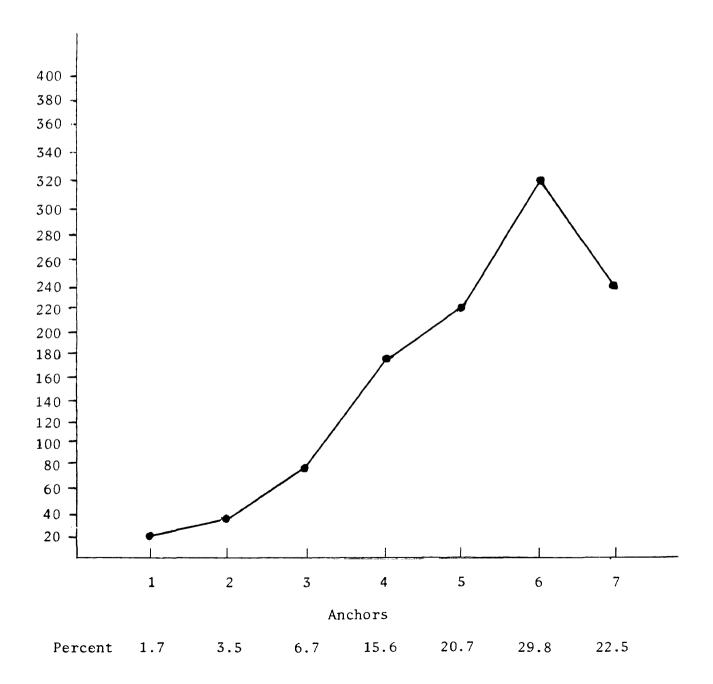
raters should fill out either a BES or BOS scale to determine whether scale format affects attributions. Previous research by Green et al. (1978) illustrated that BES had a larger effect on attributions made about ratees than did graphic rating scales. Green et al. hypothesized that the behavioral nature of BES scales provided more knowledge about the job than was provided by the graphic scales. While their results are not directly applicable to this study since both scale formats (BOS and BES) consist of behavioral items, their research does suggest the possibility of differential causal attributions between rating formats.

As hypothesized, BOS scales were also superior to BES scales in terms of halo error. The BOS format (regardless of item development) led to less halo error than did BES scales. Since BES scales ask the rater what he/she expects a ratee to do, it would seem that an overall positive or negative feeling toward the ratee could affect the ratings given on each of the dimensions. BES dimension anchors below five were little used; all ratees received a high proportion of scores in the five to seven range (Figure 4). BOS dimension anchors were used over their entire range, with relatively low degrees of halo error. Halo error was assessed in a two-step process: Step one consisted of correlating the dimensions within each of the four combinations of format developmental procedure (i.e., BOS, BOS-H; BES, BES-H). The average inter-dimension correlations of the four scales were suggestive of the pattern of halo error hypothesized. Average inter-dimension correlations for the BOS and BOS-hybrid were less than for the BES and BEShybrid, but not significantly so. The MANOVA performed to address these differences first used correlational procedures to assess relationships within a matrix, then calculated determinants for each matrix (one per scale type). The determinant for each scale/matrix represents the

Figure 4

Total Frequency of Anchors Selected





generalized variance within that matrix. Both BES formats had determinants much larger than those found for the BOS formats. A most interesting aspect of the skewness and halo analyses is the pattern of results for the statistical analyses. The Kolmogorov Smirnov tests for goodness of fit show a pattern of deviation from normality for BES. When the <u>same information</u> (i.e., items) is put into a BOS format (BOS-H), deviations from normality are less frequent, and less extreme. Deviations from normality on the BOS dimensions are slight except for one dimension, yet when put into the BES format (BES-H), <u>all</u> dimension distributions deviated significantly from normality.

The same pattern of results is evident in the MANOVAs comparing format correlation matrices. Determinants for the BES matrices were significantly larger than the determinants for corresponding BOS matrices. The higher generalized variance in the BES formats could be due in part to the raters not utilizing anchors representing low or average performance. BOS scales utilize all items. When there are multiple performance dimensions, there is also an implicit assumption that a performer will vary on each of the dimensions. BES scales by their nature are equivalent to a series of global rating scales. Raters may tend to be more lenient with a ratee when the total evaluation is contained in six or seven checkmarks on different dimensions. The BOS offers a whole range of behaviors, allowing more specific, less global ratings. A few "poor" ratings on items may appear to have less effect on the ratee with the BOS. If a rater were using only the upper half of the BES, the high scores would produce skewed ratings distributions, and increase inter-dimension intercorrelations.

The second hypothesis concerning internal consistencies of BOS and BOS-hybrid dimensions was not supported. Alphas for the BOS scales were in the .7 to .8 range, with one scale in the .5 range and one in the .1 range (second trial alphas). The low alpha on one BOS dimension is probably due to its being the last factor in the second-order factor analysis. Items which comprised this dimension were not as related to one another as in the previous factors, making it difficult to name. It seems likely that this was a chance result, especially since the alpha on this dimension changed so drastically from trial one (development alpha = .56) to the second trial (secondtrial alpha = .135).

Internal consistency reliabilities for BOS-hybrid scales ranged from a low of .247 to a high of .775. While the reliabilities for these scales are slightly less than for the BOS scales, it must be considered that the BOS-hybrid scales had a maximum length of only eight items, and a minimum length of four items. BOS scales ranged in length from eight to 15 items. Using the Spearman-Brown prophecy formula to correct for length (to eight items), alphas for the BOS-hybrids are in approximately the same range as for the BOS scales. The Smith and Kendall retranslation procedure seems to produce groups of items that cluster together as well as the BOS items grouped on the basis of factor analysis.

The third hypothesis was that a higher proportion of useable items would be derived from the BOS development procedure (critical incidents) than from the BES development procedure (Smith and Kendall). 'This was supported, with 53 items from a pool of 243 surviving retranslation for the Smith and Kendall technique (21.7%). For the BOS items, 69 survived from an initial pool of 140 critical incidents (49.28%). A test for the difference between these proportions underscores the obvious differences (z = 8.23, p < .0001).

However, there are other considerations in addition to the sheer number of items obtained. Item content, time spent in item collection, practicality, and cost are all relevant factors. In terms of item content, the critical incidents procedure seems more able to tap behaviors that are less frequently performed, but which are important; most, but not all, of the items are behaviors that could be critical to performance. The Smith and Kendall procedure may tap behaviors that are somewhat less critical; that is, not as extreme as BOS items. Further research in the area might entail using both methods to collect behaviors from a group of job experts in the course of a job analysis. Then the experts should rate all the behaviors in terms of time spent and importance.

One point made by Smith and Kendall (1963) deserves mention here. They state that critical incidents should not be used for BES scales because the resulting items are too extreme. This will supposedly leave holes or gaps in the middle of the vertical scale, since there would be few, if any, items representing average performance. Their procedure of item development is assumed to eliminate this problem. During their BES development, it was evident that the "average" behaviors provided by students were not very successful in surviving retranslation. The behaviors were divided into categories on the basis of mean rated value (1-1.99, 2-2.99, 3-3.99, 4-4.90, 5-5.99, 6-7). A chi-square test of goodness of fit was highly significant, $\chi^2(5) = 27.38$, p < .01 (see Table 12). As this table shows, very high and very low mean values were

Frequency of Mean Effectiveness Ratings

Category	Mean Rated Values	Observed Frequency	Expected Frequency (under H _o)	(0-E) ² /E
1	1-1.99	14	8.67	3.28
2	2-2.99	3	8.67	3.71
3	3-3.99	5	8.67	1.55
4	4-4.99	3	8.67	3.71
5	5-5.99	7	8.67	0.32
6	6-7	20	8.67	14.81
		52	χ ² (5)	= 27.38, <u>p</u> <.001

for BES Items

most common for the items developed through the Smith and Kendall (1963) approach. Their claim that critical incidents alone leaves gaps in the scale mid-range is not supported by this study

Table 13 shows mean rated values for items derived from critical incidents, scaled for use in the BES-hybrid. The critical incidentderived items are certainly no more extreme than items derived for the BES (χ^2 (5) = 26.639, <u>p</u> < .05). In terms of highly positive behaviors (category 6) the BES procedure produced 20 out of 53 items, while critical incidents produced 1 out 61. It should be noted that the BOS items were not retranslated as were the BES items. The effect of retranslation on the scale values of the BOS items is not known.

A chi-square test of frequencies in the six categories for BES and BOS items was highly significant, $\chi^2(5) = 36.75$, p < .001 (see Table 14). The 2 X 6 table was partitioned according to procedures suggested by Castellan (1965). Four of five possible independent, single degree of freedom contrasts were performed, comparing low vs. moderate categories (1 and 2 versus 3 and 4), moderate vs. high (3 and 4 vs. 5 and 6), low vs. high (1 and 2 vs. 5 and 6), and departure from moderate categories (2 and 5 vs. 1 and 6). Table 15 illustrates the results for these independent comparisons. In terms of low vs. moderately favorable behaviors, the frequencies of probability ratings between the critical incidents and Smith and Kendall (1963) procedures do not differ, $\chi^2(1) = .008$, n.s.; the same is true for moderately vs. highly rated behaviors, $\chi^2(1) = 2.46$, n.s. However, the frequencies of low vs. highly rated behaviors were significantly different, $\chi^2(1)$ = 4.376, \underline{p} < .05. Cell totals for this comparison showed a strong tendency for the critical incidents to produce relatively more negative

Frequency of Mean Effectiveness: Items Derived

from Critical	Incidents,	Scaled	for	BES-Hybrid	
	•				

Category	Mean Rated Values	Observed Frequency	Expected Frequency (under Ho)	(0-E) ² /E
1	1-1.99	9	10.17	1.340
2	2-2.99	20	10.17	9.511
3	3-3.99	6	10.17	1.708
4	4-4.99	7	10.17	.986
5	5-5.99	18	10.17	6.036
6	6-7		10.17	8.265
		61	χ²(5)	= 26.639, <u>p</u> <.001

Note: The total number of items is less than that available for formation of BOS scales due to standard deviations larger than the $SD \leq 1.5$ criterion. Eight items were discarded after scaling.

Frequency of Mean Effectiveness Ratings

	1	2	3	4	5	6	
			Mean R	ating			
	1 -1.99	2-2.99	3-3.99	4-4.99	5-5.99	6-7.0	Totals
BES	14	3	5	3	7	20	52
BOS	9	20	<u>6</u>	7	<u>18</u>	_1	61
Totals	23	23	11	10	25	21	113

for BOS and BES Items

 $\chi^2(5) = 36.75, p < .01$

Partitioning of 2 X 6 Contingency Table for

Scaling of BOS and BES Items

Categories	df	x ²	P
Low vs. Moderate $(1+2 vs. 3+4)$	1	.008	n.s.
Moderate vs. High (3+4 vs. 5+6)	1	2.463	p = .112
Low vs. High (1+2 vs. 5+6)	1	4.376	<u>p</u> < .05
Departure from Moderate (2+5 vs. 1+6)	1	29.437	<u>p</u> < .0001

behaviors, while the Smith and Kendall (1963) procedure produced relatively more positive behaviors. The last comparison assessed the relative degree of departure of items from the moderate categories, and was calculated by comparing cell totals for categories (2 and 5, and 1 and 6). The resulting chi-square was highly significant, $\chi^2(1) = 29.437$, p < .0001. Contrary to what Smith and Kendall (1963) suggest, their approach produced a greater frequency of extreme departures from more moderate categories than did the critical incidents. These results support Smith and Kendall's (1963) statements concerning use of development techniques; these authors suggest the group approach, with subsequent critical incidents used to fill gaps in dimensions. They assert that critical incidents would produce extreme behaviors, while their approach produces more moderate behaviors. The results of this study tend to support just the opposite.

Time spent in developing the item pool bears directly on developmental costs. The original pool of 243 items for the BES were collected in the course of two, $1\frac{1}{2}$ -hour group meetings with students. Sorting took one-half hour each for 29 separate students, and the final sort and scaling of items took one-half hour for each of seven students. The total number of man-hours was approximately 40.

BOS item development first started with 46, half-hour critical incident interviews. Critical incidents had to be transcribed and items written from the transcription. Three hundred and two students rated their instructors on the 71-item list (two items were later discarded). The rating took about one-half hour per student. The total number of man-hours was approximately 190. If fewer employees were available to do the rating, factor analysis could not be done as

advocated by Latham and Wexley (1977). Items then would have to be grouped by content or facet analysis. This procedure could result in scales with lower reliabilities than the scales derived from factor analyses as done in the present study. The retranslation used in the Smith and Kendall procedure produced highly reliable dimensions when in the BOS format, and could be a viable alternative to factor analysis.

A final consideration in item development is practicality. Time and cost considerations discussed above bear directly on this issue as well. It may be impractical to form dimensions on the basis of factor analysis simply because many companies involved in scale development would not have access to enough people to make the necessarily large number of ratings required to make the analysis meaningful. In cases where enough job experts are available to perform factor analytic techniques, it may not be possible to enlist the cooperation of enough personnel. The Latham et al. (1978) study is a good example of a lack of cooperation by relevant personnel (Dossett. Note 1). During the course of scale development in this study, the authors had access to approximately 900 personnel in a research and development unit. Only 108 useable questionnaires were obtained. With a pool of 69 behaviors to be rated, this falls far short of the three to five subjects per item suggested by good factor analytic practice (Nunnally, 1978). If enough ratings of job experts can be obtained, computer facilities might well be inadequate; analyses of this type require relatively sophisticated computer facilities.

While developing a performance appraisal instrument, it would be cost-effective to use the Smith and Kendall procedure to develop the item pool. While this procedure is more efficient in terms of time

usage, one caveat is in order. Much time should be spent on the initial delineation and definition of dimensions <u>before</u> job experts write their examples of high, average and low performance. This is crucial in that the dimensions and their definitions guide the job experts while writing examples of behaviors as well as during retranslation. If poor definitions are produced, or if the dimensions are deficient in tapping all areas of job performance, the resulting items will be deficient to some degree. After retranslation, the list of surviving items could be shown to job experts. They could then make suggestions in terms of behaviors that are not tapped; critical incidents could be used here to ensure that critical aspects of performance are covered.

Of the two scale formats investigated in this study, the BOS seems the clear choice. The BES format seems to inflate both leniency and halo error and this seems to be independent of item development procedures.

Limitations and Suggestions for Further Research

Possible limitations of this study include: (A) the approach used in assessing psychometric errors; (B) differences in scale (item) content; (C) differences in scale length; (D) questions of unidimensionality of the good performance - poor performance construct; (E) possible confusion by a small number of raters as to who they were to rate. Each of these problems is discussed separately, below.

Psychometric errors are usually defined in terms of errors made by a rater over a series of ratees. In an industrial situation, a supervisor usually rates a number of subordinates; rating errors are thus an intra-rater phenomenon. The present study, in common with most of the research literature on rating errors, has assessed errors in an inter-rater format. Raters rate only <u>one</u> ratee, and errors are assessed in terms of distributions <u>across</u> raters (as opposed to within raters). A scale format that produces high inter-dimension correlations or skewed distributions under these experimental conditions is assumed to produce similar rosults in an applied setting. The applied setting would utilize each rater to assess a number of ratees, and the results (errors) may not be the same. Future research needs to use an intrarater approach to assess these errors in a way more consistent with their definitions. All raters should rate all ratees; then both intrarater and inter-rater distributions could be examined. Saal, Downey, and Lahey (1980) see this as the difference between a full matrix (all raters rate all ratees) vs. a partial matrix (each rater rates some of the ratees). Saal et al. see the full matrix as an ideal situation for assessing rater errors.

A second limitation of the present study is that comparisons of "pure" formats (i.e., BOS vs. BES) cannot be made. Dimensions and items (behaviors) overlap only on perhaps three dimensions. Assessing this overlap is thus difficult, if not impossible. More clinical or judgmental types of comparisons could be made, but a more desirable solution would be to develop an item pool of behaviors based on preliminary Smith and Kendall group meetings, followed by critical incidents to fill any gaps left after retranslation. With totally equivalent dimensions and items, comparisons between the two formats could be made with fewer qualifications. Again, the use of an intra-rater approach to assessing rater errors would be most desirable.

Within the context of the present study, direct comparisons between

a scale and its hybrid (i.e., BES with BOS-H; BOS with BES-H) were difficult to attain. Correlational and nonparametric comparisons were useful, but differences in scale length (7-point for BES vs. 5-point for BOS) precluded direct comparisons in analyses of variance. Standard score transformations were of little use except that interaction effects could be assessed. Given the mean of zero for standard score distributions, main effects simply could not be assessed. A relevant suggestion here would be to anchor the BES dimensions on a 5-point scale (or the BOS on a 7-point scale). This simple process would ease data analysis, and should have no deleterious effects on the BES scale. BES scales have also used 9-point dimensions, so the 7-point approach is not "carved in stone."

A question that is difficult to answer needs to be addressed in future research. This question is whether or not psychologists are justified in viewing the good performance-poor performance dimension as unidimensional and continuous. The BOS treats a high frequency positive behavior the same as low frequency of a negative behavior. A "good" performer should be rated this way on the various items. Does this mean that a low frequency positive behavior and high frequency negative behavior are also equivalent? This question is somewhat similar to issues raised by Herzberg (1966) with regard to the satisfactiondissatisfaction continuum. Instead of the usual concept of job satisfaction, with satisfaction and dissatisfaction at opposite ends, Herzberg postulated two separate dimensions. These two dimensions consist of dissatisfaction to neutrality, and neutrality to satisfaction. Based on his Two-factor Theory, Herzberg suggested that the absence of dissatisfaction was not satisfaction, but neutrality. Different aspects

of the job affect the two dimensions differently. With respect to performance ratings, it may be that justification exists for the goodbad performance continuum. A different method of combining ratings over such different behaviors might be more appealing at face value.

A final problem in the present study was related to possible confusions by some students in rating the performance of their instructor in Class D (n = 72). This class used a large weekly lecture in combination with small group meetings. The professor to be rated taught the large lecture, while graduate teaching assistants handled the small groups. A small number of students made their ratings on their teaching assistant, as evidenced in biographical information in the questionnaires. These were discarded in the present analysis, but the possibility does exist that some contamination of ratings for instructor D occurred. To the extent this happened, error variance would be inflated. Since all subjects rated instructors using all four scales and an inter-rater approach was used, the effects of this possible contamination are probably slight.

Summary

The line of research represented in the present study has some important practical implications. Given that all raters are human and will make the kinds of errors discussed here, it is important that instruments which help to resist or minimize such errors be developed. When comparisons are made of various scale formats and development techniques, care must be taken to ensure that each format is fairly tested. This includes aspects discussed here, such as the use of itemanalysis and other psychometric techniques. The BOS would appear to warrant a larger role in future industrial use, given the qualities that

were demonstrated in this study. The BOS format also would seem to have more usefulness in terms of performance feedback for the individual employee. A fusion of BES and BOS developmental techniques seems very practical and useful, and could provide a significant reduction in man-hours spent in development, hence a large reduction in cost. 1. Dossett, D. L. Personal communication, July 7, 1981.

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APPENDIX A

Behavior Checklist For Evaluating Teaching Performance

The study you are participating in is part of a project designed to develop a scale to rate teaching performance. Please rate the performance of your instructor in this class on each of the behaviors below. The anchors describe what proportion of the time you have observed the behavior in question. Please try to rate your instructor in terms of his/her own performance,don't make the rating a comparison with other teachers you may have had.

The anchors are: 1=0-19percent of the time 2=20-39 percent of the time 3=40-59 percent of the time 4=60-79 percent of the time 5=80-100 percent of the time

If you have never observed the behavior in question(for this teacher), please mark a "one", don't leave any blanks. Please also note that a "five" doesn't always denote high performance; on an undesired behavior, a good instructor should get a rating toward the low end of the scale. You are invited to participate in a study concerning development of rating scales to evaluate teacher performance. I hope to learn whether one of two developmental procedures is superior, and whether the resulting scales vary in terms of accuracy in rating teacher performance.

If you decide to participate, you will be asked to rate the performance of your instructor in this class with the enclosed questionnaire. Your instructor will not be present while you make this rating. Your instructor may choose to see the results of this rating, but will not know what rating individual students give.

The study should require approximately 30 minutes of your time. There are no physical or psychological risks involved in this study.

Any information that is disclosed from this study will not identify you in any way. By signing this document, you are giving your permission for the experimenter to disclose this information to faculty members of the Psychology department.

Your decision whether or not to participate will not prejudice your future relations with The University of Nebraska. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, I expect you to ask me. If you have any additional questions later, Cal Hoffman, 554-2704, Psychology Department, UNO will be happy to answer them.

You will be given a copy of this form to keep.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ THE INFORMATION PROVIDED ABOVE.

DATE

SIGNATURE

INVESTIGATOR

- Fails to provide a syllabus, making assignments unclear. Almost never 1 2 3 4 5 Almost always
- 2) Makes use of visual aids such as overhead projector, slides, movies, or blackboard. Almost never 1 2 3 4 5 Almost always
- During discussion, gives examples and makes reference to the textbook. Almost never 1 2 3 4 5 Almost always
- Asks students if they have anything to add to discussion of reading assignments.
 Almost never 1 2 3 4 5 Almost always
- 5) Includes material on tests that was never covered in class or reading assignments. Almost never 1 2 3 4 5 Almost always
- 6) Stresses applied rather than theoretical aspects of course material. Almost never 1 2 3 4 5 Almost always
- 7) Explains course material when questioned without needing to look at notes. Almost never 1 2 3 4 5 Almost always
- Spends a good proportion of time covering material that is never tested on. Almost never 1 2 3 4 5 Almost always
- 9) Fails to go over tests to show students what correct answers are. Almost never 1 2 3 4 5 Almost always
- 10) Specifically lists some of the things that should be known for a test during review.Almost never 1 2 3 4 5 Almost always
- 11) Reviews general areas of reading material for tests, giving students an idea of the focus of the test. Almost never 1 2 3 4 5 Almost always
- 12) Reviews tests after grading, givingstudents correct answers. Almost never 1 2 3.4 5 Almost always
- 13) Goes out of his/her way to help students with questions. Almost never 1 2 3 4 5 Almost always
- 14) Is available for help other than just class and office hours. Almost never 1 2 3 4 5 Almost always
- 15) Uses many abbreviations when writing on blackboard. Almost never 1 2 3 4 5 Almost always

- 16) Exercises authority when needed without disrupting class. Almost never 1 2 3 4 5 Almost always
- 17) Gives textbook replies to student questions. Almost never 1 2 3 4 5 Almost always
- 18) When answering student questions, doesn't follow up to make sure student understood explanation.
 Almost never 1 2 3 4 5 Almost always
- 19) Reminds students he/she has the power to fail them. Almost never 1 2 3 4 5 Almost always
- 20) Spends an excess amount of time covering small parts of reading material. Almost never 1 2 3 4 5 Almost always
- 21) In lecture, rushes through remaining reading material so it can be included on test. Almost never 1 2 3 4 5 Almost always
- 22) Lets students talk during lecture, disrupting class. Almost never 1 2 3 4 5 Almost always
- 23) Changes voice inflections while lecturing. Almost never 1 2 3 4 5 Almost always
- 24) Shows patience when dealing with student questions. Almost never 1 2 3 4 5 Almost always
- 25) Uses terms from upper level courses (jargon) to explain concepts. Almost never 1 2 3 4 5 Almost always
- 26) Lectures "over the heads" of most students in the class. Almost never 1 2 3 4 5 Almost always
- 27) Laughs at students who have questions. Almost never 1 2 3 4 5 Almost always
- 28) Uses body movements during lecture. Almost never 1 2 3 4 5 Almost always
- 29) Obtains up-to-date material to supplement text material that may be out of date. Almost never 1 2 3 4 5 Almost always
- 30) Gives quizes before exams to help students see weak areas in their knowledge. Almost never 1 2 3 4 5 Almost always
- 31) Supplies little structure to classroom discussions. Almost never 1 2 3 4 5 Almost always
- 32) Has no notes to rely on during lecture. Almost never 1 2 3 4 5 Almost always

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- 33) Gives constructive comments to students when they make mistakes. Almost never 1 2 3 4 5 Almost always
- 34) Gives detailed explanations to student questions. Almost never 1 2 3 4 5 Almost always
- 35) Shows personal interest in students. Almost never 1 2 3 4 5 Almost always
- 36) Discounts student opinions during discussions. Almost never 1 2 3 4 5 Almost always
- 37) Fails to make specific assignments. Almost never 1 2 3 4 5 Almost always
- 38) Gives real-life examples to illustrate technical terms. Almost never 1 2 3 4 5 Almost always
- 39) Offers personal insights into material covered in class. Almost never 1 2 3 4 5 Almost always
- 40) Provides extra help to students during office hours. Almost never 1 2 3 4 5 Almost always
- 41) Has written notes on reading assignments. Almost never 1 2 3 4 5 Almost always
- 42) Uses humor to regain attention of class. Almost never 1 2 3 4 5 Almost always
- 43) Becomes impatient with student questions. Almost never 1 2 3 4 5 Almost always
- 44) Shows impartiality in grading. Almost never 1 2 3 4 5 Almost always
- 45) Ridicules students who ask questions. Almost never 1 2 3 4 5 Almost always
- 46) Presents material in an enthusiastic manner. Almost never 1 2 3 4 5 Almost always
- 47) Answers student questions in great detail. Almost never 1 2 3 4 5 Almost always
- 48) Fails to give feedback on test grades. Almost never 1 2 3 4 5 Almost always
- 49) Provides outline that will be followed during lecture. Almost never 1 2 3 4 5 Almost always

- 50) Becomes angry if his/her authority is questioned. Almost never 1 2 3 4 5 Almost always
- 51) Provides little structure in course. Almost never 1 2 3 4 5 Almost always
- 52) At times, is unable to answer questions. Almost never 1 2 3 4 5 Almost always
- 53) Fails to tie together points made during lecture. Almost never 1 2 3 4 5 Almost always
- 54) Ignores student questions. Almost sever 1 2 3 4 5 Almost always
- 55) Repeats material several times during a lecture. Almost never 1 2 3 4 5 Almost always
- 56) Uses visual aids such as movieSwithout explaining terminology in the film. Almost never 1 2 3 4 5 Almost always
- 57) After questioning class, allows students a chance to answer and discuss before giving correct answer. Almost never 1 2 3 4 5 Almost always
- 58) Spends time during class going through books and notes before he/she can continue lecturing. Almost never 1 2 3 4 5 Almost always
- 59) Makes errors when writing on the blackboard. Almost never 1 2 3 4 5 Almost always
- 60) Explains why material covered is important. Almost never 1 2 3 4 5 Almost always
- 61) Gives multiple examples when answering questions. Almost never 1 2 3 4 5 Almost always
- 62) Talks in a monotone while lecturing. Almost never 1 2 3 4 5 Almost always
- 63) Repeats the same explanations over again. Almost never 1 2 3 4 5 Almost always
- 64) Asks unruly students to be quiet. Almost never 1 2 3 4 5 Almost always
- 65) Comments on grades of individual students in front of class. Almost never 1 2 3 4 5 Almost always
- 66) Maintains eye contact with class. Almost never 1 2 3 4 5 Almost always

4

- 67) Allows students to question answers on test questions. Almost never 1 2 3 4 5 Almost always
- 68) Answers questions in such a way as to make students asking questions sound dumb.
 Almost never 1 2 3 4 5 Almost always
- 69) Becomes angry when students ask questions. Almost never 1 2 3 4 5 Almost always
- 70) Shows signs of nervousness while lecturing. Almost never 1 2 3 4 5 Almost always
- 71) Compliments students who perform well. Almost never 1 2 3 4 5 Almost always

THE UNIVERSITY OF NEBRASKA

You are invited to participate in a study concerning comparisons of rating scales to evaluate teacher performance. I hope to learn whether one of two developmental procedures is superior, and whether the resulting scales vary in terms of accuracy in rating teacher performance.

If you decide to participate, you will be asked to rate the performance of your instructor in this class with the enclosed questionnaire. Your instructor may be present while you make this rating. Your instructor may whoose to see the results of this rating, but will not know what rating individual students give.

The study should require approximately 60 minutes of your time. There are no physical or psychological risks involved in this study.

Any information that is disclosed from this study will not identify you in any way. By signing this document, you are giving your permission for the experimenter to disclose this information to faculty members of the Psychology department.

Your decision whether or not to participate will not prejudice your future relations with The University of Nebraska. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, I expect you to ask me. If you have any additional questions later, Cal Hoffman, 554-2704, Psychology Department, UNO will be happy to answer them.

You will be given a copy of this form to keep.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ THE INFORMATION PROVIDED ABOVE.

Date

Signature

Investigator

Instructions: SAMPLE SCALE PROPERLY FILLED OUT

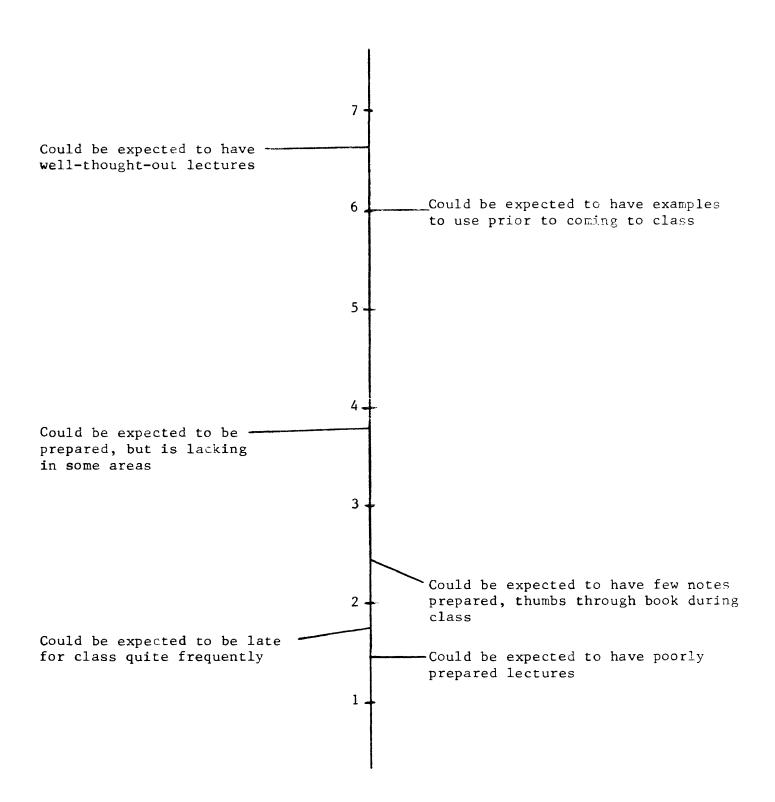
First read the name of the dimension and its definition. Then notice the emamples which illustrate various points on the rating scale. These examples are included to give you clear anchor points to help you make more accurate evaluations. Don't worry about whether or not your subordinate has actually exhibited the behavior described in the example. By knowing your subordinate, you should be able to judge whether he or she could be expected to display the type of behavior described in the example. After reading all the examples on a dimension, decide where on the rating scale the worker belongs by making a checkmark anywhere along the scale. The value you assign can range anywhere from 1 which represents very poor performance to 7 which represents very good performance. This procedure should be followed for each dimension.

Motivation - the worker's desire and willingness to do a hard day's work.

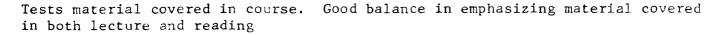
7 This worker could be expected to stimulate enthusiasm about the company and jobs from peers. -This worker could be expected to be counted on in a crisis. 6 This worker could be expected to do the job without much supervisory follow-up. 5 This worker could be expected to meet the basic requirements of the job. 4 -3 3 This worker could be expected to take sick leave whenever the work load becomes high. -This worker could be expected not to report hazardous working conditions or defective machinery because doesn't care. 2 This worker could be expected to deliberately slow down on the job.]

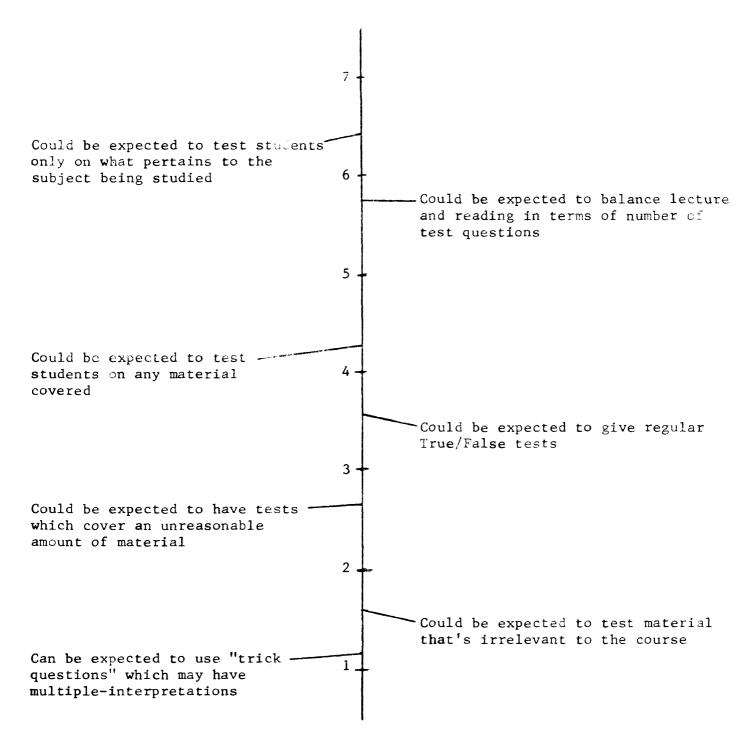
PREPAREDNESS

Shows evidence of preparation for lecture and test material



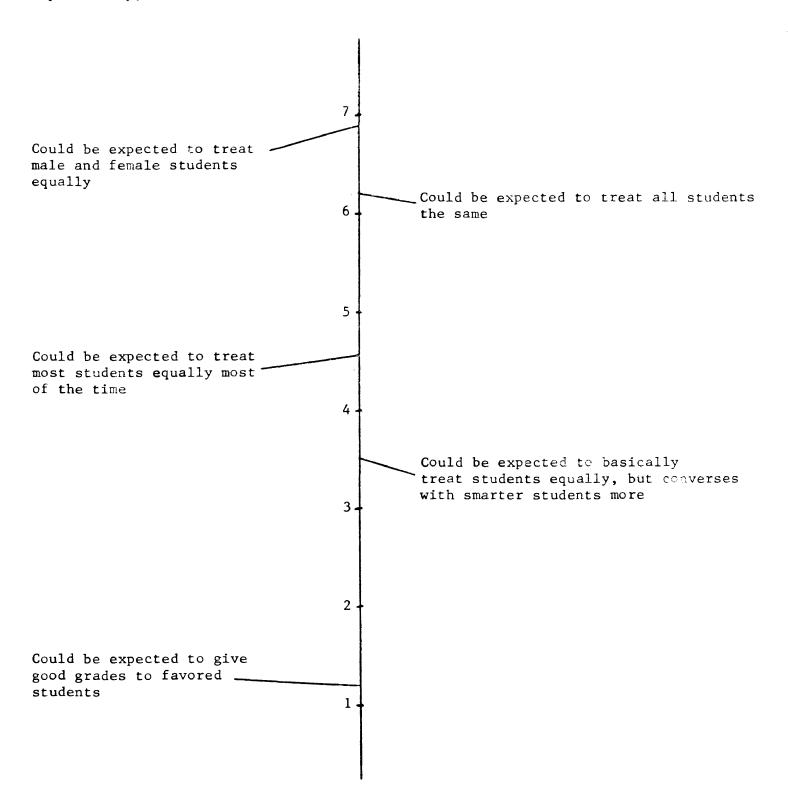
TESTING





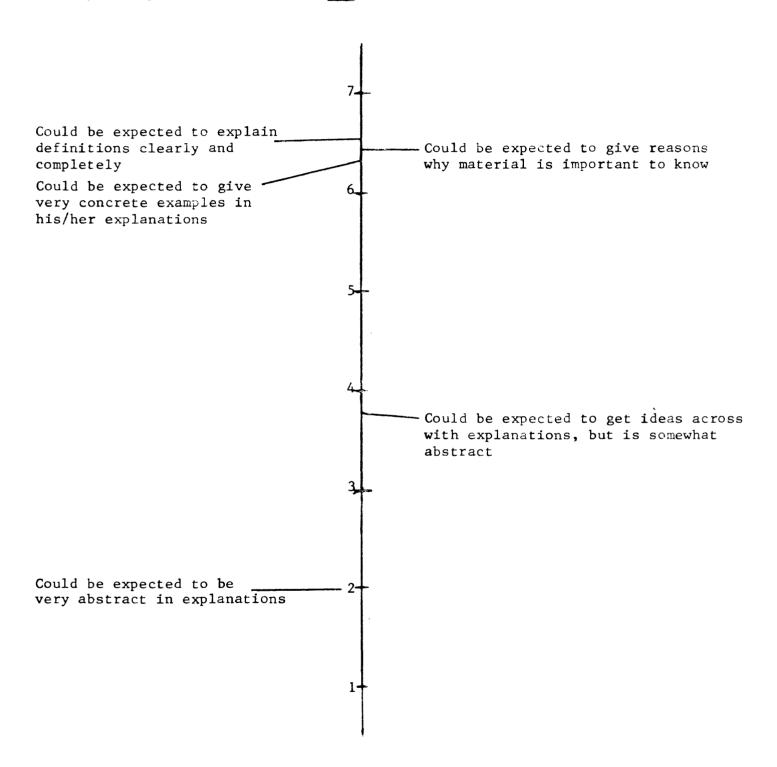
OBJECTIVITY

Impartiality; is unbiased in treatment of students



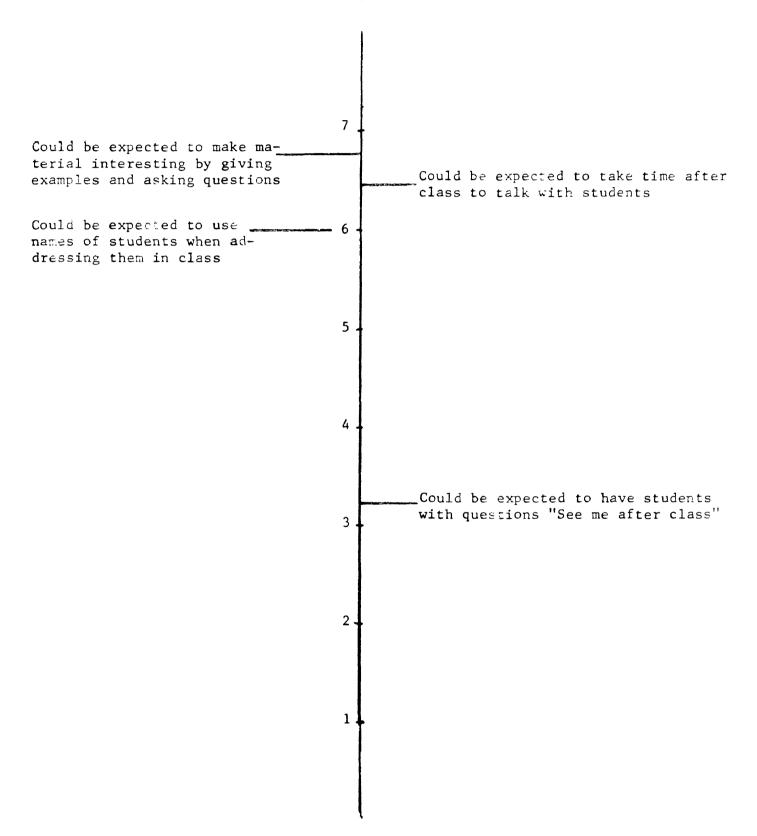
EXPLANATION OF CONCEPTS

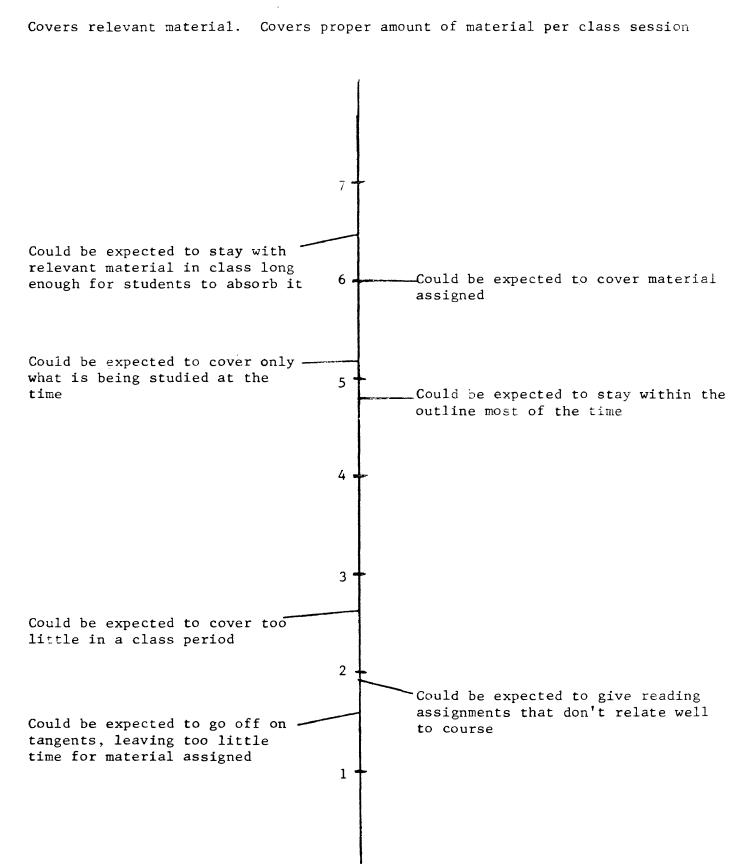
Clarity of explanations, explains why concepts are important

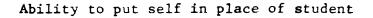


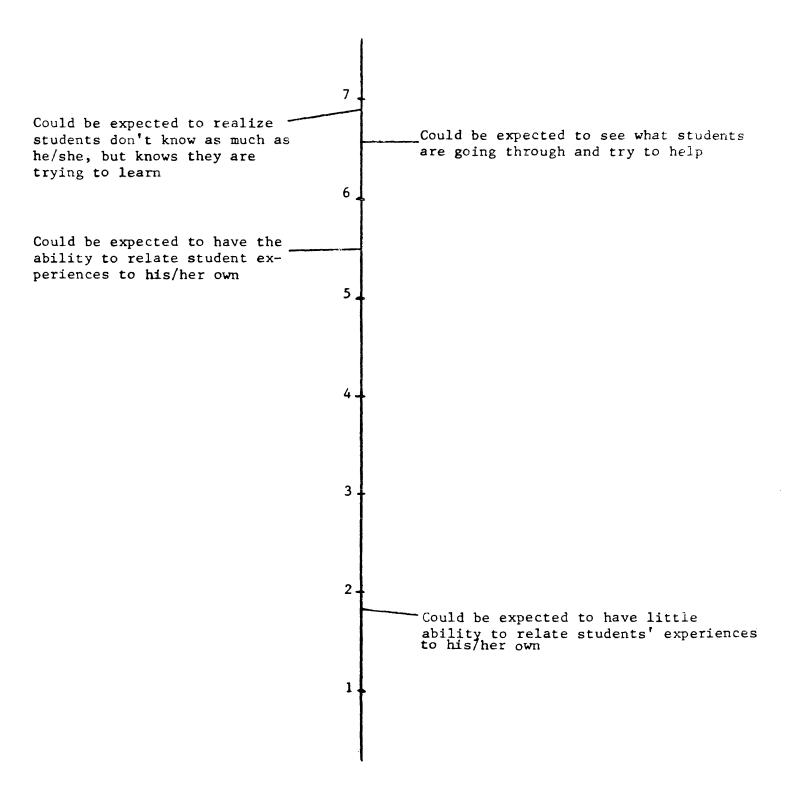
STUDENT/TEACHER INTERACTIONS

Communications with students, answering and asking questions

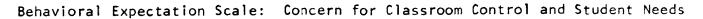


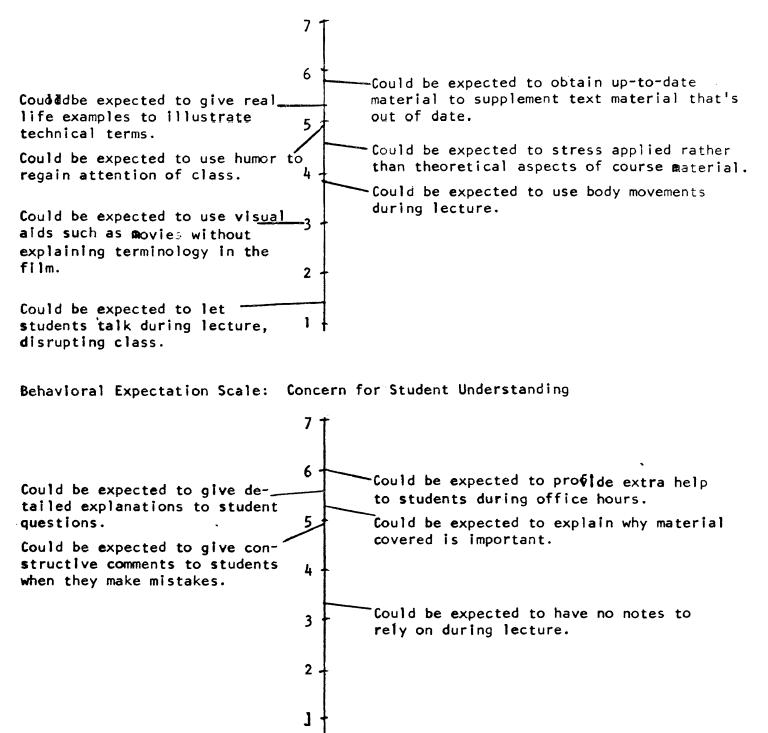






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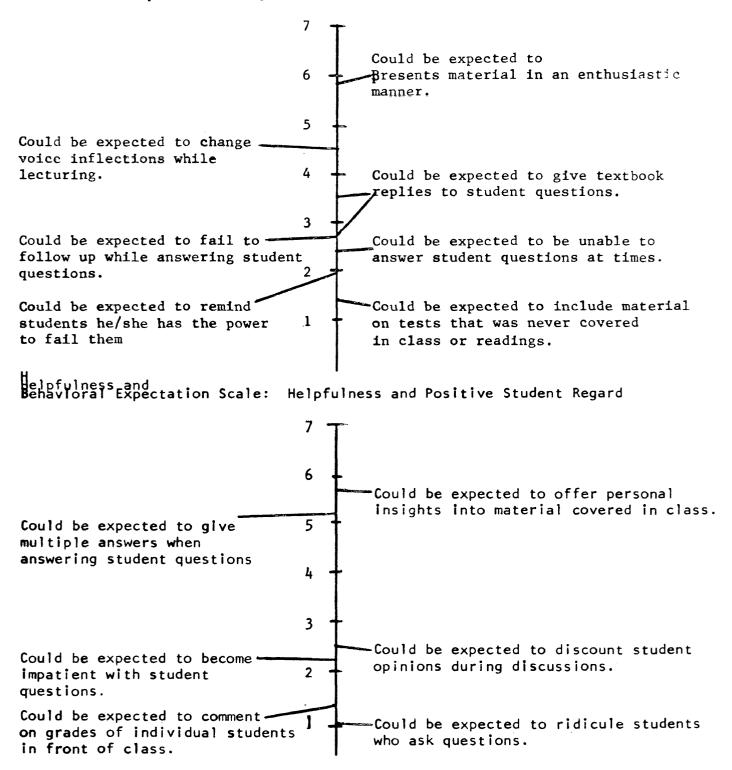


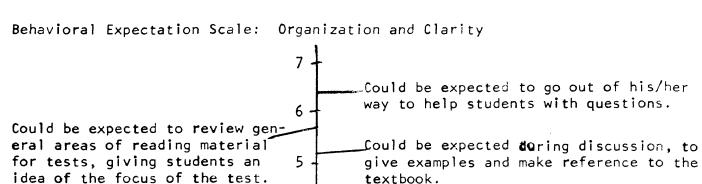


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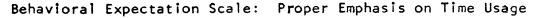
Behavioral Expectation Scale ; Instructor Competency

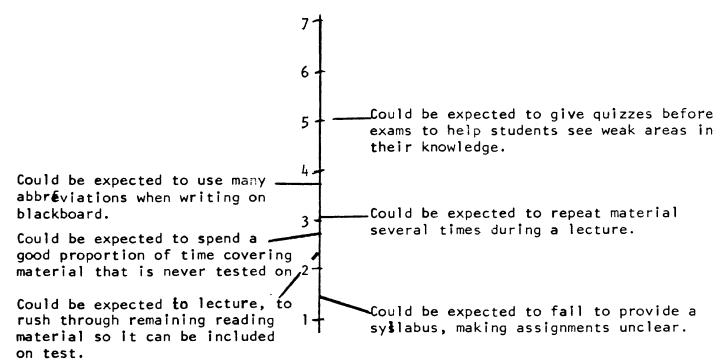
Please mark only one number per scale.





Could be expected to review tests4 after grading, giving students correct answers. Could be expected to make errors when writing on the blackboard. Could be expected to fail to give feedback on test grades.





Behavioral Observation Scale: Please rate the performance of your instructor on the following items. Rate his/her performance in terms of relatively how frequently you have observed the behavior in question. If you have not observed the behavior in question, do not leave the item blank. Make your rating using the following anchors:]=0 to]9% 2=20 to 39% 3=40 to 59% 4=60 to 79% 5=80 to 100% Make your ratings in terms of relatively how often you have observed the behavior in question. Thus, if you have never seen a behavior, rank a "one", which is 0 to 19% in relative frequency. Please mark directly on the scale. Thank you. Scale One: Course Material Covered, Definition: Covers relevant material; covers proper amount of material per class session. 1) Stays with relevant material in class long enough for students to absorb it. 2 2) Covers material in class that was assigned. 5 1 2 3 3) Covers only what is being studied at the time. 5 2 3 Ŀ 4) Stays within the course outline most of the time. 5 2 3 5) Covers too little in a class period. 4 5 3 6) Gives reading assignments that don't relate well to the course. 2 3 4 Goes off on tangents, leaves too little time for material assigned. 7) 2 4 1 3 5 Scale Two: Testing. Definition: Tests material covered in course. Good balance in emphasiging material covered in both reading and lecture. Tests students only on what pertains to the subject being studied. 4) 2 .3 4 1 Balances lecture and reading in terms of number of test questions. 2) 1 2 3 3) Tests students on any material covered. 4 5 2 3 1 4) Gives regular true/false tests. 4 5 2 5) Has tests which cover an unreasonable amount of material. 2 5 3

Testing(Continued) 6) Tests material that's irrelevant to the course. 7) Uses "trick" questions which may have multiple interpretations. Scale Three: Objectivity. Definition: Impartiality; is unbiased in treatment of students. 1) Treats male and female students equally. 2) Treats all students the same. 3) Treats most students equally. 4) Basically treats students equally, but converses with smarter students more. 5) Gives good grades to favored students. Scale Four: Preparedness. Definition: Shows evidence of preparation for lecture and test material. 1) Has well-thought-out lectures. 2) Has examples to use prior to coming to class. 3) Is prepared, but is lacking in some areas of preparation. · · ... · . 4) Has few notes prepared, thumbs through book during class. 5) Is late for class quite frequently.

6) Has poorly prepared lectures. 1 2 3 4

9/

Scale Five: Explanation of concepts. Clarity of explanations, explains why concepts are important. Definition: Explains definitions clearly and completely. 1) 5 2 Gives reasons why material is important to know. 2) 5 4 1 2 3 3) Gives very concrete examples in his/her explanations. 2 3 5 Gets ideas across with his/her explanations, but is somewhat abstract. 4) 2 5) Is very abstract in his/her explanations. 5 3 Ь 2 Scale Six: Empathy Definition: Ability to put self in place of student. 1) Realizes students don't know as much as he/she, but knows they are trying to learn. 4 5 1 2 3 2) Has the ability to relate student experiences to his/her own. 4 2 1 3 3) Sees what students are going through and tries to help. Ł 2 3 4) Has little ability to relate students' experiences to his/her own. 4 2 3 Student/teacher interactions Scale Seven: Communications with students, answering and asking questions. Definition: 1) Makes material interesting by giving examples and asking questions. 3 1 2 2) Uses names of students when addressing them in class. 5 2 3 3) Takes time after class to talk with students. 5 2 3 4) Has students with questions "see me after class". 2 3

4 Z

Behavioral Observation Scale Dimension:Instructor Competency

1) Includes material on tests that was never covered in class or readings. Gives textbook replies to student questions. 2) When answering student questions, doesn't follow up to make sure student 3) understood explanation. Reminds students he/she has the power to fail them. 4) 5) Spends an excess amount of time covering small parts of reading material. 6) Changes voice inflections while lecturing. . 7) Uses terms from upper level courses (jargon) to explain concepts. 8) Lectures "over the heads" of most students in the class. 9) Supplies little structure to classroom discussions. 10) Presents material in an enthusiastic manner. 11) Provides little structure in course, 12) At times, is unable to answer student questions. 13) Spends time in class going through books or notes before he/she can continue.lecturing. 14) Talks in a monotone while lecturing. 15) Shows signs of nervousness while lecturing. Dimension: Helpfulness and positive student regard Explains course material when questioned without needing to look at notes. 1)

Helpfulness, continued

2) Laughs at students who have questions. 1 2 3 4 5 3) Discounts student opinions during discussions. 1 2 3 4 5 4) Offers personal insights into material covered in class. 1 2 3 4 5 5) Becomes impatient with student questions. 1 2 3 4 5 6) Ridicules students who ask questions. 1 2 3 4 5 7) Becomes angry if his/her authority is questioned. 1 2 3 4 5 9) Gives multiple answers when answering student questions. 1 2 3 4 5 9) Gives multiple answers when answering student questions. 1 2 3 4 5 9) Gives multiple answers when answering student questions. 1 2 3 4 5 10) Comments on grades of individual students in front of class. 1 2 3 4 5 11) Answers questions in such a way to make the student asking questions sound dumb. 1 2 3 4 5 12) Becomes angry when students ask questions. 1 2 3 4 5 13) Answers questions in such a way to make the student asking questions sound dumb. 1 2 3 4 5 14) Stresses applied rather than theoretical aspects of course material. 2 3 4 5 15) Exercises authority when needed without disrupting class. 1 2 3 4 5 10) Lets students talk during lecture, disrupting class. 1 2 3 4 5 5) Obtains up-to-date material to supplement text material that's out of date. 1 2 3 4 5 5) Obtains up-to-date material to supplement text material that's out of date. 1 2 3 4 5 7) Uses humor to regain attention of class. 1 2 3 4 5 7) Uses humor to regain attention of class. 1 2 3 4 5 8) Diver subor to regain attention of class. 1 2 3 4 5 8) Diver subor to regain attention of class. 1 2 3 4 5 8) Uses humor to regain attention of class. 1 2 3 4 5 8) Uses humor to regain attention of class. 1 2 3 4 5 8) Uses humor to regain attention of class. 1 2 3 4 5 8) Uses humor to regain attention of class. 1 2 3 4 5		prunice, c						
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Concern for classroom control-continued Provides outline that will be followed during lecture. 9) 10) Uses visual aids such as movies without explaining terminology in the film. Ł 11) Asks unruly students to be quiet. Dimension: Concern for student understanding 1) Makes use of visual aids such as overhead projector, slides, movies, or blackboard. 2) Is available for help other than just class and office hours. 3) Shows patience when dealing with student questions. 4) Has no notes to rely on during lecture. 5) Gives constructive comments to students when they make mistakes. 6) Gives detailed explanations to student questions. 7) Shows personal interest in students. Provides extra help to students during office hours. 8) 9) Has written notes on reading assignments. 10) Answers student questions in great detail. 11) Explains why material covered is important. 12) Compliments students who perform well. Dimension: Organization and clarity During discussion, gives examples and makes reference to the textbook. 1) З Asks students if they have anything to add to discussion of reading 2) Assignments.

Organization and clarity-continued

3)	Fails to go over to l	ests to sh 2	ow student 3	s what cor 4	cect answers are. 5		
4)	Specifically lists during review.	some of t	the things	that should	l be known for a test 5		
	1	2	3	4	5		
5)	0			ial for tea	sts, giving students		
	an idea of the focult	2	cest.	4	5		
\sim		••	• •				
6)	Reviews tests afte: 1	r grading, 2	giving st 3	udents cori 4	5		
7)	Goes out of his/he	r way to h	elp studen	ts with que	estions.		
	1	2	3	4	5		
8)	Fails to give feed	back on te	st grades.				
	1	2	3	4	5		
9)	Makes errors when	writing on	the black	board.			
	1	2	3	4	5		
10)	Maintains eye conta	act with c	lass.				
. •	1	2	3	4	5		
11)	Allows students to	question	answers on	test quest	tion.		
,	1	2	3	4	5		
Dime	nsion: Proper empha	asis on ti	.m e usag e				
				signments v	unclear.		
Dime 1))				signments v 4	unclear. 5		
	Fails to provide a l	syllabus, 2	making as 3	4	_		
1))	Fails to provide a l	syllabus, 2 ortion of 2	making as 3 time cover 3	4 ring materia 4	5 al that is never tested on. 5		
1)) 2)	Fails to provide a l Spends a good prop 1	syllabus, 2 ortion of 2	making as 3 time cover 3	4 ring materia 4	5 al that is never tested on. 5		
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1) 2) 3) 4) 5) 6) 7)	Fails to provide a 1 Spends a good prop 1 Uses many abbrevia 1 In lecture, rushes included on test. 1 Gives quizzes beforknowledge. 1 Fails to tie toget 1 Repeats material so 1	syllabus, 2 ortion of 2 tions when 2 through r 2 re exams t 2 her points 2 everal tim 2	making as 3 time cover 3 writing of 3 remaining r 3 to help stu 3 made duri 3 made duri 3 mas during 3	4 ing materia 4 on blackboa 4 ceading mate 4 idents see v 4 ing lecture 4 a lecture. 4	5 al that is never tested on. 5 rd. 5 erial so it can be 5 weak areas in their 5 5		
1) 2) 3) 4) 5) 6)	Fails to provide a 1 Spends a good propul Uses many abbrevia 1 In lecture, rushes included on test. 1 Gives quizzes beforknowledge. 1 Fails to tie toget 1	syllabus, 2 ortion of 2 tions when 2 through r 2 re exams t 2 her points 2 everal tim 2	making as 3 time cover 3 writing of 3 remaining r 3 to help stu 3 made duri 3 made duri 3 mas during 3	4 ing materia 4 on blackboa 4 ceading mate 4 idents see v 4 ing lecture 4 a lecture. 4	5 al that is never tested on. 5 rd. 5 erial so it can be 5 weak areas in their 5 5		

Please answer a few more questions and you'll be done. Please circle the answer which best describes your feelings. 1) Would you take another course from this instructor? Definitely not 1 2 5 Very definitely 3 4 2) Would you recomend this course to a friend? Definitely not 1 2 3 4 5 Very definitely 3) How many psychology courses have you taken? 1 2 3 4 5 4) Overall, how effective would you rate the teaching in this course? Very ineffective 1 2 3 4 5 Very effective 5) Your sex? Male Female 6) Grade you expect for this course? B С D F A 7) Do you prefer the BES (vertical) or BOS format? BES BOS Why?_____

Thank you for your participation.

Your instructors name?

8)

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والدعراب كتنو بموجد

Cal Hoffmon

APPENDIX C:

CORRELATIONS OF ALL ITEMS

	ITEM1	ITEM2	ITEM3	ITEM4	ITENS	tfEn4
ITEM1	(0)	(302)	(302)	(302)	.2195 (302) P= .001	(302)
ITEM2		(0)	(302)	(302)	0436 (302) P= .225	(302)
ITEM3		(302)	(0)	(302)	0307 (302) P= .298	(302)
ITEM4		(302)	(302)	(0)	•0562 (302) P= •165	(302)
ITEM5	(302)	(302)	(302)	(302)	1.0000 (0.) F'≕*****	(302)
ITEM6		(302)	(302)	(302)	.0152 (302) P= .396	(0)
ITEM7		(302)	•0583 (302) F= •156	(302)	(302)	(302)
ITEMS		(302)	(302)	(302)	•2461 (302) P= •001	(302)
	+0149 (302) F= +398	(302)	(302)	(302)		(302)
ITEM10	(302)	(302)	(302)	(302)	.0105 (302) F= .428	•0342 (302) P= •277
ITEM11	0731 (302) P= .103	(302)	(302)	•2575 (302) P= •001	+0561 (- 302) P≔ +166	0170 (302) P= .384
	.0494 (<u>302)</u> F= .196	(. ((302)	0516 (302). P= .186	(302)
ITEM13	(302)	(302)	(302)	(302)	0988 (302) F≔ .043	(302)

	1	2	3	4	5	6
ITEM14	0443 (302) P= .222	(302)	•2723 (302) F= •001	(302)		(302)
ITEM15	.0350 (302) P= .273	(302)	0781 (302) P= .088	(302)	•1447 (302) P= •006	(305);
ITEM16	0253 (302) P= .330	(302)	•0795 (302) F= •084	(302)		0128 (302) P= .412
ITEM17	.0327 (302) F= .286	(302)	•0748 (302) F= •097	(302)	(302)	(302)
ITEM18	•1246 (302) ₽= •015	(302)	0670 (302) F= .123	(302)	(302)	(302)
ITEM19	.0610 (302) P= .145	(302)	•0039 (302) F= •473	(302)	(302)	(302)
ITEM20		(302)	0797 (302) F= .084	(302)	(302)	(302)
ITEM21		(302)	1222 (302) P= .017	(302)	(302)	0203 (302) P= .363
ITEM22	(302)	(302)	•0361 (302) F= •266	(302)	(302)	.0349 (302) P= .273
ITEM23	0325 (302) F= .287	(302)	•2465 (302) P= •001		1398 (302) P= .003	.0986 (302) P≕ .044
ITEM24		(302)	•2538 (302) F= •001		0426 (302) P=231	.1329 (302) F= .001
ITEM25	(302)	0960 (302) F= .048	(302)	1069 (302) P= .032	+2240 (302) P= .001	0262 (302) P= .325
ITEM26	(302)	0614 (302) F= .144		(30,2)	(302)	0863 (302) F= .067

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	ſ	2	3	4	5	6
ITEM27	.1045	0939	0120	•0652	•1265	0413
	(302)	(302)	(302)			(302)
	P= .035	P= .052	P= .418	P= +129	P= .014	₽= .236
ITEM28			1 755	+1500		+1420
		(302)	(302)			(305)
	P= ₊458	F= .044	₽= ,001	P= +004	P≕ .430	P= .006
ITEM29			+2719	•1334		
				(302)		(302)
	r≞ +300			P= .010	P°≕ +400	P= .119
ITEM30				+2308		.0354
				(302)		(302)
	P= .012	P= +056	P= .131	F= .001	F= •377	F= .270
ITEM31	.1034	0794	0879	0681	.1539	0061
				(302)		(302)
	F= .036	P= •084	F'= +064	F= .119	P± .004	P= +458
ITEM32	·1399	-,1408	- .1 671	•0449	.1336	,0311
				(302)		
	F= .007	F= .007	P= +002	P= .218	F= +010	P= +295
ITEM33	1011	. 1634	.1902	.3055		.0078
			(302)		(302).	
	F= •040	F= .002	F= •001	F= .001	F= .118	F= +446
ITEM34		•2284	•2287	.1857	.0280	.1525
		(302)				(302)
	F'= +144	F'= .001	F= .001	P= .001	P= .314	P= .004
ITEM35	-+0577	.18 78	.2249	+2339	+0038	.0215
		(302)				(302)
	F= +159	F'= •001	P= .001	P= +001	P= 453	P≕ +053
ITEM36	.1692	2243	0942	1477	.1751	0010
	(302)	(302)	(302)	(302)	(° 302)	(302)
	F= .002	₽ ≕ .0 01	P= .051	P= .005	P= .001	P= .493
ITEM37	+1770	1396	0876	1135	.2028	•0374
		(302)	(302)	(302)	(302)	(302)
	F= .001	P= .008	F= .064	F= .024	P= .001	P= .259
ITEM38	.0143		.3331	+1126	0191	.1960
	(302)	(302)	(302)	(302)	(302)	
	P= .402	F= .001	P= .001	P= +025	P= .371	P= +001
ITEM39	0474	•0964	.2502	.1818	.0481	.1070
			(302)	(302)		(302)
	P= .206	₽ = . 047	F= .001	F'= +001	P= +202	P= .032
···· ··· ··· ···		······································				

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	(2	3	4	5	6
ITEM40	(302)	(302)	•1985 (302) P= •001		(302)	.0699 (302) P= .113
ITEM41	0670 (302) P= .123				(302)	(302)
ITEM42	(302)	(302)	•2063 (302) P= •001		(302)	•1428 (302) P= •006
ITEM43	(302)	(302)		0707 (302) P= .110	(302)	0533 (302) P= .178
ITEM44	(302)	(302)	.0056 (302) F'= .461		(302)	.0746 (302) P= .098
ITEM45	(302)	(302)	(302)	0400 (302) F= .244	(302)	•0224 (302) P= •349
ITEM46	(302)	(302)	•3593 (302) F= •001		(302)	
ITEM47	(302)	(302)	•3389 (302) F= •001	(302)	(302)	
ITEM48	+1193 (302) F= +019	0958 (302) P= .048	(302)	-+2225 (302) F= +001	(302)	(302)
ITEM49	0009 (302) F= .494	+1395 (302) P= +008	:0394 (302) P= .247	•0566 (302) P= •163		.0400 (302) P= .244
ITEM50	.0644 (302) P= .132	0488 (302) F= .199	0240 (302) P=339	.0658 (302) F= .127		.0887 (302) P= .062
ITEM51	•0548 (302) P= •171	+1499 (302) P= +005	0566 (302) F= .164	0191 (302) F= .371		0051 (302) P= .465
ITEM52	.0807 (302) F= .081	.0554 (302) P= .168	•0207 (302) F= •359	.0907 (302) P= .058	(302)	.0304 (302) P= .300

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	1	2	3	4	5	6
ITEM53		(302)	0960 ((302)	(302)	0180
ITEM54	·P= .004 .0712		P= .048			P= .377 .0808
	(302) F= +109			(302) P= .226		
ITEM55	(302)	(302)		•0119 (302) P= •418		
ITEM56		(302)	0408 (302) P= .240		•1744 (302) P= •001	
ITEM57	(302)	(302)	+1416 (302) F= +007			(302)
ITEM58	(302)	(302)	(302)	•0377 (302) F= •257	(302)	(302)
ITEM59	(302)	(302)	(302)	0243 (302) F= .335	(302)	
ITEM60	(302)	(302)	(302)	, +1896 (302) P= -001	(302)	(302)
	0311 (302) P= .295	(302)	(302)		(302)	(302)
ITEM62 .	(302)	(302)	(302)	1129 (302) P= .025	(302)	
ITEM63	(302)	(302)	(302)	0286 (302) P= .311	(302)	
ITEM64	(302)	(302)	(302)	•0863 (302) P- •067	(302)	(302)
ITEM65	•0966	0726	+0124		+1735	0495
				(302) P= .245		

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	(2	3	4	5	6
ITEM66		(= 302)		×1019 (302)	(302)	
	P∞ •058		P002			
ITEM67		•1575 (302)	•1157 (302)			+0322 (302)
	P= +339	P= .003	F≅ .022	P= .001	P310	P= .287
ITEM68		1019 (302)				•0302 (302)
		P= .039			F= .004	
ITEM69		1327				0504 (302)
		(302) F= .011			P= +002	(302) P≕ •192
ITEM70		0890				
	(302) F= .16 7	(302) F= .061		(302) P= •290		(302) P= .351
ITEM71		.1601				
		(302) P= .003				(302) F= .013
						•
	ITEM7	ITEM8	ITEM9	ITEM10	ITEM11	ITEM12
ITEM1	0845	.0864	.0149	0167	0731	.0474
		(302) F= .067				(302) P= +196
ITEM2		1270				
		(302) F= .014				
ITEM3	•0583	0769	0502	.1003	•1975	۰0755
	(302) P= +156	(302) F= .091	(302) ₽= . .1 92.	(302) P= 4041	(302) P= .001	(302) P= .095

		#P&F		· • • • •		· · · · · · · · · · · · · · · · · · ·	· • • • • • • • • • • • • • • • • • • •	t W . T (\$)	1		.•		- •
ITEM4		+1080		.0379		2925		.1159	•	.2575		.2524	
	(302)	(302>	<	302)	(302)	(302>	۲	302>	
	F'=	.030	P=	+256	F'==	+001	F'=	•022	F'=	.001	F'=	.001	
ITEM5		0561		.2461		.0651		.0105		.0581		+0516	
	(302)	(302)	(302)	(302)	(302)	(302>	
	P=	+1-66	F'=	+001	F'=	-130	. P =	+428	P=.	+166	F'=	.186	-

	г	8	9	10	19	12
ITEM6		(302)	•0352 (302) P= •271	(302)-	(302)	
ITEM7	1.00000 (0) F'=******		0933 (302) P= .053	(302)		.1939 (302) P= .001
ITEM8	(302)		•1182 (302) P= •020	(302)		(302)
ITEM9		(302)	1.0000 (0) F=*****	(302)	1309 (302) P= .011	(302)
ITEM10	(302)	(302)	1541 (302) P≕ .004	(0)	(302)	(302)
ITEM11	(302)	(302)	1309 (302) P= .011	(302)	(0)	(302)
ITEM12			4682 (302) F= .001	(302)		(0)
ITEM13		(302)	2709 (302) F= .001	(302)	(302)	•4747 (302) P≕ •001
ITEM14	.1330 (302) P= .010	(302)	-•0247 (302) P= •335	< 302>		
ITEM15	•0736 (302) F= •101		•0140 (302) P= •404	(302)		0111 (302) P= .424
ITEM16	(302)	(302)	1461 (302) F= .006	(302)		(302)
ITEM17		(302)	,0785 (302) F= .087	(302)	•0360 (302) P= •266	(302)
ITEM18 -	0347 (302) F= .274	(302) F= .080	+2270 (302) F= +001	(302)	< 300>	

	フ	8	9	10	11	12
ITEM19				.0455		+000i
			P= +427	(302) P= .215	P= .075	
ITEM20		•4168 (302)		1345 (302)		1458
				P=010		P= .006
ITEM21				0785 (302)		··1522 (302)
	P= .001			P= .087		
ITEM22		•0828 (302)		0337 (302)		.0838
	F= .012			F= +280		
ITEM23				.1192 (302)		
				P= +019		
ITEM24				.2859 (302)		
				F= +001		
ITEM25	0534	_,2323		1052 (302)		
				F= +034		
ITEM26				1174		2307
				(302) P= .021		
ITEM27	1366					
				(302) P= +089		
ITEM28		1167		•2396		+2273
	(302) P= +427	(302) P= .021	(302) P= +128		(302) P= .001	
ITEM29		<u>1962</u> (302)		•2833 (302)		-3115 (302)
	(302) P= •024		P= +064		P≕ .001	
ITEM30	•0194			.0374		
	(302) P= .368	(302) P= +448		(302) P= +259		
ITEM31	1403			.0049		0455
	(302) P= .007	(302) P= +002		(302) ₽≡ <u>466</u>		

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ITEM32	<	1060 302) •033	(302>	Ċ	302)	λ,	。1055 302) 。034	(302)		•2063 300) •001	
ITFM33	<		<	302)	(302>	<	•2115 302) •001		•2734 302) •001		•2613 302) •001	
ITEM34	<		(302)	((•2272 302) • 0 01		•2327 302) •001		•3428 302) •001	3 2 :
ITEM35	(302)	(302)	(302)	(•2475 302) •001	(•2601 302) •001	(•2882 302) •001	
ITEM36	<		<		(302>	(-•1870 302) •001	((••1886 302) •001	
ITEM37	((.1012 302) .040	((-•0146 302) •400	(302)	(-•0014 302) •490	
ITEM38	(2047 302) •001	(302)	(•0358 302) •268	(•2582 302) •001	<	•1661 302) •002	•	+1965 302) +001	
ITEM39	(302)	(302)	(((•1435 302) •006	(•0947 302) •050	
ITEM40	(302)	(302)	(302)	ζ	•0629 302) •138	(302)	(302)	
ITEM41	((302)	۲	302>	(+0256 302) +329	ί.	302>	(
ITEM42	(302)	ζ	302)	(302)	<	•0691 302) •116	(302)			
ITEM43	· -•	0375 302)	<	302)	(302>	<	-•0858 302) •069	(302)	<		
TTEM44	(3022	(302)	(302)	(•0306 302) •298	(3020	(.0095 302) .435	
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	7	8	9	10	11	12
ITEM45	0332	.0718	+1082	0776	-4256	4 600 000 2 8 6 6 6 6 6 6 6 7
	(302)			(302)	(302>	(302)
	P= .283		F= .022	P= +089	P= .015	P= .004
	(— • • x	(Y ===	1 - 3007	1	1
ITEM46	.1587	1245	-,1441	.2235	.3156	↓ 2001
	(302)	(302)	(302)	(302)	(302)	(302)
	P= .003	P= .015	P= .000	P= .001	P= .001	F= .001
ITEM47	.1406	.0020	-0387	.1711	.2652	.2570
	(302)			(302)		(302)
	F= .007			F= .001		P≕ .001
	1007	γ	t an utan	1	• • • • •	• • • • • • • • • • • • • • • • • • •
ITEM48	1717			2576		
	(302)	(302)	(302)	(302)	(302)	(302)
	F'= .001	F= .006	F'= .001	P= .001	P= +001	P= .001
ITEM49	+1303	1797	1540	.16 89	.2131	+2856
ah baili=17.2	(302)			(302)		
						(302)
	P= .012	F= .001	P≡ +003	P= .002	P= +001	P= +001
ITEM50	1073	.1010	+0982	0307	1014	0237
	(302)	(302)	(302)	(302)		(302)
	F= .031		F'= .044	P= →298		F= +341
ITEM51		.1312	.0602	1117	0895	0911
TICHOT	(302)			(302)	(302)	(302)
					P = .060	
	F= .019	F= .011	P= .149	r≊ +028	r= .080	P= +007
ITEM52	-,1088	.2021	0147	•0508	.0699	+0405
	(302)	(302)	(302)	(302)	(302)	(302)
	P= +030	F= .001	P= .400	P= .189	P= .113	P= .242
ITEM53	1775	7011	0477	0007	- 0717	
		(302)				
	P= .001					
	···· •001	F= +001	P= .120	P= .440	F≡ +294	P= .087
ITEM54	-+0938	+1835	.0747	-+0243	0232	-,1236
	(302)	(302)	(302)	(302)	(302)	(302)
	P= .052	F= .001	P= .098	P= .337	P= .344	F= .016
ITEM55	•0676	0408	•0620	.0778	.1287	•0962
an T 1] T 1.7 1.7	(302)					(302)
	F = .121			P= +089		
	1° + 1 2. 1	r— •∡4V	F + I I	r + VO7	r → ↓\7.0	1
ITEM56	0242			0039	.0252	.0671
• • • •	(302)		(302)	(302)		
	₽= •338	P= .014	P= .054	M= .453		P= .123
ETEM57 -				1000	.2434	
	(302)			(302)		
	F= .004			P= .001		
	r≕ +VV4	F= .164	• ⊥ 00	r= +001	r= .001	rr≔ +∪U.3

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	7 -	8	9	10	11	12
ITEMSE	(302)		(302)	.0185 (302) P= .374		
ITEM59	(302)	(302)	C 3020	0427 (302) M= .230	(302)	0521 (302) P= .183
ITEM60	(302)	(302)	(302)	•2509 (302) P= •001	(302)	
ITEM61	(302)	(302)	(302)	•1587 (302) P= •003	(302)	
ITEM62	(302)	(302)	(302)	0943 (302) P= .051	(302)	(302)
ITEM63	(302)	(302)	(302)	.0533 (302) P= .178	(302)	
ITEM64	(302)	(302)	(302)	•1620 (302) F= •002	(302)	(302)
ITEM65	•0477 (302)	•0040 (302)	-+0571 (302)	0711 (302) P= .109	0868 (302)	0704 (302)
ITEM66		(302)	(302)	•2753 (302) F= •001	(302)	(302)
ITEM67	(302)	(302)	(302)	•4099 (302) P= •001	(302)	(302)
ITEM68	(302)	(302)	(302)		(302)	(302)
ITEM69	0517	.1000	.1284	0937	1143	
	<u>F</u> = +185	F= .041	F= +013	P= .052	F= +024	F= .001
11EM/0	(302)	(302)	(302)	+0675 (302) F= +121	(302)	(302)
ITEM71		(302)	<u>(</u> 302).	•1560 (302) P= •003	. (.302.).	(302)
						· · · · · ·

	ITEM13	ITEM14	ITEM15	ITEM16	ITEM17	ITEM18
ITEM1	1175 (302) P= .021		(302)		•0327 (302) P= •286	
ITEM2		(302)	(302)		-+0324 (302) P= +287	
ITEM3			(302)		+0748 (302) P= +097	-•0370 (302) P= •123
ITEM4	(302)	.1977 (302) F= .001		(302)	.0408 (302) P= .240	0797 (302) P= .084
ITEM5		•0640 (302) F= •134	(302)		• •1918 (302) F= •001	
ITEM6	(302)	(302)	(302)	(302)	•0721 (302) F= •106	(302)
ITEM7		(302)	(302)	(302)	0476 (302) F= .205	(302)
ITEM8	(302)	(302)	(302)		+0955 (302) F= +049	
ITEM9	(302)	(302)	(302)	(302)	•0785 (302) F= •087	(302)
ITEM10		(302)	+0198 (302) P= +366	(302)	0439 (302) P= .224	(302)
ITEM11	•3418 (302) F= •001	(302-)	(302)	•1027 (302) F= •037	(. 302)	
ITEM12	(302)	(302)	(302)	(302)	•0156 (302) F= •394	(302)
ITEM13	(0)	(302)	(302)	(302)	0883 (302) F= .063	(302)
	مرجا المراجع والمرجع المرجع المرجع		. .			

	13	<i>,</i> ,,	15	,6	17	18
ITEM14	(302)	$\langle \rangle$.1803 (302) F= .001		(302)
ITEM15	(302)	(302)		0980 (302) P= .048		(302)
ITEM16	(302)	(302)		1.0000 (0) F=*****		(302)
ITEM17	(302)	(302)	(302)	.0859 (302) F= .068	(0)	(302)
ITEM18	(302)	(302)	(302)	.0427 (302) P= .230	(302)	(O)
ITEM19	(302)	(302)	(302)	.0682 (302) P= .119	(302)	(302) F= .026 i
ITEM20	(302)	(302)	(302)	1709 (302) F= .001	(302) •	(302)
ITEM21	(302)	(302)	(302)	0413 (302) F= .238	(302)	
ITEM22	(302)	(302)			(302)	
ITEM23		(302)	-+1262 (302) F= +014		0607 (302) F= .146	(302)
ITEM24			•0143 (302) F= •402		0393 (302) P= .248	(302)
TTEM25	(302)	(302)	(302)	0754 (302) P= .096	(302)	(302)
ITEM26	(302)	(302)	(302)	1148 (302) F= .023	(302)	

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	13	14	15	16	רו	18
ITEM27	1387 (302) F= .008	0213 (302) P= .353		0556 (302) P= .168	+0860 (302) P= +067	×1608 (302) P= ×003
ITEM28	.1217 (302) P= .017		0454 (302) P= .216	(302)	(302)	(302)
ITEM29	+2884 (302) P= +001	(302)	0988 (302) F= -043	(302)	(302)	-+0828 (302) P= +076
ITEM30	.0744 (302) F= .099	(302)	•0377 (302) F= •257	(302)	(302)	0763 (302) F= .093
ITEM31		1265 (302) F= .014		0634 (302) F= .136	(302)	
ITEM32	.0359 (302) P= .267	0538 (302) F= .176	.0914 (302) F= .057	(302)	(302)	(302)
ITEM33	•3420 (302) F= •001	(302)	0320 (302) F= .290	(302)	(302)	(302)
ITEM34	•4281 (302) P= •001	(302)	•0109 (302) P= •425	(302)	0330 (302) P= .284	(302)
	(302)	•3844 (302) P= •001	(302)	(302)	(302)	(302);
ITEM36	(302)	0332 (302) P= .282	(302)	(302)	(302)	•1716 (302) P= •001
ITEM37	-,1429	0582		0788		.1382
	(302)	(302) P= .157	(302)	(302)	(302)	(302)
ITEM38	•2151	.1214	0343	.1088	0764	0957
, , , <u>`</u> ,	(302) P= .001	(302) P= .017	(302) F= .276	P= .029	P= .093	(302) F= ₊048
ITEM39	+1699	+1111		1269	•0018	ŪċlŪ
•	(302) R= .002	(302) P= .027	(302) P= .000	(302) P= .014	(302) P= .488	(302) P= (45
	F- +VV2	r = +VZ/	- •••	1 - +V14	- +-00	,

	13		15	16	17	18
ITEM40	.4041 (302) F= .001	•4515 (302) F= •001	(302)	(302)		(302)
ITEM41	.1235 (302) P= .016	•1855 (302) F= •001			(302)	
ITEM42		•1372 (302) F= •009		(302)		(302)
ITEM43	2576 (302) P= .001	1159 (302) P= .022	•0131 (302) F= •410	(302)	•0847 (302) F= •071	(302)
ITEM44	•0974 (302) P= •045	0102 (302) F= .430	•0965 (302) P= •047	.0356 (302) F= .269	0177 (302) F= .380	0088 (302) F'= .440
ITEM45	(302)	0528 (302) P= .180	(302)	(302)	(302)	
· · · · ·	(302)	•1765 (302) P= •001	(302)	(302)	(302)	(302)
ITEM47	(302)	•3613 (302) P= •001	(302)	(302)	(302)	(302)
ITEM48		1462 (302) F= .005	(* 302)		(302)	(302)
ITEM49	.2285 (302) P= .001			•2258 (302) P= •001	(302)	
ITEM50				(302)	(302)	•1523 (302) F= •004
ITEM51	(302)	0516 (302) _F= .186	(302)	(302)	(302)	(302)
ITEM52	(302)	.0671 (302) P= .122	(302)	(302)	(302)	(302)
•				•		

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		13		14		15		16		17		18	
ITEM53	((302)		302)	(1200 302) .019	(302)		•2304 302) •001	
ITEM54	(302)	(302)	(302)	(.0082 302) .443	(302)		•1491 302) •005	
ITEM55	(302)	<	302)	(302)	- (.1076 302) .031	<	302)	<	•0078 302) •447	
ITEM56	(302)	<	302)	(302)	<	.0281 302) .314	(302)		•1420 302) •007	
ITEM57	(302)	(302)	(302)	(•1131 302) •025	(302)	(1	
ITEM58	(302)	(302)	(302)	(•0021 302) •485	(3 02)	(302)	
ITEM59	C C	302)	(302)) (302)	· (- ,08 94 302) .061	(302>	(302)	
ITEM60	(302)	(302)	7	302)	C	•2312 302) •001	(302)	(302)	•
	(302)	(302)	(302)	(•0716 302) •107	(302)	(302)	-
ITEM62	((302)	(0856 302) .069	(302)	(
ITEM63	(0009 302) .494	(302)	۲	302)	(•0563 302) •165	(302)	(•0896 302) •060	
	•• • • • • • • •	302)	- (-	302)	<	302)	- 🧹 👘	•2367 302) •001	· K	302)	€		• •
ITEM65		302)	(302)	. (302)	¢	••0684 302) •118	(302)	<	302)	
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	1	3	14	15		16		17		18
ITEM66	• 371 (301 P= •00	2) (3	30 2) (302)	(1242 302). •015	((1583 302) •003
ITEM67	•478 (301 P= •00	2) ([†]			<	1930 302) •001	٢.	•0561 302) •165	(•1810 302) •001
ITEM68	273 (302 F= .00	2) (]	302) ((0187 302) •373	(•1793 302) •001	(•2470 302) •001
ITEM69	22 (30) P= .00	2) (;	3 02) (•0573 302) •161	Ċ	0361 302) +266	(•0786 302) •087	(•2183 302) •001
ITEM70	03 (30) P= .24	2) (302) •018	(1261 302) .014	(•1056 302) •033		•0689 302) •116
ITEM71	•32 (30) P= •0	2) (3	302) (•0424 302) •232	(1239 302) -016	(- (F=	•1037 302) •036
										va sa tabuna na sa t
	ITEM19	ITEM	20 ITE	M21	ITÈI	M22	ITE	M23	ITE	M24
ÍTEM1	.06 (30) P= .1-	2) (302) (•0431 302) •228	(302)	(••0325 302) •287		
ITEM2	(30)		0750 - 302) ((302)	(302)	(
	P= .3	42 P=	.097 P=	•308	F'=	•390	F'=	• OTT	•	
ITEM3	•00 (30	39 -• 2) (•097 P= 0797 302) (•084 P=	•1222 302)	(.0361 302)	(•2465 302)	(
ITEM4	.00 (30 P= .4	39 2) (73 P= 10	0797 - 302) (•084 P=	•1222 302) •017	(F'=	.0361 302) .266	(F'≕	•2465 302) •001	(F'=	302) .001
ITEM4	.00 (30 P= .4 .05 (30	39 2) (73 P= 10	0797 302) (•084 P=	•1222 302) •017 •0508 302)	(F'= (.0361 302) .266 .0189 302)	< F'≕	•2465 302) •001 •1772 302)	(F'= (302) .001 .2193 302)
ITEM4	.00 (30 P= .4 .05 (30 P= .1	39 2) (73 P= 10 2) (B9 P=	0797 302) (•084 P= 0 798 302) (•042 P=	•1222 302) •017 •0508 302) •189	(F'= (F'=	•0361 302) •266 •0189 302) •372	(F'= (F=	•2465 302) •001 •1772 302) •001	(F'= (F'=	302) .001 .2193 302) .001
ITEM4	$\begin{array}{c} .00\\ (& 30\\ P = & .4\\ \hline & .05\\ (& 30\\ P = & .1\\ \hline & .27\\ (& 30\\ \end{array}$	39 2) (73 P= 10 2) (89 P= 22 . 2) (0797 - 302) (•084 P= 0998 - 302) (•042 P= 2181 - 302) (•1222 302) •017 •0508 302) •189 •1655 302)	(F'= (F'=	.0361 302) .266 .0189 302) .372 .0430 302)	(F'= (P=	•2465 302) •001 •1772 302) •001 •1398 302)	(F'= F'= 	302) .001 .2193 302) .001 .0426 302)
ITEM4	$\begin{array}{c} .00\\ (& 30\\ P = & .4\\ \hline & .05\\ (& 30\\ P = & .1\\ \hline & .27\\ (& 30\\ \end{array}$	39 2) (73 P= 10 2) (89 P= 22 . 2) (0797 302) (•084 P= 0 798 302) (•042 P=	•1222 302) •017 •0508 302) •189 •1655 302)	(F'= (F'=	.0361 302) .266 .0189 302) .372 .0430 302)	(F'= (P=	•2465 302) •001 •1772 302) •001 •1398 302)	(F'= F'= 	302) .001 .2193 302) .001 .0426 302)

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			19		20		21		22		23		24	
	ITEM6	(•0028 302) •481	((302)	(302)	(•1829 302) •001	
	ITEM7	(302)	((<	302)	(302)	(•2786 302) •001	
	ITEN8	((•4168 302) •001	(302)	(302)	(302)	(
	ITEM9	(•0106 302) •427	(302)	(302)	(302)	(302)	(•1093 302) •029	
	ITEM10	(••0455 302) •215	•	302)	(302)	(302)	<	302)	(302)	
	ITEM11	(•0755 302) •095	(302)	. (302)	<	302)	(302)	(302)	
	ITEM12	Ĩ.		(K	•1522 302) •004	(302)	(•2059 302) •001	(302)	
	ITEM13	3	•0692 302) •115	7 7		ζ	302)	(302)	. ((302)	
	ITEM14	(P=		(302)	(•0156 '302) •394	(302)	(302)	(302)	
2 /	ITEM15	(••0233 302) •343	(302)	ç	302)	(302)	ζ.	-•1262 302) •014	(•0143 302) •402	
	ITEM16	(- 302)	C	302)	(302)	(302)	(•1024 302) •038	na nanomeni a jaanin na dada m
••	ITEM17	ζ		· `(302)	(302)	(302)	(302)	(302)	
	ITEM18	(.1118 302) .026	٠.	302)	Č.	302)	(302)	(302)	(302)	
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	19	20	21	22	23	24
ITEM19	1.000	.1021	L +0950	+0931	.0145	
	(0 F'=****)) (302) (* P= .038	(302) 3 P= .050	(302) P= .044	(302) F= .401	(302) P= .047
ITEM20	.102	21 1.0000	.2677	.1 767	0980	~• ±069
	(302 P= .03	?) (0)	(302)	(302)	(302) F= .045	(302)
ITEM21		50 .2677	7 1.0000	•0916	1218	1267 ;
	(302 P= .05	?) (302)) (0) F=*****	(302)	(302)	(302)
ITEM22		.1767				
	(302 P= .04	?) - (302)	(302) P= ₊056	(0)	(302)	(302)
ITEM23	.014	0980	01218	•0961	1.0000	.1906
	(302 P= .40) (3 02)	(302) 5 P= .017	(302)	(0)	(302)
ITEM24	096	920F A	, - 1267	0305	. 1904	1.0000
	(302 P= •04	?) (302)	<pre></pre>	(302)	(302)	(0)
ITEM25	.186		· · · · · · · · · · · · · · · · · · ·			
ide 3 See 3 de com 1997 - 19	(302 P= .00	?) (302)	(302) F= .001	(302)	(302)	・(302) 事業
**EMAL		·1 P= .001 ·0				1
ITEM26	(302	?) (302)	(302)	(302)	(302)	(302)
		01 P= .001				
ITEM27	(302)		(302)	(302)	(302)	(302)
₹	F'= .00	-				P= .002
ITEM28	•045 (302)	() (302)	2 •0079 (302)	(302)	(302)	(302)
	P= .215		P= .445			
ITEM29	(302)		(302)	(302)	(302)	(302)
		2 P= .003			-	
ITEM30	(302)		(302)	(302)	(302)	(302)
	P= .44	7 F= .461			P= .033	P= .099
ITEM31	.103		• • • • • • • • • • • • • • • • • • •		0750 (302)	,
	P= .030			P= .106		
in management (), is management (), a - i		a angan san sa	المية المائية معمود بالمعمود المعادية التي أن ماية معامل المائية المعاموة الم	terina en antiti name tre manage articulation activiti		i Annan I Anna - Anna

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	19	20	21	22	23	24
ITEM32	•0029 (302) P= •480	(302)		(302)	•0271 (302) P= • •320	
ITEM33	•0677 (302) P= .120	(302)	(302)		•1372 (302) P= •009	
ITEM34	-,0604 (302) F= .148	(302)	-,0890 (302) F= .061	(302)		(302)
ITEM35	0630 (302) P= .137		0564 (302) F= .164	(302)	(302)	
ITEM36	•2304 (302) P= •001	(302)		(302)	1147 (302) F= .023	
ITEM37	.0608 (302) F= .146	(302)	(302)	(302)	1003 (302) F= .040	(302)
ITEM38	1412 (302) P= .007	(302)	1129 (302) F= .025	(302)	(302)	(302)
ITEM39	0098 (302) F= .432			(302)	(302)	(302)
ITEM40	(302)	0887 (302) F= .062	(302)	(302)	(302)	(302)
ITEM41	(302)	0198 (302) F= .366	(302)	(302)	(302)	(302)
ITEM42	(302)	1020 (302) F= .038	(302)	(302)	(302) P= .001	(302) P= .004
ITEM43	(302)	•1963 (302) F= •001	(302)	+1094 (302)	(302)	-•2979 (302)
ITEM44	(302)	(302)	(302)	(302)	(302)	-0447 (302) P= -220
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	19	20	21	22	23	24
ITEM45	•1781 (302) P= •001	(302)	(302)	0225 (302) P= .349	(302)	•2188 (302) P= •001
ITEM46	0338 (302) F= .279	(302)		•0525 (302) P= •182		(302)
ITEM47		•0263 (302) P= •324	(302)		(302)	(302)
ITEM48	(302)	•1391 (302) F= •008	(302)	(302)	(302)	(302)
ITEM49	(302)	1192 (302) F= .019	(, 302)	(302)	(302)	(302)
ITEM50	(302)	•1020 (302) P= •038	(302)	(302)	(302)	(302)
ITEM51	•2314 (302) P= •001	(302)	(302)	(302)	(302)	(302) '
ITEM52	(302)	•2449 (302) P= •001	(302)	(302)	(302)	(302)
ITEM53		•3511 (302) P= •001	(302)	(302)	(302)	(302)
ITEM54	(302)	•2385 (302) F= •001	(302)	(302)	(302)	(302)
ITEM55	(302)	.0834 (302) P= .074	(302)	(302)	(302)	(302)
ITEM56	.2020 (302) P= .001	•0871 (302) P= •065	(302)	(302)	(302)	(302)
ĪTEM57~	(302)	0959 (302) F= .048	(302)	(302)	(302)	•2692 (302) P= •001

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	19	20	21	ママ	23	24
ITEM58	(302)	(302)	(302)	+0977 (301) P= +045	(302)	
ITEM59	(302)	+2237 (302) P= +001	(302)	(302)	(302)	(302)
ITEM60	(302)	1679 (302) F= .002	(302)	(302)	(302)	
ITEM61	(302)	.0065 (302) P= .455	(302)		(302)	(302)
ITEM62	(302)	•1789 (302) P= •001	(302) F= .001		4860 (302) F= .001	(302)
ITEM63		•2130 (302) P= •001	(302)	(302)	(302)	(302)
ITEM64	(302)	0206 (302) P= .361	(302)	(302)	(302)	
ITEM65	(302)	•1465 (302) F= •005	(302)	(302)	(302)	(302)
ITEM66	(302)	1109 (302) P= .027	(302)	(302)	(302)	(302)
ITEM67	(302)	1179 (302) P= .020	(302)	(302)	(302)	(302)
ITEM68	(302)	•1924 (302) P= •001	(302)	(302)	(302)	(302)
ITEM69	•2816 (302) P= •001	.1723 (302) P= .001	(302) P= .010	(302)	(302) F= -199	(302)
	•0854 (302)	•1595 (302)	•2349 (302)	.10 64 (302)	(302)	
	•0743 (302) P= •099	(302)	(302)	(302)	(302)	•1252 ·

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	ITEM25	ITEM26	ITEM27	ттеи26	ITEM29	ITEM30
ITEMI	+0855 (302) F= +069	.0761 (302) P= .094	(302)	0061 (302) P= .458	0222 (* 302) P= .350	1300 (302) P= .012
ITEM2		(302)	(302)	(302)	•2029 (302) F= •001	(302)
ITEM3	(302)	1447 (302) F= .006	(302)	(302)		(302)
ITEM4		1368 (302) P= .009	(302)	(302)		(302)
ITEM5		•2845 (302) F= •001	(302)	(302)		(302)
ITEM6	(302)	-•0863 (302) F= •067	(302)	(302)	(302)	(302)
ITEM7	(302)	1791 (302) F= .001	(302)	(302)	(302)	(302)
ITEMB		+3275 (302) P= +001	(302)	(302)	1962 (302) F= .001	
ITEM9		•1648 (302) F= •002	(302)	(302)	(302)	(302)
ITEM10	(302)	1174 (302) P= .021	(302)	(302)	(302)	(302)
	0183 (302) P= .376	(302)	(302)	(302)		(302)
ITEM12	(302)	2307 (302) P= .001	(302)	(302)		(302) _i

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	25	26	2 7	28	29	30	
ITEM13	1264		1387	.1217	.2884	.0744	
			(302)	(302)		(302)	
	F= .014		P= .008				
ITEM14			0218	•0749	.2119	+0237	
	(302)	(302)	(302)	(° 302)		(305)	
	F= .064	P= .493	P= .353	P= .097	P= .001	₽= . 341	
ITEM15	.1968		.0260			.0377	
		(302)					ł
	F= .001	P= .002	F= .326	P= .216	P= .043	P= .257	
ITEM16		1148			•2341		
		(302)					
	r= •076	P= .023	r= +168	F= •001	F= •001	F= +580	
ITEM17					•0279		
		(302)					:
	P= .001	P= .001	F'= ∙067	F= .148	F= .315	F= .442	
ITEM18				•0176		0763	
		(302)					Ì
	P= .012	P= .002	P= .003	F= .380	P= .076	F'= .093	
ITEM19			•1487				
	(302)	(302)	(302)	(302)	(302)	(302)	1
	P= .001	P= .001	F= .005	₽= .215	P= .422	F'= •447	
ITEM20		•3434				.0057	
	(302)	-(302)	(302)	(302)	(302)	(302)	1
		F'= .001			•		•
ITEM21	•2373						
		(302)			• • • • •		
	⊦= .001	P= +001	F'= .001	F= .445	P= .024	P= .269	
ITEM22		•0719					
		(302)					ļ
	P= .055	F= •106	P= .256	F= •369	P= .163	P= →315	
ITEM23		2234					
		(302)					•
	P= .250	F= .001	F= +275	F= .001	F= .001	P= +033	
ITEM24	0793	2017	1651	.2307	•2707		
	(302)						
	P=	F'= .001	F= .002	F= .001	F'= +001	F= *088	
ITEM25							
		(302)				(302)	
	P=****	F= .001	F = .358	P= .432	P = .021	P= .393	ſ

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	25	26	27	28	29	30
ITEM26	.5821	1.0000	.1234		1022	
	(302)	(0)	(302)	(302)	(302)	(302)
	F'= .001	P=****	P= +016	F'= .068	P= +038	P= .425
ITEM27			1.0000		0827	
			(0)		(302)	
	P= .358	F'= ₊016	F'==*****	P= .296	P= .076	P= ₊058
ITEM28	0100	0860	0309	1.0000	.3405	.0425
			(302)		(302)	
	F= .432	F= .068	P= .296	F'=*****	F= .001	P= .231
ITEM29			0827		1.0000	
			(302)			
	F= .021	F= .038	P= .076	F= .001	F'==****	P= .434
ITEM30	.0158	0109	.0904	.0425	0096	1.0000
			(302)			
	F'= .393	P= +425	F= .058	F'= •231	F= .434	F'=*****
ITEM31			•0648			
			(302)			
	P= .001	P= ₊002	P= .131	F'= .085	P= .335	P= +182
ITEM32	0398	0766	• 0 500	• 05 36	.0203	• • 0557
· .	(302)	(302)	(302)	(302)	(302)	(302)
	P= .245	P= .092	P= .193	P=, .177	P'= +363	P= .167
ITEM33	0507	0567	0313	-	.2056	.1317
			(302)			
			P= .294			
ITEM34	.0197	0962	0238	.2308	.3730	.0196
			(302)		(302)	(302)
	F= •367	F= .048	P= .340	F'= .001	P= .001	P≈ .367
ITEM35	1106					
			(302)			
	P= .027	P= .043	F= +445	P= .007	F= .001	F= .010
ITEM36	•2154	•2838	•2231	1516	2181	0405
•	(302)	(302)	(302)	(302)	(302)	(302)
	F= .001	P= .001	F'= .001	P= .004	F'= .001	P= .242
ITEM37	.1904	.1744	.1099	0302	0520	0199
्र प्यूरण्डाम् सम्प्रिति । 	(302)	(302)	(302)	(302)	(302)	(302)
· · · · · ·	F= .001	F= .001		-F=	<u>F=184</u>	_F= .365-

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	25	26	27	Z 8	29	30
ITEM38			(302)	•2216 (302) P= •001	•3476 (302) P= •001	+0003 (302) P= +498
ITEM39		1301 (302) P= .012		+1484 (302) P= +005	•2359 (302) P= •001	•1425 (302) ₽≕ •007
ITEM40	(302)		(302)	+2202 (302) F= +001	(302)	+1111 (302) P= +027
ITEM41	(302)		(302)	•1266 (302) F= •014		0458 (302) F= .214
ITEM42	(302)	0672 (302) F= .122	(302)	•1691 (302) F= •002		•1084 (302) P= •030
ITEM43	(302)	2171 (302) F= -001	(302)		1504 (302) F= .004	•0368 (302) F= •262
ITEM44	(302)	0543 (302) F= .173	(302)	•0756 (302) P= •095		•0545 (302) F= •164
ITEM45	(302)	(302)	(302)	*0992 (302) P= .043	1630 (302) P= .002	(302)
ITEM46		(302)	(302)		(302)	+1263 (302) F= +014
ITEM47	(302)	(302)		•2335 (302) P= •001		.0559 (302) P= .166
ITEM48			(302)	1639 (302) P= .002	(302)	
ITEM49	(302)	(302)	1368 (302) F= .009	(302)		.0282 (302) F= .313
ITEM50	(302)	(302)	(302)	0403 (302) P= .243	(302)	(302)

	25	26	マフ	Z 8	29	30
ITEM51	.1637			0166		
	(302) F= .002			(302) P= .387		
ITEM52				۰0654		
	(302) F= .009			(302) P= .129		(302) P= .088
ITEM53				0676		0060
	(302) F= .001			(302) F= .121		(302) P= .459
ITEM54				0790		
	(302) F= .001				F= +001	
ITEM55				.1742		
	(302) P= .015					
ITĘM56	.1624			•0726 (302)		0601
	(302) P= .002					
ITEM57			1134 (302)	•1991 (302)	•2045 (302)	•1306 (302)
	P= .492			F= .001		
ITEM58			.0310	•0457	.0653	.0726
	(302) P= .004		(302) P= .296		(302) P= +129	
ITEM59	.1572					
	(302) P= .003			(302) P= .140		
ITEM60	0481					
	(302) P= .202					
ITEM61	0300					
	(302) P= .302					
ITEM62				1389		
	(302) . P= .001	F'= .001	P= +052	F= .008	P= ₊055	P= .023
ITEM63	•1615					
	(302)	(302)	(302)	(302)	(302)	(302)
u' - ana <u>n</u> ag	P= .002	r= .001	F= +197	F= •003	F= +4/3	r'= +004

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	25	26	27	25	29	30
ITEM64	0721	.0023	.1475	·0930	•0484	.0372
				(302)		(302)
	P= .106	F≕ •484	P= .005	P= .053	P= .201	F'≕ +260
ITEM65	.0435					0289
	(302)			(302)		(302)
	F= .226	P= .005	P= .111	P= .005	P= .055	F= .309
ITEM66	0657	1520	1115		+2261	+0748
	(302)	(302)	(302)	(302)	(302)	(302)
	P= .127	F'= .004	F'= +026	F= .001	F'= •001	F= +097
ITEM67	0870	0906	0539	.2561	•3073	•1367
	(302)			(302)		(302)
	P= .066	F= .058	P= +175	F= .001	F'= .001	F= .009
ITEM68	.1104	.1617	•2660	0629	0863	0170
	(302)	(302)	(302)	(302)	(302)	(302)
	F= .028	P= .002	.F= .001	P= .138	P= .067	P= .385
ITEM69	.1276	+1924	•266 2	1454	2079	0240
,				(302)		(302)
	P= .013	P= .001	P= .001	F'= ₊006	F'= +001	F'= +339
ITEM70	.0786	.1189	.1292	.0018	•0448	0642
					(302)	
	F'= .086	F=019	₽= .012	P= +488	P= •219	F= 133
ITEM71	0007	.0268	.0231	•0867	+1218	+0297 -
					(302)	
	P= .495	P= .322	P= .345	F'= .066	P= .017	F= ,304

	ITEM31	ITEM32	ITEM33	ITEM34	ITEM35	ITEM36
ITEM1	.103 (302 P= .03) (302)	(302)	0613 (302) P= .144	0577 (302) F= .159	•1692 (302) F= •002
ITEM2) (•1634 (302) F= •002	(, 1878 (302) F= .001	(302)
ITEM3	087 (302	1671		.2287 (302)	•2249 (302)	0942 (<u>302</u>)
	P= .06	4 P= .002	F= .001	F'= .001	F= .001	P= .051

	3)	32	33	34	35	36
ITEM4	0681 (302) F= .119	(302)	•3055 (302) P= •001	(302)	•2339 (302) F= •001	(502)
ITEM5	.1539 (302) P= .004	(302)		•0280 (302) P= •314		•1751 (302) №= •001
ITEM6	0061 (302) F= .458	(302)	•0078 (302) P= •446	•1525 (302) F= •004	(302)	(302)
ITEM7	1403 (302) F= .007	(302)	(302)	•2064 (302) F= •001	(302)	(302)
ITEM8	.1701 (302) P= .002	(302)	(302)	0028 (302) F= .481	(302)	(302)
ITEM9	.0789 (302) F= .086	(302)	(302)		(302)	(302)
ITEM10	•0049 (302) F= •466	(302)		•2272 (302) P= •001		(302)
ITEM11	0692 (302) P= .115	(302)	(302)	'•2379 (302) F= •001	(302)	(302)
ITEM12	0455 (302) F= .215	(302)	(302)	•3478 (302) F= •001	(302)	(302)
ITEM13	(302)	(302)	(302)	•4281 (302) P= •001	(302)	(302)
ITEM14	(302)	(302)	(302)	•3208 (302) P= •001	(302)	
ITEM15		(302)	(302)		•0436 (302)	(302)
ITEM16		(302)	(302)	•1403 (302) P= •007	(302)	(302)

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	31	32	33	34	35	36
ITEM17	•0915 (302)	(302)	•0075 (302) P= •449	(302)		• 1418 (302) P= •007
ITEM18	+2649 (302) P= +001	(302)	1097 (302) P= .028	(302)	(302)	(302)
ITEM19	(302)	(302)	0677 (302) P= .120	(302)	(302)	(302)
ITEM20	(302)	(302)	•0257 (302) P= •328	(302)	(302)	
ITEM21	(302)	(302)	0352 (302) P= .271	(302)	(302)	(302)
ITEM22	(302) P= .106	(302) F= .042	0280 (302) P= .314	(302) F= .022	(302) F= .190	(302) P= +025
ITEM23	(302)	(302)	+1372 (302) P= +009	(302)	(302)	(302)
ITEM24	(302)	(302)	•3660 (302) F= •001	(302)	(302)	(302)
	•2034 (302) P= •001	(302)		(302)	(302)	302)
ITEM26	(302)	(302)	0567 (302) F= .163	(302)	(302)	(302)
ITEM27	(302)	(302)	0313 (302) P= .294	(302)	(302)	(302)
ITEM28		(302)		·(·····302)·	- (3 02) -	-(- 302)
ITEM29 -		(302)		(302)	(302)	(302)

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	31	32	33	34	35	3.4
ITEM30			+1317 (302) P= +011			0405 (302) F= .242
ITEM31	1.0000 (0) F=*****	(302)	0029 (302) F= .480	(302)	(302)	(302)
ITEM32	(302)	(0)	.0281 (302) F= .313	(302)		
ITEM33	(302)	(302)	1.0000 (0) F=*****	(302)	(. 302)	
ITEM34	(302)	(302)	•3491 (302) F= •001	(0)	(302)	
ITEM35		(302)	•2839 (302) F= •001	(302)	(0)	(302)
		(302)	1999 (302) P= .001	(302)	(302)	(0) T
ITEM37		(302)	-•1443 (302) F= •006	(302)	(302)	(302)
	0723 (302) F= .105	(302)		(302)	(302)	(302)
ITEM39	(302)	(302)	•2706 (302) P= •001	(302)	(302)	
ITEM40	(302)	(302)	•2039 (302) F= •001	(302)	(302)	
ITEM41	- (302)	(302)	•1779 (302) F= •001	(302)	(302)	(302)
ITEM42	-+0021 (302)		(302)			0363 (302)
			F'= .001			P= +265

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	31	32	33	34	35	3√
ITEM43	-0514 (302) F= -186	.0464 (302) P= .211		(302)	-•1270 (302) P= •014	+3420 (302) P= +001
ITEM44	(302)	•1393 (302) F= •008	(302)		(302)	+0237 (302) P= +341
ITEM45		•0051 (302) F= •465		(.302)	$rac{1}{2}, 1190$ (302) F'= +019	
ITEM46	0885 (302) P= .062	(302)	•3604 (302) F= •001	(302)	•3483 (302) F= •001	1838 (302) P= .001
ITEM47	+.0216 (302) F= .355	(302)			•3465 (302) F= •001	
ITEM48	•1478 (302) P= •005	(302)		(302)	2644 (302) F= .001	(302)
ITEM49	0736 (302) P= .101	(302)	•2447 (302) P= •001	(302)	(302)	(302)
ITEM50			(302)	(302)	0349 (302) F=.273	(302)
ITEM51	(302)	0117 (302) P= .420	(302)	(302)	(302)	
ITEM52	(302)	0380 (302) P= .255	(302)	(302)	(302)	(302)
ITEM53	(302) P= .001	0266 (302) F= .323	(302) P= .385	(302) P= .006	(302) F= •032	(302) P= •001
ITEM54	(302)	•1017 (302) F= •039	(302)	(302)	(302)	C 302)
TITEM55	(302)	0160 (302) P= .391	(302)	(302)	(302)	

	31	32	33	34	35	36
ITEM56		(302)	0475 (302) P= .206			•2134 (302) P= •001
ITEM57	0272 (302) F= .319		(302)	•2710 (302) P= •001	(302)	
ITEM58	(302)	(302)		•0262 (302) F= •325		(302)
ITEM59		(302)	(302)	0343 (302) P= .276	(302)	.1208 (302) F= .018
ITEM60			(302)	•3726 (302) F= •001		(302)
ITEM61	0635 (302) P= .136	(302)	(302)		(302)	0213 (302) F= .356
ITEM62		(302)	(302)	0795 (302) F= .084	(302)	.1365 ≺ *302) F= .009
ITEM63	(302)	(302)	(302)	•0864 (302) P= •067	(302)	(302)
	.0768 (302) P= .092	(302)		(302)	•0628 (302) P= •138	(302)
ITEM65		(302)	(302)	0518 (302) P= .185	(302)	(302)
ITEM66		(302)	(302)	•2489 (302) F= •001	(302)	
ITEM67		(302) F= -395	(302) F= .001	•2468 (302) F= •001	(30,2)	P= .002
ITEM68	•0419 (302)	•0378 (302)	1281 (302)	1618 (302) F= .002	2000 (302)	+2188 (302)

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	31	32	33	34	° 3 5	36
ITEM69	•0775 (302) P= •090	(302)	(302)	-+2412 (302) P= +001	(303)	•2413 (302) P≕ •001
ITEM70		(302)	(302)	.0104 (302) F= .429	(302)	•0;48 (302) P= •399
ITEM71	(302)	1378 (302) P= .008	(302)		(302)	(302)
•	ITEM37	ITEM38	ITEM39	ITEM40	ITEM41	ITEM42
ITEM1	•1770 (302) P= •001	(302)		0595 (302) F= .151		(302)
ITEM2	1396 (302) F= .008	(302)	(302)	•1447 (302) F= •006	(302)	.0485 (302) F= .201
ITEM3	0876 (302) P= .064		(302)	•1985 (302) F= •001	(302)	+2063 (302) F= +001
ITEM4	(302)	•1126 (302) F= •025	(302)	(302)	(302)	(302)
ITEM5	•2028 (302) P= •001		(302)	0250 (302) P= .333		(302)
ITEM6	•0374 (302) P= •259	(302)	.1070 (302) F= .032	•0699 (302)	(302)	•1428 (302) F= •006
ITEM7		.2047 (302) F= .001	(302)	(302)	(302)	•1747 (302) F= •001
ITEM8	.1012 (- 302) F= .040	(302)	(302)	0872 (302) F= .065	(302)	

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37 38 39 42 40 41 .0504 .0504 .0358 .0348 .0101 .0545 -.1367 (302) (,302) (302) (302) (302) (302) ITEM9 - 1367 P= .192 P= .268 P= .274 P= .431 P= .172 P= .009 .1765 ITEM10 -.0146 .2582 •0629 •0256 +0691 302) (302) (- **3**02) (**3**02) (**3**02) (**3**02) (**F**= .001 F= .001 F= +116 P= .400 P= +138 F= +329 .1551 .1661 TTEM11 -.1268 +1435 +1349 .1919 ((302) (302) (302) (302) 302) (302) P= .006 P= .003 P= .001 P= .010 P= .014 P= +002 •1632 (302) •1965 ITEM12 -.0014 .0947 **.**1995 -.0032 (302) (302) (302) 302) 302) (302) F= .490 P= .001 F= .050 P= .002 P= .478 P= +001 -.1429 **.**2151 •1699 .4041 .1235 +1734 ITEM13 (302) (302) (302) (302) (302) (302) F= .001 F= .002 F= .001 F= .016 F'= .006 F= .001 .1214 .1111 .1372 ITEM14 -.0582 **30**2) ((302) (**302) (** 302) (302) (302) P= .157 P= .017 P= .027 F= .001 P= .001 F= .009 -.1295 -.1585 (302) (302) P= .012 P= .007 ITEM15 .1815 -.0343 •0742 -.0398 ((302) ٢ (302) 302) 302) F= .001 P= .276 F= .099 P= .245 · •1747 .1088 ITEM16 -.0788 .1269 •3435 •1476 (302) (302) (302) ((302) 302) 302) (P= .014 P= .029 P= +001 P= .086 F= .001 F= .005 •0666 •0731 .0255 .1167 •0018 (302) (ITEM17 -.0764 **3**02) ((302) (302) (302) (302) F= .021 P= .093 P= .488 P= .103 P= .124 P= .329 ITEM18 .1382 -.0957 -.0610 -+1247 .0271 -.0213 ((302) ((302) 302) (302) (302) 302) F= .015 F= .048 P= .145 P= .320 P= +356 F= .008 .0608 .1004 ITEM19 -.0185 .0478 -.1412 -.0098 (302) (((302) (302) (302) 302) 302) P= +146 P= .375 P= .204 P= .007 P= .432 F= .041 . . ITEM20 •1659 -.0841 -.0887 -.0198 -+1670 -.1020 ((302) (302) (302) 302) (302) (302) P= .002 P= .072 P= .062 P= .366 P= .038 F= .002 **(302) (302) (302) (302) (302)** (302) P= .057 P= .025 P= .127 P= .010 P= .317 P= .129

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	37	38	39	40	41	42
ITEM22	(302)	(302)	(302)	.1017 (302) F≕ .039	(302)	
ITEM23	(302)	(302)	(302)	+1129 (302) P= +025	(302)	,2750 (302) F= •001
ITEM24	(302)	•3669 (302) P= •001	(302)		(302)	+1536 (302) F= +004
ITEM25	(302)	(302)		0268 (302) P= .322		.0056 (302) F= .461
ITEM26	(302)	(302)	(302)	0748 (302) F= .098	(302)	(302)
ITEM27	(302)		(302)	1512 (302) P= .004		(302)
ITEM28	(302)		(302)	•2202 (302) F= •001	(302)	,
ITEM29	(302)	•3476 (302) F= •001	(302)	.2462 (302) F= .001	(302)	
ITEM30	(302)			-•1111 (302) P= •027	(302)	
ITEM31	•1623 (302) F= •002	0723 (302) F= .105	0961 (302) P= .048	0754 (302) P= .096	0049 (302) P= .466	0021 (302) P= .486
ITEM32	•1517 (302) F= •004	0187 (302) P= .373	•0187 (302) P=373	0255 (302) P=329	2532 (302) P= .001	.0847 (302) F= .071
ITEM33	1443 (302) F= .006	•1952 (302) F= •001	•2706 (302) P= •001	.2039 (302) P= .001	•1779 (302) F= •001	•1854 (302) F= •001
ITEM34	.0595 (302) P= .152	.3403 (302) F= .001	•3212 (302) F= •001	•2646 (302) P= •001	•1465 (302) F= •005	.2230 (302) F= .001

(302) (302) (302) (302) (302) (302) P= .002 P= .001 P= .001 P= .001 P= .004 P= .001	-	37	38	39	40	41	42.
$ \left(\begin{array}{cccccccccccccccccccccccccccccccccccc$	ITEM35	(302)	(302)	(302)	(302)	(302)	(302)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	ITEM36	(302)	(302)	(302)	(302)	(302)	(302)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	ITEM37	(0)	-(302)	(302)	(302)	(302)	(302)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	ITEM38	(302)	(0)	(302)	(302)	(302)	(302)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	ITEM39	(302)	(302)	(0)	(302)	(302)	(302)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		(302)	(302)	(302)	(0)	(302)	(302)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	ITEM41	(302)	(302)	(302)	(302)	(0)	ζ 30 2)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	ITEM42	(302)	(302)	(302)	(302)	(302)	(0)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		(302)	(302)	(302)	(302)	(302)	(302)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		(302)	(302)	(302)	(302)	(302)	(302)
(302) (302) (302) (302) (302) (302) P= .002 P= .001 P= .001 F= .001 P= .004 P= .001 ITEM47 .0114 .3690 .3064 .2719 .1450 .2766		(302)	(302).	(302) F= .157	(302) F= .023	(302)	(302)
		(302) P= .002	(302) F= .001	(302) P= .001	(302) F= •001	(302) F= .004	(302)
P= +422 P= .001 F= .001 F= .001 F= .006 F= .001		(302) P= +422	(302) P= .001	(302)	(302)	(302)	(302)

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	37	38	39	40	41	42	
ITEM48	-	(302)	(302)	1761 (302) F= .001	0456	-• 1218 (302) P= •012	
ITEM49	(302)	(302)	(302)	+2289 (302) F= +001	(302)	•1346 (302) F= •010	
ITEM50		(302)	(302)	•0043 (302) F= •470		•0634 (302) P= •129	
ITEM51	(302)	(302)	(302)			-•0189 (302) P= •372	
ITEM52	(302)	(302)	(302)	(302)	.0082 (302) F= .444		
ITEM53	(302)	(302)	(302)		0192 (302) F= .370	0812 (302) P= .080	
ITEM54	(302)	(302)	ິ(302)		+1293 (302) F= +012	•0413 (302) ₱= •237	-
ITEM55 ,	(302)	(302)	(302)		.1156 (302) P= .022		
ITEM56	(302)	(302)	(302)	(302)	.1533 (302) P= .004	(302)	
ITEM57		(302)	(302)		+1843 (302) F= +001		
ITEM58	(302)	(302)	(302)		.1048 (302) F= .034		
ITEM59	.1874	1984	-,0871	0490		0540	
· · · · · · · · · · · · · · · · · · ·	(302)	(302)	(302)	(302)	(302) P= .227	(302)	
<u></u> ITEM60	(302)	(302)	(302)	(302)		(302)	

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38 39 40 41 42 37 -.0017 .3638 .2660 .1832 .1046 .3403 (302) (302) (302) (302) (302) (302) ITEM61 P= .488 P= .001 P= .001 P= .001 P= .035 P= .001 ,1521 -.0806 -.0178 -,0293 .0201 -.1131 ITEM62 **302) (302) (302) (302)** •004 P= •081 P= •379 P= •306 (302) (302) (F= +004 P= .364 P= .025 .2122 .0119 ,0846 -.0433 .1426 ITEM63 -.0436 (((302) 302) **3**02) (302) (302) (302> P= .225 P= .007 P= .419 P= .071 F= .001 F= .227 .0058 .0704 .1994 302) (302) (302) .440 7-.0058 ITEM64 -.0135 -.0426 -.0393 (302) (302) (302) (P= .408 P= .231 P= .248 P= .460 P= .111 P= .001 •**0**220 ITEM65 .0432 -.0469 •0473 .0462 .0590 (302) (302) (302) (302) (302) P= .208 P= .206 P= .212 P= .351 P= .153 (302) F= .227 •2421 •2382 •1837 .0662 ITEM66 -.0971 +1422 302) ((302) (302) (302) (302) 302) (P= 4001 P= .001 F= .001 F= .126 F= .007 P= .046 E. i (302) (302) (302) (302) (302) (302) .1610 .1173 ITEM67 302) (302) (302) P= .025 P= .003 P= .002 P= .001 P= .003 P= .021 •1685 **≠0169** -•0088 -.0018 -.0532 -.0551 ITEM68 302) (302) (302) 302) (302) (302) ((P= .178 P= .170 P= .385 P= .440 P= .488 P= .002 •1791 -.0749 -.0530 -.0129 ITEM69 -.1499 -.0474 302) (302) (302) (302) (302) ((302) P= .001 P= .005 P= .206 P= .097 P= .179 P= .411 •2126 -.0444 -.1180 -.0019 .0225 .0528 ITEM70 ((302) (302) (302) (302) (302) (302) (302) P= .001 P= .487 P= .348 P= .180 P= .221 P= .020 -.0946 .0754 .0710 .2313 .3120 (302) (302) (302) (302) (302) .0118 ITEM71 302) (302) P= .050 P= .096 P= .109 P= .001 P= .001 P= .419

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	ITEM43	ITEM44	ITEM45	ITEM46	ITEM47	ITEM48
ITEM1			+1521			•1193
	(302) F= .074	(302) P= •440			(302) P= .034	
ITEM2			1873			
	(302) P= .001	(302) P= +238		F = +001	(302) F001	(302) P= .046
ITEM3					•3389	
		(302) F= +461	(302) P= -216	(302) P= .001		(302) P= .023
ITEM4		•0132 (302)	0400 (302)	•2031	.1855	2225 (302)
			F= •244	F = .001	F = .001	
ITEM5	.1421	.0124	•0169 (302)	1123	0023	.1270
	F= .007	P= .415	F= •385	P= .026	F= •484	F = .014
ITEM6	0533		•0224 (302)			•0488 (302)
			P= .349			
ITEM7	0375 (302)		0332 (302)			1717 (302)
	F= .258	· · · · · · ·	P= .283			
ITEM8	.1614		•0718 (302)			•1428 (302)
			F= .107			
ITEM9	•0617 (302)		•1089 (302)			
			F= .029			
ITEM10			0776 (302)			
			F= •089			
ITEM11	0799 (<u>3</u> 02)	0256 (302)	1256	•3156	•2652 6 3 02 -	2323
	P= _083					
ITEM12	0929	+0095 (302)	1536 (302)	•2881. (302)		·4789 (302)
	P= .054					P= +001

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ستاد المتحاسمة المحاس

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	43	44	45	46	47	48
ITEM13	2576	.0974		.3620	.3749	3047
	(302)	(302)	(302)	(302)	(302)	(302)
	F= .001	F= .045	F= .001	P= .001	F= .001	F= .001
ITEM14	1159				.3613	
	(302)		(302)			(302)
	F= .022	F= .430	P= .180	F'= .001	P= +001	P= .005
ITEM15	.0131				0054	
	(302)				(302)	
	F= .410	F= .047	F= .297	F= .194	F'= +463	P= +143
ITEM16	0244		0069			1083
					(302)	
	P= .336	F= .269	F= .452	F= .004	P= .034	F= +030
ITEM17					•0059	
	(302)	(302)	(302)	(302)	(302)	(302)
	P= .071	<u>F= .380</u>	P= .093	F= .363	P= .459	F= .107
ITEM18					-+0779	
	(302)	(302)	(302)	(302)	(302) F= .088	(302)
	F= .001	F= .440	. ₽= .0 09	F= .060	F= .088	P= .001
ITEM19	.1448	0171	•1781 (302)	0338	0932	•1156
	(302)	(302)	(302)	(302)	(302)	(302)
	P= .006	P= •384	P= +001	F= +279	F= ₊053	F= .022
ITEM20	.1963	0336	+1646	1096	.0263	.1391
	(302)		302)			(302)
	P= .001	P= •280	P= .002	P= +029	P= .324	P= +008
ITEM21	. 1812	•0829	.1185	2040	0580	+1347
					(302)	
	P= .001	P'= ₊075	P= .020	F'= .001	F= .158	P= .010 ;
ITEM22	.1094	+0543	0225	.0525	.1020	0070
					(302)	
	F= .029	P= .174	F= .349	P= •182	F= +038	P= .452
ITEM23					.2212	
•					(302)	
	F= .189	F= .362	P= .442	P= .001	P= .001	F= +059
ITEM24	2979	.0447	2188	.3601		1175
	(302)	(302)	(302)	(302)	(302)	<u>(</u> 302)
	P= .001	F= .220	F= .001	F= .001	F= .001	F= .021
ITEM25	.1985	0668	•0680	-,1488	0391	.1882
به ها میرونی میرود در میرود در ایر این ا ۲۰۰۰ ماری میرونی میرود در میرود ایر ایر ایر ایر ایر ایر ایر ایر ایر ای	302>	((302)	(302)	(302)	7 302)
				P= .005		

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	43	44	45	46	47	4
ITEM26	.2171	0543	+1504	2319	0907	•17
	(302)					(30
	P= .001	P= .173	P= .004	P= .001	P≕ +058	P≔ •0
ITEM27		1108	• 3958	0262	-+0329	
	(302)				,	(30
	F= .001	P= .027	F= .001	P= .325	F'= .285	P= +4
ITEM28		•0756	0992	1 >+ 2882	•2 3 35	16
					(302)	
	F= .123	P= .095	P= .043	F= .001	F'= .001	P= •0
ITEM29					.3056	
					(302)	
	F= .004	P= .051	F= .002	F= .001	F'= +001	F= .0
ITEM30					•0559	
					(302)	
	P= .262	F= ₊164	P= .366	F= .014	F= .166	P= .0
ITEM31					0216	
					(302)	
					P= .355	
ITEM32	•0464	•1393 [°]	.0051	+0096	.0041	00
	(302)	(302)	(302)	(302)	(302)	(30
	₽= .211	P= •008	° P= →4 65	F= .434	P= .472	F(= • 4
ITEM33	1134				.2830	
. •	(302)	(302)	(302)	('302)		(30
	F= .025	P= .129	P= .011	P= .001	F= .001	F'= •C
ITEM34					.7071	
					(302)	
	P= .004	F'= •239	P= .003	F= .001	F'= .001	P= .0
ITEM35					.3465	
					(302)	
	r= +014	r= +038	. F + 019	r- +001	F= .001	r— +∪
ITEM36					1456	
					(302)	
	F≡ •001	F= .341.	- F = +001	F= .001	F= .006	r'≕ •C
ITEN37					.0114	
an a					P= +422	
	1 K		、 ・		۰ ۴ ۲	
ITEM38	1556	.0587	1348	+3966	•3690 (302)	05
	P= .007	P= 155	P = .010	P= 001	P= .001	
		।— <u> </u> 1133	. <u>1</u> - •010			•0
• • • • • • • • • • • • • • • • • • •					- manan kan anang ang na kan kan kan kan kan kan kan kan kan	
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	43	44	45	46	47	48
ITEM39	0587	.1364	0581	.3453	.3064	.1141
	(302) ((302)	
	P= ₊155 P	- •009		P= .001	P= .001	P= .024
ITEM40	0933					
	(302) (
	F= .053 F	- +427	F= .023	P= .001	F= .001	P= .001
ITEM41	.0054				.1450	
	(302) (
	P= •462 P	- •083	F≕ +230	P≡ •004	F= •003	P= +210
ITEM42	•0131 (302) (
	F= +410 F					
ITEM43	1.0000					
	(0) (302)	(302)	(302)	(302)	(302)
	P=*****					
ITEM44	.0444	1.0000	0054	.0536	.0758	0223
	(302) (P= .221 P		(302)	(302)	(302) E- 00E	(302) D. 750
						F= +300
ITEM45	•5582					.1274
	(302) (
	P= .001 P	= +462	P=****	P= .005	F= .003	F= .013
ITEM46	0728					
	(302) (P= .104 P					
	F= •104 F	= •1//	P= +003	<u>የ</u>	P= +001	F= +001
ITEM47	1179					
	(302) (P= ₊020 P:					
ITEM48	.0924	0223	•1274	2363	1402	1.0000
	(302) (
	P= .055 P	350	F= ,013	F= .001	F'= ₊007	户=米米 米米米本
ITEM49	1600					
	(302) (
	P= .003 P	= .194	F= +009	F= .001	F= .001	F= +001
ITEM50	.3680					
1997 - 1996 - 1996 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	<u>(302) (</u>					
	F= .001 F	<u> </u>	F= .001	<u>F= •147</u>	P≃ •135	P= ₊105
	.1429					
	(302) (
	F'= •006 F'	216	F= +098	P= .001	F= .234	F= +101

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	4 2	s 44	45	46	47	48
ITEM52		0765		0913	0432	-+0138
		(302)		(302)		
		P= .092				
ITEM53	.1879	0545	.1761	2293	-,1355	.1652
	(302)		(302)		(302)	
				F'= .001		
ITEM54	•2837	0234	.3340	0351	0742	+1889
				(302)		
	F'= •001	P= .343	F= .001	P= .271	F= .099	F'= .001
ITEM55	0134	.0 067	0247	•0626	.3084	0065
				(302)		
				P= +139		
ITEM56	+1724	0768	.0588	1429	.0022	.051
	(302)	(302)	(302)	(302)	(302)	(302)
				F= .006		
ITEM57				.2717		
				(302)		
	P= .007	P= •247	P= .002	P= .001	P= .001	F= .007
ITEM58				0091		
	(302)			(302)		
_	P= .008	P= .048	P= .413	P= .4 37	P= ∙154	·P= .01∂
ITEM59	.1271	0050	•0768	, - , 1466	0405	.1804
				(302)		
	P= .014	P= .465	P= .092	P= .005	P= +242	F'= .001
ITEM60	1160	0007	1269	.4216	.3786	1700
	(302)	(302)	(302)	(302)	(302)	(302)
	P= .022	P= .495	F= .014	P= .001	F= .001	P= .002
ITEM61				• 3634		
•				(302)		
	P= .016	F'= .020	F= .103	F= .001	F= .001	P= +279
ITEM62	0069					
				(302)		
	P= +453	F= +237	F= •439	F= .001	F= .161	F= .001
ITEM63	.0675					
	=(==302)					
	P= .121	P= .253	P= .312	P= ₊177	₽= •∂03	P= .025
ITEM64				1025		
				(302)		
	P= 077	P- 000	P= .418	P= .038	P= +164	P= .345

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	43	44	45	46	47	48
ITEM65	.1206	0124	+1230	0736	0603	•0427
	(302)		(302)		(302)	(308)
	P= .018				P= .148	P= .208
ITEM66	1642		1182	+2999	•1740	1433
	(302)			(302)		(302)
	P= .002	F= .297	P= .020	F'= .001	P= .001	P= .006
ITEM67	1051	0100	1261	.2705	·1860	3867
	(302)	(302)	(302)	(302)	(302)	(302)
;	P= .034	P= +432	F= .014	F= .001	P= .001	P= .001
ITEM68	• 3746	0252	.2984		0905	·075Å
	(302)	(302)	(302)	(302)	(302)	(302)
	F= .001	P= .331	F'= .001	P= .055	P= .058	P= +096
ITEM69	.3390	.0126	.4231	1826	1920	+1530
:	(302)	(302)	(302)	(302)	(302)	(302)
	P= .001	F= .413	F= .001	F= .001	P= .001	P= .003
ITEM70	.1190			1068		•0343
	(302)				(302)	(302)
ł	P= .019	P= .154	P= .020	F= .032	F= .166	F = +276
ITEM71	0669				•1928	1272
	(302)		(302)	(302)		(302)
	P= .123	P= •427	P= .050	F= .002	P= .001	F= .014
		· · · · · · · · · · · · · · · · · · ·				

	ITE	EM49	ITI	EM50	ITE	EM51	ITI	EM52	ITE	เพรร์	ITE	EM54	
ITEM1	·			-0644		.0548		•0807		.1504		.0712	
	(302)	(302)	(302)	(302)	(302)	<	302)	
	P=	.494	F=	.132		.171	F'≔	•081	F'=	.004	F'=	•109	
ITEM2		.1395		0488		•1499		.0554		.0841		.1236	:
	(302)	(302).	(302)	(302)	(302)	(302)	
	P=	.008	'F=	+199	F'=	.005	F=	•168	F'=	•073	F=	•016	
		-0394		0240						.0960	····· ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	.0479	
	(302)	(<		(302)		302)	
	. P =	247	F'=	• 339	F'=	.164	F'=	.359	F'=	•048	F'=-	.203	
ITEM4		.0566		.0358		0191	•	.0907	-	+0457	•	.0435	- -
	(302)	(302)	(302)	(302)	(302)	(302)	
	P=	.163	P=	+127	F=	•371	P=	•058	۲'=	.215	P=	•226	÷
•••••••••••••••••••••••••••••••••••••••						······································	••						• • • • • • • • • • • • • • • • • • •

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	49	50	5/	52	53	54
ITEM5	0504 (302)			•1971 (302)		
				P= +001		
ITEM6	(302)	(302)	(302)	+0304 (302)	(302)	(302)
الم الم الم				P= .300		
ITEM7	(302)	(302)	(302)	1088 (302) F= .030	(302)	(302)
İTEM8				•2021		
	(302)	(302)	(302)	(302) F= .001	(302)	(302)
ITEM9				0147		
				(302) F= .400		
ITEM10	+1689 (302)			•0508 (302)		
		P=	₽= .026	F'= .189	F= .440	P= +337
ITEM11	•2131			•0679		
				(302) F= .113		
ITEM12				֥0405		
				(302)		
	P= .001	P= .341	P= .057	P= .242	P= →087	F= •016
ITEM13	•2285		1079		-+0699	1487
				(302)		
	· · · · · ·	**		P= .113		
ITEM14	.2188	0636	0516	•0671	0028	.0081
				(302)		(302)
	P= .001	P= .135	P= .186	P= .122	F= .480	F= +444
ITEM15	1870	.0453	.1717	•1631	•1781	.0002
				(302)		
				P= .002		
ITEM16	•2258	0055	0628	.0108	1200	.0082
-	(302)	(302)	(302)	(302)	(302)	(302)
				F= +426		
ITEM17 -						1555
				(302)		
-	P= .448	F= .001	F= .150	F= .001	P= .057	P= .003
	······································		· · ·			

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<u>na anaranan, amin'ny taona dia kaominina dia mampi</u>na dia mampina dia kaominina d

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	49	50		51		52		53		54
TEM18	0412	.1523		.2378		.1522		.2304		.1.421
	(302)	(302)	(302)	(305)	ί	302)	ζ	302)
	F= .238	P= .004	P'=	•00i	F' ==	*004	F'==	+001	₽°.==	+005
ITEM19		.2231				•1767		.1534		, 1249
		(302)								
	F= .091	P= .001	P≔	.001	F*	.001	P	•004	C'	•001
ITEM20								.3511		.2385
		(302)								
	F= •019	F= •038	P'==	.031	F'=	.001	ŀ.'∷=	•001	F.=	•001
ITEM21	7+1273	+1647		.1828		.2813	,	•3789		.1498
		(302)								
	P= .013	P= .002	F'=	+001	F.=	.001	F.==	+001	ŀ.≡	.005
ITEM22		.0927								
		(302) F= .054				302)				-003 -003
•	P= +044	P= +054	F	+128	r =	•010	L ,	+030	r —	+003
ITEM23		0373								
•		(302) F= ,259								302) •192
	r- +030	F- • 2 .7		•132	г-	• 400	г-	يلا شد€) ♦	r	• 1 7 al.
TEM24		1017								
		(302)								302)
	F= .001	P= +039	F=	•250	P=	•031	F'=	•015	F=	.001
ITEM25		.1088								
		(302)				302)				
	F= .002	F= .030	P'=	+002	F'=	+009		+001	P.=	•001
TEM26		.1581								
	(302)									
	P= +033	F= .003	F.=	+001	F =	+001		+001	f	+00T
TEM27		•2775								+2527
		(302)								
	P= .009	F= .001	F.=	•096	F. ≡	.001	⊦'≕	•001	F'≕	.001
ITEM28	•1651									
•		(302)								
	F= .002	F= .243		+ 387		•129	P'=	•121		•089
TEM29		-,0609								
	(302)	(302)	(302)	(F:	302)	(302)	(D=	302)
	-P= .001									
ITEM30		.0516								
		(302)								
		P= 104	· P=.	•384	F'=	•088	F' ===	• 459	F'==	/ 24 -

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	0736	0/40			53	54
ł	(302) F= .101	.0819 (302) P= .142			+2201 (302) P= +001	•1395 (302) F≔ •008
		.0382 (302) P= .254	(302)			
	•2447 (302) P= •001		(302)	(302)	0169 (302) P= .385	(302)
1		0478 (302) P= .204	(302)	(302)		(302)
1	(302)	0349 (302) F= .273	(302)	(302)	(302)	(302)
	1082 (302) P= .030	(302) P= .001	P= .003	(302) F= .007	F= .001	(302)
1	1059 (302) P= .033	•1282 (302) F= •013	•1150 (302) P= •023	•1079 (302) P= •030	•1889 (302) F= •001	•1736 (302) F= •001
1	.2060 (302) P= .001	1363 (302) F= .009	<pre>+,1129 (302) P= .025</pre>	+.1260 (302) F= .014	2591 (302) F= .001	1667 (302) P= .002
1	(302)	•0102 (302) P= •430	(302)	(302)	(302)	(302)
	(302)	• •0043 (302) F= •470	(302)	(302)	(302)	(302)
((302)	•0266 (302) F= •322	(302)	(302)	(302)	
ITEM42	.1346	.0654	0189	0073	0812	.0413
	(302)	(302) P= ,129	(302)	(302)	(302)	(302)
4	(302)	(302)	(302)	(302)	(302)	•2837 (302)
۲۰۰ میں میں کی کار میں کا کار کا	P= .003	P= .001	P= ₊006	F= .001	F= .001	F001

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	49	50	51	ミン	53	53
ITEM44	0499	•0674	• 0.455	0765	05 48	0234
	(302)	(302)		(302)		
	P= .194			P= .092		
ITEM45	1359	•2366	+0746	.1471	•1761	.3340
	(302)	(302)		(302)		(302)
	F'= .009			P= .005		
ITEMÁ6	.1969	0605	1996	0713	2223	0301
				(302)		
				P= .057		
ITEM47	•1 766	0638	0420	0432	1355	074
				(302)		
				P= .227		
ITEM48	2345	.0722		0138		
				(302)		
	F= .001	F= .105	P= .101	P= .405	P= .002	P= .00:
ITEM49	1.0000			0218		
	(0)	(302)	(302)	(302)	(302)	(302)
	F=****	P= .417	P= .022	P= .353	F= .003	P= .173
ITEM50	0120	1.0000	.1631	.1906	•1767	.314
	(302)	(-0)	(302)	(302)	(302)	(302
		P=****	P= .002	F= .001	F= .001	`F'= ₊00:
ITEM51	1164			• 1998		
	(302)	(302)	(0)	(302)		
	P= .022	F= .002	P=****	F= .001	F= .001	P= +070
ITEM52	0218	.1906	. 1998	1.0000	•3543	•2092
				(0)		
	P= →353	F'= .001	F'= .001	F'=****	F= +001	P= +003
ITEM53	1606	1767	.3210	. 3543	1.0000	•217
				(302)		(302
	P= .003	F'= .001	P= .001	P= .001	F'=****	F= +00
ITEM54				.2092		
				(302)		
	F= .173	F= .001	P= .070	F= .001	F= .001	
ITEM55			,0481	.0700	•0393	•099
				(302)		(302
	P= .116	P= .109	.P= +203	P≞ .112	P= 7247	F- •042
		•1237	•0786	.2285	.1631	:053
ITEM56	<u>نے ۲۰</u> ۲۰۷ +			1	· · · · · · · · · · · · · · · · · · ·	/ 70.01
ITEM56	(302)	(302)	(302)	F= .001	(302)	(SU2)

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	49	50	51	52	53	54
ITEM57		(302)	(302)	0131 (302) P= .410	(302)	(302)
ITEM58			(302)	•3464 (302) P= •001		
ITEM59	(302)	•1917 (302) F= •001	(302)	•2861 (302) F= •001	(302)	•2521 (302) P= •001
ITEM60		(302)	(302)	0244 (302) P= .336	(302)	
ITEM61	(302)	(302)	(302)	.0501 (302) F= .193	(302)	1
ITEM62		(302)	(302)	•0692 (302) P= •115	(302)	
ITEM63	•0177 (302) F= •380	(302)	(302)	•2278 (302) F= •001	(302)	(302)
ITEM64		(302)	(302)	•1426 (302) P= •007	(302)	(302)
ITEM65	1140 (302) F= .024	(302)	(302)	+1007 (302) F= +040	(302)	(302)
ITEM66	.1294 (302) P= .012	(302)	(302)	0255 (302) P= .330	(302)	(302)
ITEM67		(302)	(302)	•0520 (302) F= •184	(302)	(302)
ITEM68	(302)	(302)	(302)	•1533 (302) P= •004	(303)	•2832 (302) P= •001
ITEM69		(302)	(302)	.1481 (302) P= .005	(302)	(302)

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		49		50		51	52		53		54
ITEM70	(F'=	-•1224 302) •017	((•1342 302) •010		(P=	•2890 302) •001	(F'==	+1040 302) +036
ITEM71	(F'=	•2038 302) •001	(P=	.0625 302) .140	(F'=	.0075 302) .448	+1055 302) +034	(F'=	•1116 302) •026	(F'≕	•0358 302) •269

	ITEM55	ITEM56	ITEM57	ITEM58	ITEM59	ITEM60
ITEM1		.0524 (302) P= .182	(302)	(302)	(302)	(302)
ITEM2	.0547 (302) P= .172	(302)	•2348 (302) P= •001	(302)	(302)	(302)
ITEM3	•1234 (302) P= •016	(302)	•1416 (302) P= •007	(302)	(302)	- 302)
ITEM4	•0119 (302) F= •418	(-302)	•1854 (302) P= •001	(302)	(302)	(302)
ITEM5	(302)	•1744 (302) F= •001	(302)	(302)	(302)	(302)
ITEM6	.1088 (302) P= .029		.0705 (302) F= .111	(302)		(205)
ITEM7	+0676 (302) F= +121	0242 (3027 F= .338	•1547 (302) P= •004	(302)	(302)	(302)
, . . .	(302)	+1268 (302) P= +014	(302)	(302)	(302)	(302)
	. (+0927 (302) P= +054	(302)	(302)	(302)	(302)

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ITEM10								•0185				¥2509	
		302)		302)									
	P. ==	•089	F	+453		* 0 0 1	1	+ 374-	J	• 20V	1	+ 00 i.	
ITEM11		.1287		.0252								•3088	
		302) .013	(F'=	302) •331	 P≡=´	302)	(Pisa	302) •014	([*==	302)		302) •001	
ITEM12		•0962 302)		•0671 302)								•2211 302>	
				•123						•183	P=	+001	
ITEM13		.1778		1290			_	0788	_			10 12 KB KB	
TICHTO		302)		302)								302)	
	F'=	.001	F'=	+012	P=	.001	F'=	+086	F'=-	.001	F'=	•001	
ITEM14		.1900		.0661		.1668		.1259	ł	.0026		.2894	
	-	302)	(302)	< ⁻	302)	<	302)	(302)	(305)	
	ł'=	.001	⊦' ≔	•126	⊦ ′=	.002	⊦'≕	.014			+'=	.001	
ITEM15		.0058		.0808								1024	
				302) •081								302)	
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ITEM16		.1076 302)	(.0281 302)	(•1131 302)	1	•0021 302)	(-+0894	(•2312 302)	;
		.031		•314						+061			
ITEM17		•2017		.2152		.0450		2474		.0870		.1039	
	(302)	(302)	C	302)	(302)	(302)	(302)	
	F=	.001	P=	.001	P=	.218	F'=	•001	F'=	•066	F'=	•036	
ITEM18				.1420									
	(F=		(F'=	302) •007									
	г	+ ** ** /	г —	+007	r ==	•071	г	•008	r -	+002	r -	+ 100	
ITEM19		·1291		·2020						+2284		+0770	
		302) •012		302) .001				302) •069		302) .001			
100 - 100 - 100 - 10 - 10		•											
ITEM20				•0871 302)						·2237 302)			
				•065						•001			
ITEM21		.0432		.1207				.1504		.3069		1231	
and I has I four at			7	302)	· · · · · ·	302)	Т <u>С</u> Т	302>	` ∢ `⁻	3025	T ()	302)	·
<u> </u>	₽ =	•227	Γ=	.010	ب	.199	P=	•004	F =	.001	F'=	.016	
ITEM22				+1604								.0912	
	()	302)		302)								302)	
	P=	.001	P=	•003	Pœ	•202	F'=	+045	P=	+009	P=	•057	

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 ITEM23 P= .018 •1196 -•0897 •2692 -•0461 -•1294 302) (302) (302) (302) (302) ITEM24 .1196 +2886 ((302) P= .001 P= +012 P= .060 P= .001 P= .213 P= .019 .1253 •1624 •0012 •1545 •1572 ITEM25 +0431 (302) (302) (302) (302) (302) (302) (302) P= .015 P=..002 P= .492 P= .004 P= .003 P= .202 •2250 .2250-.0501.1639.2416-.0588(302)(302)(302)(302)(302)P=.001F=.193F=.002F=.001F=.193F=.002F=.001F=.154 ITEM26 .1127 (302) P= .025 ITEM27 •1742 •0726 •1991 •0457 •0623 •2484 (302) (302) (302) (302) (302) (302) ITEM28 P= .001 P= .104 P= .001 P= .214 F= .140 F= .001 .0885 -.0071 .2045 .0653 -.1407 .3183 (302) (302) (302) (302) (302) (302) P= .062 P= .451 P= .001 P= .129 P= .007 F= .001 ITEM29 .3183 P= .062 -.1584 -.0601 .1306 '.0726 -.0865 -.0479 (302) (302) (302) (302) (302) (302) ITEM30 P= .003 P= .149 P= .012 P= .104 F= .067 F= .203 -.0276 .0271 -.0272 .0660 .1288 ITEM31 -+0815 (302) (302) (302) (302) (302) (302) P= .317 P= .320 P= .319 P= .126 P= .013 P= .079 -.0160 .0008 -.0869 -.0446 .0057 ITEM32 -.0160 .0008 -.0867 -.0440 .000 (302) (302) (302) (302) (302) (302) P= .391 P= .495 P= .066 P= .220 P= .461 P= .118 -.0683 ITEM33 .0953 -.0475 .2520 .0408 -.0831 .3189 (302) (302) (302) (302) (302) (302) (302) F= .047 F= .206 F= .001 F= .240 F= .075 F= .001

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ITEM37		.1539	. .	.1488		+0602		.170 8		.1874		·1342	
	(302)	(3 02)	(302)	(302)	(302)	(302)	
	F'=	•004	F'=	.005	F'=	•149	P'=	.001	F'=	.001	F'=	.010	i
TTENTO		4704		0747		1000		~ 7 ~ 7		1 8 8 8			
ITEM38						•1909 302)							
						+001							
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ITEM39						.2032							1
						302)							
	P=	.055	P=	•298	P=	.001	P=	•175	F=	•066	F'=	.001	
ITEM40		1040		A007		.1753		0007	_	- 0490		7705	
IIEn4V						302)							
						4001							
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ITEM41		.115 6		-1533		.1843 802) .001		.1048		.0432		•2978	ľ
· .	(302)	۲	302)		302)	(30,2)	(302)	(302)	Ţ
	P=	•022	P=	.004	• P =	001	P=	.034	P=	•227	F=	.001	ŀ
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ITEM42						-0851							+-
						302)							-
	7=	•076	P =	•313		+070	_ ₽	• • • / 7	r-	+ 1 / J	r	•001	
ITEM43	-	0134		1724	-	1403	•	.1390		.1271		.1160	
•	· (302)	(302)	(302)	(302)	(302)	(302)	Ţ.
	P=	•408	P=	.001	P=	•007	F=	•008	F=	.014	P=	•022	
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						•0396							
	-		•		-	302)	•		-				ł
in a an	. <u>F</u> .=	•404	- F =		F =	•247	P=	+048	. F.=	+ 460		+470	
ITEM45		.0247		.0588	-	1679		.0127		•0768		.1269	-
						302)							ļ
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ITEM46						•2717							
						302)							
- '	· · =	•139	P=	+008	1-=	.001	₽.=	437	<i>}</i> ,=	•005	₽°=	+001	
TTFM47	<u></u>					.2401						-3786-	
αρμη τη Παλάτη Τ΄ Τ΄ Τ΄ Τ΄ αρμητική του		302)	(302)	(•• 2401 302) •001	C	302)	(302)	(302)	
میرود که که در میروند. محمد بر میروند میروند. ۱۹	`₽=	.001	F'=	.485	P=	.001	₽=	.154	₽∍	-242	P=	.001	
ITEM48	-	•0065		•0519	-	1402		•1234		.1804		.1700	1
ſ	(302)	(302)	(302)	(302)	(302)	(3022	
	۲=	• 455	₽'=	•185	۲=	•007	⊦' =	+016	='۲	•001	⊦ ′≕	+005	Ł.
E						• • • •	 	->					.

	5	5	56	57	58	59	60
ITEM49	• 00 (30 F'= • 1)2) (+0542 302) +174		(302)	0786 (302) P= -087	(302)
ITEM50	•0) (30 F= •1)2) (302)	0411 (302) F= .238	(302)	•1917 (302) F'= •001	(302)
ITEM51	•04 (30 F'= •2)2) (302)	(302)	•1101 (302) F= •028		
ITEM52	•0) (3(P= •1)2) (302)	(302)	• 3464 (302) F= •001		0244 (302) F= .336
ITEM53	•0; (3(P= •2)2) (302)	(302)	(302)	•2821 (302) F= •001	(302)
ITEM54	•0 (3(P= •()2) (302)	→ 3 02> → P= .001	(302) F= .001	•2521 (302) P= •001	(302)
ITEM55	1.00 (P=***	0) ()	1346	(302)	(302)	.0311 (302) F= .295	(302)
ITEM56	(30)2) (0)	(302)	•1820 (302) F= •001	(302)	•0063 (302) P= •457
ITEM57	(30)2) (302)	(0)	(302)	0841 (302) P= .072	(302)
ITEM58	(30)2) (302)	(302)		•2243 (302) F= •001	(302)
ITEM59)2) (302)	0841 (302) P= .072			0840 (302) F= .073
ITEM60		2) (.0911 (302) F= .057	0840 (302) P= .073	
ITEM61	(30				(302)		(302)
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ITEM62	((•1801 302) •001	(302)	((302)	(302)	
ITEM63				.1839									
	(302)	(302) •001	(302)	(302)	(302)	(302)	1
ITEM64	(•1211 302)	(•0803 302)	(•0608	(•1054 302)	(•0862	,	•1497	
	P=	.018	F'=	•082	P=	· +146	P=	•034	F'=	•067	۲=	+005	
ITEM65	(302)	. (•0046 302)	. (302)	(302)	(302)	(302)	
	P=	•060	P=	.468	° P =	•144	P=	•043	P=	•002	P=	•279	
ITEM66	¢	•0075 302)		•0621 302)			•		•		•	JV2/	: •
		+448			1273	·							
ITEM67	1 K	302)	્ 🕻 🗟	40356 302)	16	302>	(302)	(302)	`(302>	
ITEM68	· · ·			.269	1. see		٠						;
• The second second	(302)	()	302)	ί.	302)	(302)	(302)	(302)	
ITEM69		.0160	, ·	•0896	-	-•1629		.1626		•2399	-	0493	1
				3 02) ,060									•- •
ITEM70	(-	•0788 302)		•1150 302)						•2504 302)			•
	-			.023									
ITEM71	(•1789 302)	(•0535 302)	(+2535 302)	(+1595 302)	-	0095 302)	(•2292 302)	
- <u>.</u> .	P=	•001	P=	•177	F=	• 001	F=	.003	F'=	. •435	F=	.001	
		n na ana an Ri di an an an Marana an an	···		• ••• • ••	··· ··· ·	·						
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	ITEM61	ITEM62	ITEM63	ITEM64	ITEM65	ІТЕМ66.
ITEM1	0311 (302) P= .295		(302)	(302)	•0966 (302) F'= •047	(302)
ITEM2	+1660 (302) F= +002	(302)	•0133 (302) F= •409		0726 (302) F= .104	
ITEM3	.3005 (302) F= .001	(302)		(302)	.0124 (302) F= .415	(302)
ITEM4	(302)	1129 (302) P= .025	(302)	(302)	(302)	(302)
ITEM5	(302)	•1891 (302) F= •001	(302)	(302)	•1735 (302) F'= •001	(302)
JTEM6	(302) P= •049	0257 (302) P= .328	- (302)	(302)		(302)
ITEM7	.1574 (302) P= .003	0202 (302) P= 363	302>	(302)	•0477 (302) F= •204	(302)
ITEM8		•2386 (302) P= •001	(302)	(_302)		(302)
	(302)	•2434 (302) P= •001	(302)	(302)	(302)	(302)
ITEM10	(302)	0943 (302) F= .051	(302)	(302)	(302)	(302)
	(302)	(.302)	(302)	(302)	(302)	
المعجمين والمعالي والمحالي و	t 302)	(302)	(302)	(302)	(302)	•3084 (302) F= •001
ITEM13	(302)	_(302)		.(_ 302)	(302)	.3710 (302) F= .001
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	61	62	63	64	65	55
ITEM14	•2110 (302) F= •001	0011 (302) F= .492	(302)	(302)	(302)	+1694 (302) F= +002
ITEM15		•1887 (302) P= •001	(302)	(302)		(302)
ITEM16	(302)	0856 (- 302) P= .069		(302)	(302)	
ITEM17		•1746 (302) ₽= •001	(302)	(302)	(302)	0433 (302) P= .226
ITEM18	(302)	.1033 (302) F= . 037 ((302)	(302)	(302)	1583 (302) F= .003
ITEM19	0043 (302) F= .470	•0830 (302) F= •075	•0904 (302) P= •058	.1400 (302) F= .007	•1307 (302) F= •012	
ITEM20		•1789 (302) F= •001	(302)	(302)	(302)	(302)
ITEM21	(302)	•2310 (302) F= •001	(302)	(• 302)	(302)	(302)
	(302)	0137 (302) F= .406	(302)	(302)	(302)	(302)
ITÈM23	(302)	-+4860 (302) F= +001	(302)	(302)	(302)	
ITEM24	(302)	0944 (302) F= .051	(302)	(302)	(302)	(302)
ITEM25	(302)	•1787 (302) F= •001	(° 302)	0721 (302) F=106	•0435 (302) P= •226	0657 (302) F= .127
ITEM26	(302)	•3050 (302) F= •001	(302)	(302)	(302)	(302)

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	61	62	63	64	65	6
ITEM27			.0493 (302) P= .197	(302)	(302)	
ITEM28	(302)	(302)	•1590 (302) P= •003	(302)	(302)	
ITEM29	(302)	0924 (302) F= .055	0039 (302) F= .473	•0484 (302) F= •201	(302)	•2261 (302) F= •001
ITEM30	(302)	(302)	1523 (302) F= .004	(302)	(302)	(302)
ITEM31	(302)	(302)	•0949 (302) P= •050	(302)	(302)	(302)
ITEM32	(302)	(302)	0408 (302) P= .240	(302)	(302)	(302)
ITEM33	•2200 (302) F= •001	(302)	•0266 (302) F= •323	(302) P= +009	(302)	(302) (
ITEM34	(302)	(302)	•0864 (302) F= •067	(302)	(302)	
ITEM35	(302)		0136 (302) F= .407	(302)		
ITEM36	0213 (302) F= .356	(302)	•0337 (302) P= •280	(302)	(302)	
ITEM37		(302)	•2122 (302) P= •001	(302)	(302)	(302)
ITEM38	(302)	0806 (302) F= .081		(302)	0469 (302) P= .208	(302)
ITEM39	(302)	(302)	0436 (302) P= .225	(302)	(302)	

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	61	62	63	64	65	60
ITEM40	.1832	0293	.1426	.0058	.0462	+1837
	(302)	(302)				(302)
	F= .001		P= +007		P = .212	F= .001
	1 - +001	1	1 - +007	1 + + + 0 0	tin ann i the ann an ann ann ann ann ann ann ann ann	1°
ITEM41	.1046	.0201	+0119	.0704	+0220	•0662
	(302)	(302)	(302)	(302)	(302)	(302)
	P= +035		F= +419		P= .351	P= .126
ITEM42	• 3403	1131	•0846	1004	.0590	1422
110/142						
	(302)		(302)			
	P= .001	P = +025	P= .071	P= +001	P= +153	P= .007
ITEM43	1233	0069	•0675	.1060	.1206	1642
	(302)		(302)			
			P= .121			P= +002
	1 - 1010	1- 1400		1- 1000	1 +010	1 - + 0.02
ITEM44	•1181				0124	
	(302)		(302)			
	F'= .020	F= .237	P=	P= .022	F= .415	P= .297
ITEM45	0729	.0089	0283	.0120	.1230	1182
	(302)		(302)	(702)	(302)	(307)
	P= .103					
	P= .103	F= +437	P= .312	F= +410	r= +016	F= +020
ITEM46	•3634	4060	0536	.1025	0736	.2999
	(302)	(302)	(302)	(302)	(302)	(, 302)
	P= +001	P= .001	P= .177	P= .038	F'= .101	P= .001
ITEM47	• 4513	0570	.1551	*AE/5	0(07	.1740
FICU47						
	(302)		(302)		(302)	(302)
	P= .001	P= .161	P= .003	P= .164	P= +148	P= .001
ITEM48	0339	.1919	.1128	0231	.0475	1433
	(302)	(302)	(302)	(302)	(302)	(302)
	F= .279	F= .001	P= .025	F= .345	F= .206	F'= .006
	* 7/7/	44 0.0	A1 33	4/00		+
ITEM49	.1325					
			(302)			
	P= .011	F= .028	F= .380	F'= .003	F= .024	F'≕ •012
ITEM50	0485	•1298	.1857	.1768	.0678	0632
			(302)			
			F= .001			
					-	
	0744					
•	(302)	(302)	(302)	(302)	(302)	(302)
	F=		P= .059	P= +153	P= .257	F= .124
TTEMSO	.0501	~ M207		. 1 474	. 1007	0055
شدايدا السوا مد	+ VOVI	+ VO72	• <u>-</u>	+14450 2 7000	• TAAV	1 2005
	(- 302) P= +193				− x − 30/∠/ m	- C - ロワミノ - ロー - ファハ
	r= •173	F= -115	F= 4001	r = 1007	r= .040	r= +33V

64 65 6Z 63 61 66 -.0936 .2820 .1897 .0879 .0191 -.0810 ITEM53 **302)** (-302) (302) (302) (302) •001 P= •001 P= •064 P= •371 P= •080 302) ((302) 4 P= .052 ₽°== •1436 (707 ♦ 0716 ·2045 •1436 •1765 302) (302) (+0379 ~ .2048 ITEM54 302) ((302) 302> 302) (P= .001 F= .256 P= .006 P= .001 P= .107 P= .001 •0896 +0575 .0075 ITEM55 .2719 .5204 .1211 (302) (302) (302) (302) (302) P= .160 P= .001 P= .018 P= .060 P= .448 (302) (P= .001 •0426 .1801 •0046 +0803 +1839 -.0621 ITEM56 302) (302) ((Ċ 302) (302) (302) 302) P= .230 P= .001 P= .001 P= .082 P= .468 P= .141 ITEM57 .1181 -.0710 -.0373 .0608 -.0614 .1827 (302) 302) ((302) (302) (302) (302> F= .144 F= .001 P= .109 P= .259 P= .146 P= .020 .1054 .0992 -.0812 .0811 .0947 •2174 ITEM58 (302) (302) (302) (302) (302) (302) F= .001 P= .034 F= .043 F= .080 F= .080 F= .050 •**2715** •0862 •1680 -•1929 ITEM59 -.0020 .1823 **302) (** 302) 302) (302) (302) ((302) (P= .001 P= .001 P= .067 P= .002 .P= .001 P= .486 •1268 •0077 •1497 (302) (302) (302) F= •013 F= •447 F= •005 .4038 -.0338 .1903 ITEM60 (³ 302) (302) (302) P= .005 P= .279 P= .001 (302) F= +001 •0348 `•2109 302) (302) ITEM61 1.0000 - 🔎 796 •0647 • 0.777 302) (C (((0) 302) 302) F= ₊084 F= +131 P= +089 P= .273 F= .001 F=***** -.0032 .0473 -.1638 ITEM62 -.0796 1.0000 •1909 302) (0) ((302) (302) (302) (302) P= .084 P=***** P= .001 F= .478 F= .206 F= .002 -.0306 ·1909 .0647 1.0000 .0443 ITEM63 •1696 (302) (302) (302) P= +002 P= +222 P= +298 (302) (302) (0) P= .131 P= .001 P=***** (P= .131 •1696 ..0334 •0777 -.0271 -.0032 1.0000 ITEM64 > 302) (
P= .478 P= (302) (0) P= .002 P=***** $\langle 0 \rangle$ ₹. (- 302) (302) 302) - . ----

•0348 •0473 •0443 •0334 1•0000 --•3512 302) (302) (302) (302) (0) (302)

P= +273 P= +206 P= +222 P= +282 P=****** P= +001

F= .282

P= .319

ITEM65

F= .089

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	61	٢٦	63	64	6 5	66
ITEM66	.2109	1638	0306	0271		1.0000
	(302)	(302)	(302)	(302)	(302)	< 0>
	F= .001	P= .002	P= +298	P= .319	P= +001	P==
ITEM67	.1660	1250	.0610	.1123	1907	.3235
	(302)	(302)	(362)	(302)	(302)	(302)
	P= .002	P= .015	P= .145	P= .026	P= +001	P= .001
11EM68	0375	.0983	.1417	.0803	.0s23	+1163
	(302)	(302)	(302)	(302)	(302)	(302)
	P= .258	F= .044	P= .007	P= .082	P= +140	F= +022
ITEM69	0516	.1478	.0395	•0963	.2551	2376
	(302)	(302)	(302)	(302)	(302)	(302)
	F= .186	F= .005	P= .247	P= .047	F= +001	P= .001
ITEM70	.0179	.2140	.1954	0250	.0863	0401
	(302)	(302)	(302)	(302)	(302)	(302)
	F= +378	F'= .001	F'= .001	F= +333	P= .067	P= .244
ITEM71	.1399	•0598	.0745	• 11 61	1253	·0724
	(302)	(302)	(302)	(302)	(302)	(302)
	F= .007	P= .150	F= .098	P= .022	F= .015	F= .105

	ITEM67	ITEM68	ITEM69	ITEM70	ITEM71
ITEM1	.0240 (302) P= .339	•1126 (302) P= •025	•0904 (302) P= •058		0575 (302) P= .160
ITEM2	+1575 (302) P= +003	(302)	1327 (302) F= .011		+1601 (302) F= +003
ITEM3	•1157 (302) P= •022	(302)	0159 (302) F= .391		•1833 (302) P= •001
ITEM4	.1816	0300	0733	0320	0983
	(302) F= .001		(302)		(302) F= •044
ITEM5	0287 (302) F= .310	•1548 (302) P= •004	•1629 (302) F= •002	•1511 (302) F= •004	-•0345 (302) F= •275

	67	68	69	70	7/
ITEM6	,0322 (302) P= ,289	(302)	0504 (302) P= .192		1275 (302) P= .013
ITEM7	(302)	0999 (302) F= .041	(302)	(302)	0568 (302) P= .163
ITEM8		(302)	(302)	.1662 (302) P= .002	(302)
ITEM9	(302)	(302)	(302)	0019 (302) P= .487	(302)
ITEM10	(302)	0834 (302) F'= -074	(302)	•0675 (302) P= •121	•1540 (302) P= •003
ITEM11	(302)	-+0871 (<u>3</u> 02) F= •066	(302)	0753 (302) F= .096	•3187 (302) P= •001
ITEM12	.5497 (302) P= .001	1134 (302) F= .024	(302)	(302)	•2385 (302) F= • 0 01
ITEM13	.4781 (302) F= .001	2734 (302) F= .001	(302)	(302)	
ITEM14	.3167 (302) P= .001	(302)	(302)		(302)
ITEM15	(302)	(302)	(302)	•1209 (302) F= •018	(302)
ITEM16	(302)	(302)	(302)	-+1261 (302) F= +014	(302)
ITEM17	•0561 (302) P= •165	•1793 (302) F= •001	•0786 (302) F= •087	•1056 (302) Fam •033	- •0239 (302) ₽= •340
ITEM18	(302)	.(302)	(302)	•0689 (302) F= •116	(302)

67 68 69 70 71 •0109 •1965 •2816 •0854 •0743 (302) (302) (302) (302) (302) •0243 ITEM19 P= .425 P= .001 P= .001 P- .067 P= .099 ITEM20 -.1179 1924 +1723 .1395 -.0432 (302) (302) (302) (302) (302) P= .020 P= .001 P= .001 P= .003 P= .227 +1332 ITEM21 -.0983 1328 +2349 +1359 302) (302) (302) (302) (< 302) P= .044 P= .008 P= .010 P= .001 P= .009 .0649 .0717 .0719 .1064 .0062 (302) (302) (302) (302) (302) ITEM22 P= .130 P= .107 P= .106 P= .032 P= .457 .1601-.0173-.0488-.0654.0199(302)(302)(302)(302)(302)P=.003P=.382P=.199P=.129P=.365 ITEM23 .2963 -.0077 .1252 ITEM24 -.2885 -.3703 302) (302) (302) (302) ((302) P= .001 P= .001 P= .001 P= .447 P= .015 -.0870 .1104 .1276 .0786 -.0007 (302) (302) (302) (302) (302) ITEM25 P= .066 P= .028 P= .013 P= .086 P= .495 +0268 **.**1617 **.**1924 ITEM26 -.0906 +1189 (302) (302) (302) (302) (302) P= .058 P= .002 P= .001 P= .019 P= .322 • 2660 ITEM27 -.0539 •2662 •1292 •0231 (302) (302) (302) (302) (302) P= .175 P= .001 P= .001 P= .012 P= .345 .2561-.0629-.1454.0018.0867(302)(302)(302)(302)(302)P=.001F=.138F=.006F=.488F= .0018 ITEM28 -.0863 -.2079 .0448 .1218 (302) (302) (302) (302) F= .067 P= .001 P= .219 P= .017 •3073 (302) ITEM29 P= .001 .1367 ITEM30
 •1367
 -•0170
 -•0240
 -•0642
 •0297

 302)
 (
 302)
 (
 302)
 (
 302)
 P= .009 P= .385 P= .339 P= .133 P= .304 ITEM31 •0775 •0178 -•01ó4 -.0712 +0419 302) (302) (302) (302) (302) (302) (302) P= .109 P= .234 P= .090 P= .379 P= .389 (

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	67	68	69	フロ	71
ITEM32	•0154 (302) F= •395	(302)	(302)	0351 (302) F= .272	1378 (302) F= .008
ITEM33	•2873 (302) F= •001	(302)	(302)	0490 (302) F= .198	•3265 (302) P= •001
ITEM34	.2468 (302) F= .001	(302)	(302)	.0104 (302) F= .429	•1671 (302) F= •002
ITEM35	.3510 (302) F= .001	(302)	1683 (302) F= .002	(302)	•1673 (302) F= •002
ITEM36		•2188 (302) F= •001	(302)	(302) P= -399	0652 (302) P= .129
ITEM37		+1685 (302) P= +002	(302)	•2126 (302) F= •001	
ITEM38	.1601 (302) P= .003	(302)	(302)	0019 (302) F= .487	
ITEM39	.1631 (302) P= .002	0551 (302) F= .170	(302)	•0225 (302) P= •348	
ITEM40			(302)	(302)	(302)
ITEM41		-•0088 (302) F= •440	(302)	(302)	(302)
ITEM42	(302)	0018 (302) F=468	(302)	(302)	(302)
ITEM43	(302)	•.3746 (302) F= •001	(302)	(302)	(302)
ITEM44	(302)	0252 (302) F= .331	(302)	(302)	(302)
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68 69 70 7/ 69 -.1261 .2984 .4231 .1185 -.0949 (302) (302) (302) (302) (302) P= .014 P= .001 P= .001 P= .020 P= .050 ITEM45 .2705 ITEM46 -.0922 +1623 -.1826 -.1068 **302) (302) (302) (302) (** •001 P= •055 P= •001 P= •032 P= (302) P= .001 P= .055 P= .002 ·1860 -.0905 -+1720 ITEM47 -.0561 • 1720 ((302) (302) (302) (302) 302) F= .001 F= .058 P= .001 P= .166 P= .001 .0754 .1560 .0343 -,3867 ITEM48 -.1272 (302) (302) (302) (302) (P= .001 P= .096 P= .003 P= .276 P= 302) F= .014 •3102 -•0783 (302) / -.0970 -.1224 .2038 ITEM49 (302) (302) (302) (302) (302) P= .001 P= .087 P= .046 P= .017 P= .001 •3380 -.0140 (302) (•**38**03 •1722 .0625 ITEM50 **302) (30**2) (302) (302) P= .405 P= .001 P= .001 P= .001 F= .140 -.0950 .1574 -.0874 .1342 .0075 (.302) (302) (302) (302) (302) ITEM51 P= .050 P= .003 P= .065 F= .010 F= .448 •1481' •0520 •1**533** •2409 •1055 ITEM52 (302) (302) (302) (302) (302) (302) P= .184 P= .004 P= .005 P= .001 P= .034F= .004 .2890 -.0421 .1806 .1601 302) (302) (302) (.1113 ITEM53 (302) (302) 302) (P= .233 P= .001 P= .003 P= .001 P= .026 -.1117 .2832 .3997 .1040 .0356 (302) (302) (302) (302) (302) ITEM54 P= .026 P= .001 P= .001 P= .036 P= .269 ITEM55 .1200 •0896 •0160 •0788 •1789 (302) (.302) (302) (302) (302) P= .019 P= .060 P= .391 P= .086 P= .001 •1150 •0535 302) (302)
 •0356
 •1781
 •0896
 •1150

 (302)
 (302)
 (302)
 (302)
 P= .269 F= .001 F= .060 F= .023 F= .177 •2215 -•1317 -•1629 -•0794 +2535 ITEM57 (302) (302) (302) (302) (302) P= .001 P= .011 P= .002 P= .084 P= .001

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	67	7 68	69	70	71
ITEM58	(302)	+2408 (302) F= +001	(302)	+1532 (302) P= +004	
ITEM59	(302)	(302)	(302)	+2504 (302) P= +001	(302)
ITEM60	(302)	(302)		0675 (302) P121	
ITEM61	(302)		(302)	•0179 (302) P= •378	
ITEM62	(302)	(30 2)		•2140 (302) F= •001	
ITEM63	(302)	(302)	(302)	•1954 (302) F= •001	(302)
ITEM64		(302)	(302)		(302)
ITEM65	(302)	(302)	(302)	•0863 (302) P= •067	(302)
ITEM66	(302)	(302)	(302)	0401 (302) F= .244	(302)
ITEM67	(0)	(302)	(302)	•0661 (302) F= •126	(302)
ITEM68	(302)	(0)	(302)	•1806 (302) F= •001	(302)
ITEM69	1611 (302) P= .003	•4475 (302) P= •001	1.0000 (0) F=*****	•1517 (302) P= •004	0071 (302) F=451
ITEM70	(302)	(302)	(30,2)	1.0000 (0) F==*****	(302)
- ITEM71		(302)	(302)	(302)	(0)

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APPENDIX D

FACTOR LOADINGS ORTHOGONAL ROTATION

VARIMAX -ROTATED FACTOR MATRIX AFTER ROTATION WITH KAISER NORMALIZATION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM1	03195	.10695	.01452	.02194	.07407
ITEM2	.18712	21636	.39201	.11669	14351
ITEM3	.48180	•02779	.23126	00215	03697
ITEM4	.24212	02336	.24537	02711	.03129
ITEM5	.11180	.03321	.03219	.03616	.17201
ITEM6	.15838	.00874	•03285	02777	.06639
ITEM7	.20851	02801	.19420	.03878	08113
ITEMB	.02854	.10636	02030	06245	.73296
ITEM9	.00189	.10997	03553	09418	.07170
ITEM10	.16434	01701	+08553	•83841	07000
ITEM11	•16401	07173	.15450	.71574	.00887
ITEN12	.12466	04485	.21057	.50570	10752
ITEM13	.19262	18283	•65407	·25232	02450
ITEM14	.11850	.01798	.73684	.00100	•05301
ITEM15	•04887	06158	03995	00300	• 32866
ITEM16	•09722	•00607	•16627	06611	24152
ITEM17	02904	.091 09	04694	•01306	.03420
ITEM18	09923	·20388	13192	00304	.07773
ITEM19		∙2025 త	03708	•02922	13392
ITEM20	07343	•08424	•01876	06271	• 66503 ·
ITEM21	10041	.12800	00380	02308	• • 41022
ITEM22	.16025	•04705	.00684	08525	.16781
ITEM23	•21931	•04880	•09850	•04425	09423
ITEM24	•38103	27561	•42409	•17043	10917
ITEM25	02054	·07657	05222	01946	.18510
ITEM26	14389	·12895	.01110	01402	•25421
ITEM27	•01491	• 57323	00856	.14153	•08920
ITEM28	•16487	13435	•02328	•17692	17843
ITEM29	•29136	18532	•28776	.22616	27426
ITEM30	•04868	•09788	•10950	•00587	.05237
ITEM31	02577	00209	04589	.05114	.08574
ITEM32	01131	•03209	.01154	•05099	.03919
ITEM33	.33169	14607	•26774	•16402	.21216
ITEM34	•54352	11331	•44496	.08972	05563
ITEN35	.12855	07080	•65082	•18509	.02865
ITEN36	08190	•50653	06020	13122	.16878
ITEM37	•12073	•25184	05098	07945	03676
ITEN38	•69482	11357	.01046	•15233	12976
ITEN39	•67566	00428	.03129	•04351	00335
ITEM40	.04286	04579	•56356	04746	11441
ITEM41	•17392	•03036	•16030	•03277	.02486 07195
ITEN42	•50665	•08101	.03110	13860	07195 -13592
- ITEM43	07261	•73027	10668	03749	•13592
ITEM44	•12181	•07369	•08988	00877	•01551
ITEM45	06117	.77941	02331	06349	00375
ITEM46 ITEM47	•51425 •58977	05381 08464	•14754	•24252 •05197	•05666
		.03847	.41459	22981	•04698
ITEM48	01601	• V304/	17326	-+22701	+ 14070

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	FACtor 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM49	.07441	13222	•19222	.17603	20244
ITEM50	05352	•53028	.01264	07647	06143
ITEN51	03904	•07647	02564	14159	·05600
_ITEM52	13195	•19089	•07951	•08281	• 30149
ITEM53	17805	•15294	01455	•05335	• 49930
ITEM54	02750	• 44998	01928	.02146	+16627
ITEM55	•17894	•02272	•18007	•07541	03301
ITEM56	.00687	•15072	08324	·01828	•05404
ITEM57	•22035	16260	•25456	•18752	16813
ITEM58	•06780	.06502	•07007	•07321	.16846
ITEM59	07488	•12456	04595	00630	.12337
ITEM60	•52046	06611	•13921	•25500	13270
ITEN61	•62798	02828	.11365	•08579	.05108
ITEM63	03311	•00927	.05815	•01799	.11484
ITEN64	01389	.10302	02543	•21725	•05669
ITEN65	•03258	.10889	•07246	03345	01715
ITEM66	•20943	10287	+22096	•16319	03123
ITEM67 ITEM68	•03823 -•01492	03969	•34645 -•14607	•42377 -•04267	03424
ITEM69	05842	•55448 •60201	09993	01840	•13495 -•03484
ITEM70	•04945	•15431	08965	•03785	•13698
ITEM71	.11572	.03216	.31475	•25400	•14558
i	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
ITEM1	03742	00731	01522	06224	03146
ITEM2	19895	04391	•13369	11646	.25505
ITEM3	•09868	05904	•21 4 87	•06677	.15615
ITEM4	•47448	02385	.11198	13490	•22492
ITEM5	•02265	•35186	18469	02431	•34997
ITEN6	05841	07647	•05511	•06517	00465
ITEM7	•03503	04387	•02207	06951	07212
ITEMB	00874	.16151	20451	06441	•04494
ITEM9	77506	•05608	08997	•04556	.11319
ITEM10	•09186	06550	.00296	.02744	00057
ITEM11	.10204	.09045	•17690	•04184	.05810
ITEM12	•55224	10570	•06535	.08086	01442
ITEM13	•26399	05802	•00038	+06016	16811
ITEM14 ITEM15	•01933 •04530	01830	00488 19203	•12494 •02736	•10035 •07174
ITEM16	•11604	•15310 •03703	.11389	.06140	.10225
ITEM17	•06284	-38826	09110	.25138	•40878
ITEM18	23250	00412	•12663	•02861	.13681
ITEM19	•13674	.50160	04949	.02376	.10373
ITEM20	11891	.13303	•03470	.11182	•14570
ITEM21	14354	•12936	11389	•03368	01353
ITEM22	•03397	•06254	•14191	•15922	.03392
ITEM23	•05250		•74781	.07342	.01885
ITEM24	.08765	00828	.00484	04845	11193
ITEM25	13570	.74573	.01399	.10628	.01515
ITEM26	12645	.70365	15176	.06059	•04734
ITEM27	.03399	03781	05026	-,07928	04953

	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
TTEM28	•08980	.10053	•33293	.14596	.12921
ITEM29	.04137	•00092	.15718	00922	+18592
ITEM30	•22591	•09425	.12707	40494	.25340
ITEM31	11410	.10813	05741	•00478	02304
ITEM32	•12388	04016	•00843	01532	•04182
ITEM33	15868	04043	.00772	07981	•04133
ITEM34	•10662	•01550	•00953	•14046	11588
ITEM35	•11876	.00315	.18316	04964	05432
ITEM36	07293	.30501	08657	•00661	24753
ITEM37	06031	.10114	16394	.24648	.12238
ITEM38	08748	22612	•02057	03203	•04960
ITEM39	•00475	· 0058 8	•01385	17729	.12200
ITEM40	•06581	02829	.00392	•23085	.14194
ITEM41	04260	•06938	04218	03552	•00296
ITEM42	•22664	.13119	.19009	•03432	-+04258 🥠
ITEM43	00566	.10915	•14836	00109	•04854
ITEM44	09163	05382	11162	03165	14966
ITEM45	05168	.07618	•05085	06449	13101
ITEM46	•08564	07414	.41189	04056	00562
ITEM47	00100	05452	• 09606	.26610	05918
ITEM48	58247	•14447	09137	•07856 ·	.01386
ITEM49	•08202	10265	02308	06895	.11556
ITEM50	•03360	•03549	15730	.08412	.30566
ITEM51	.10792	.17499	09919	•02749	•02057
	+++++++++++++++++++++++++++++++++++++++				
ITEM53	•01990	.10911	10642	+07244	•05475
ITEM54	07663	.21123	02717	•09231	•09640
ITEM55	03142	•14143	00515	•73847	.02863
ITEM56	•02389	•22008	19585	•16299	•15596
ITEM57	00192	•10942	07140	18075	.08853
ITEM58	09279	.08045	02579	•09245	.65614
ITEM59	06529	.10238	02267	•11903	.06000
ITEM60	.02811	•08255	•08775	•07875	•06157
ITEM61	.04118	01830	.01283	•25546	09470
ITEM62	14311	.14794	71982	•11890	•08893
ITEM63	04363	.08504	•00466	•74059	.17920
ITEM64	•07432	11500	03165	.17101	•07792
ITEM65	•07699	.06893	06736	00183	.03542
ITEM66	•05620	01680	.13418	04919	05293
ITEM67	•37051	•00803	•03128	.04109	.08398
ITEM68	08475	04891	03191	+15891	•42272
ITEM69	11802	•06379	10553	•02408	•22270
ITEM70	•19194	÷.05596	21124	•20290	.16633
ITEM71	•07441	04192	21492	•06825	.08754
	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15
ITEM1	01060	04402	•02898	.08074	.00803
ITEM2	• 08923	11652	.01429	10409	.04834
ITEM3	03825	.09191	18984	.03440	05326
ITEM4	04702	.00167	•05507	.01133	•13873
ITEM5	22136	09814	•00931	.10335	.08697
ITEM6	03121	.02360	07449		.02848
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	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15
ITEM7	01781	10254	12051	09192	•07852
ITEM8	•04666	•04447	•04867	•07653	01368
ITEM9	•04983	.07022	01245	.06113	10906
ITEM10	.10698	07779	.06407	03142	.00637
ITEM11	01641	•14671	03286	04401	•13907
ITEM12	.16457	01734	.03308	.03203	•03228
ITEM13	.13890	01493	04954	01838	•04267
ITEM14	00350	.15773	04110	07378	.08061
ITEM15	03352	42119	•08086	•07905	00206
ITEM16	•13798	.20136	.04057	02692	•51886
ITEM17	00371	.1 2172	10003	•03716	00007
ITEM18	20347	.11210	•08273	•53873	.10432
ITEM19	09821	.11033	.12062	.15048	.14437
ITEM20	12558	04731	•05958	•01969	11712
ITEM21	•09111	04259	•44627	•02917	.15766
ITEM22	06820	04337	.10273	+05916	05767
ITEM23	•15400	•02073	•05089	•03364	•04557
ITEM24	•26110	04974	.10457	•02445	10698
ITEM25	•03738	05924	•06135	·11285	09846
ITEM26	08439	00238	•09388	•11520	03687
ITEM27	10698	04132	.31134	•02459	•08691
ITEM28	•23939	•25813	•29964	01853	.06115
ITEM29	.11257	+13885	•01368	•10404	07361
ITEM30	•08961	27824	04241	08179	•09399
ITEM31	01986	•03694	02712	•72335	•00598
ITEM32	02796	18300	05051	•04245	•07085
ITEM33	.19088	• 26 520	•02324	•03772	15315
ITEM34	.03120	.01601	•08507	.04030	05214
ITEM35	05098	02818	00595	04084	•04953
ITEM36	05415	•08122	12982	•06737	•06756
ITEM37	.03826	32064	.20751	•12446	11777
ITEM38	•09776	•03670	06617	03714	09049
ITEM39	.05620	02535	.06842	03983	06674
ITEM40	•04137	•41451	02934	07675	15856
ITEM41	02743	•66471	.07800	.00114	•08205
ITEM42	•05378	.05700	.00873	01649	•43793
ITEM43	05580	03285	•02491	•05329	00245
ITEM45	01261	03084	•02250	02461	02796
ITEM46	•06888	+14332	08184	05935	.05883
ITEM47	03293	•00935	02556	.03187	•03639
ITEM48	.01389	֥09833	.16094	•07641	•06936
ITEM49 Item50	.12206 .11369	.30048 04189	01466	04968 .11796	.26802
			.16265		.07416
ITEM51 ITEM52	•02366 -•06677	13659 11395	•09338 72591	•71181 •04372	•00920 •10222
ITEN53	•11963	09814	.32591 .29026	.34441	•02484
ITEM54	18351	.12868	•17986		.06117
ITEN55	04943	02507	03789	•00081	.06302
ITEM56	.03115	•12993	•00301	00906	•07485
ITEM57	•08926	.03407	•03283	•09378	•12247
ITEN58	08330	00196	•16398	.01447	•06907
ITEN59	20338	•05785	•72940	.07929	00168
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	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15
ITEM60	03622	• 33535	11273	05930	•14480
ITEM61	02178	01658	05213	09946	.10516
ITEM62	00932	.04205	.14627	.13682	02530
ITEM63	.04041	02400	•24088	.03452	.10949
ITEM64	04673	•00506	.04960	.10207	.68847
ITEM65	-,77016	02292	.12351	.02369	06846
ITEM66	•65139	04683	01081	03955	06852
ITEM67	.35758	.18319	06394	07031	03660
ITEM68	.02872	.10921	09925	.11437	04909
ITEM69	22766	04045	.06902	.04957	.04188
ITEM70	.05386	01960	.41548	•08075	41228
ITEM71	.19135	•28277	01126	.05498	•16584
	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
ITEM1	.13452	.70056	05659	•06689	•02773
ITEM2	30607	.01801	20261	02319	.11223
ITEM3	36807	00797	11819	.08031	14898
ITEM4	02790	13080	06850	.09506	20634
ITEM5	.09691	.40108	09367	02277	06452
ITEM6	.01338	.05230	•06076	.81745	.00285
ITEM7	•09436	09776	.70751	.09754	.12954
ITEM8	•07430	•05179	08116	00186	02542
ITEM9	07277	02972	00025	.03057	02164
ITEM10	•05193	•04403	.04810	.03199	05023
ITEM11	06984	06824	08884	06627	03668
ITEM12	•19465	•06457	.10338	04327	.10594
ITEM13	02897	07667	.19834	•02062	01562
ITEM14	12674	•08984	.05205	09024	.01176
ITEM15	03253	06457	•28997	.17246	12398
ITEM16	•05656	.10903	•36885	15369	04396
ITEM17	.01489	02634	.03445	•24635	05497
ITEM18	.01890	.07385	.22803	.07370	10690
ITEM19	12304	.13890	15487	•07049	.24504
ITEM20	.11085	.03576	01287	.06559	.14719
ITEM21	26741	•04205	05395	05178	00403
ITEM22	.06729	00132	•09386	03291	•71395
ITEM23	02006	02483	.10473	.01522	.04209
ITEM24	.05124	.01173	.10958	.28724	08261
ITEM25	.03828	05441	.08139	07270	04768
ITEM26	05954	•00729	04524	09714	.04268
ITEM27	.01643	00128	22148	02622	13463
ITEM28	.08105	•02581	01336	.19017	16351
ITEM29	.03404	.14689	03395	05268	.02750
ITEM30	.08231	32475	17302	.08537	01489
ITEM31	.24894	.05464	14602	02914	.04061
ITEM32	.68620	.18834	.05974	.04174	+08433
ITEM33	.16887	27385	00193	02864	09913
- ITEM34	.16736	10014	07610	.01171	.02135
ITEM35	•09066	05412	.00688	.10252	.00063
I-TEM36+	.01699			. 101-15	16096
ITEM37	•28374	.18510		00641	00802
ITEM38	06187	.13827	.07700	•09896	•06557

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بالانفواء فالمطورة الجافر والجربي الالمار بقريان

	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
- ITEM39	•03434	09420	.21101	.00728	.04714
ITEM40	.02916	00173	.18544	.04463	•07475
ITEM41	19505	07686	07457	•06928	03409
ITEM42	.10458	•13138	•08228	•01986	02111
ITEM43	.02363	01087	.03875	07013	.00532
ITEM44	.12559	09380	•04251	•06406	·06279
ITEM45	02820	.13663	.04218	.05059	08359
ITEM46	•06489	22619	01409	•13496	.01857
ITEM47	.10568	15699	14968	02485	01067
ITEM48	• 038 78	•17347	-+05956	+10071	09583
ITEM49	.12444	•01028	.01270	•05481	•43733
ITEM50	•05399	13955	12632	•21875	.11659
ITEM51	18459	•02064	02638	•01596	+05380
ITEM52	-,29385	.14468	00856	•12231	11517
ITEM53	17535	.14482	.00125	00925	•01244
ITEM54	.17869	00198	06522	•12970	.10919
ITEM55	04478	05920	00418	•07379	•10945
ITEM56	12776	.18012	•03758	.10302	•25692
ITEM57	11758	31970	•02526	•16598	•19085
ITEM58	00340	.03791	03475	06157	.08740
ITEM59	•05762	02332	07606	08835	•09235
ITEM60	13091	04538	•11913	•05759	.08630
ITEM61	07536	•06525	•01090	•02752	•12950
ITEM62	•03729	•00892	•07967	01123	08355
ITEM63 ITEM64	•04066 -•02888	02473 05232	07316	•01850 •07671	•01977 •03962
ITEM65	•01273	•07517	01017 .15912	•07877	00495
ITEM66	02873	00251	•13712	•08569	05674
ITEM67	•01553	•05443	•12372	•02723	•14504
ITEN68	00847	.05241	•05489	08895	.04005
ITEM69	07195	.03375	.15950	13164	.08439
ITEM70	14876	.12385	•09752	01694	• 05094
ITEM71	21645	18094	12114	23976	.07650
	FACTOR 21	FACTOR 22			
ITEM1	•04993	09677			
ITEM2	05523	02990			
ITEM3	11946	•06033			
ITEM4	19807	·02987			
ITEM5	.03706	.11817			1
ITEM6	+01595	.04310			1
ITEM7	•01731	0 2800			
ITEM8	+ 0 2028	•06092			
ITEM9	+04216	15235 •			
ITEM10	01658	.03443			
ITEM11	•01508	02072			
ITEM12	.11773	05440			
ITEM13	12777	01812			
ITEM14	02281	01144			
ITEM15	•13935	+08535			
ITEM16	•01689	.07857			
ITEM17	•04735				

	FACTOR 21	FACTOR 22
TTEM18	.16265	02233
ITEM19	26897	.10357
ITEM20	04855	07525
ITEM21	.12360	+17053
ITEM22	•03450	.10932
ITEM23	04241	01256
ITEM24	05367	13411
ITEM25	.06543	12472
ITEM26	•04630	01188
ITEM27	•06376	.18711
ITEM28		
ITEM29	•14967	•33286
ITEM30	•09218	02175
ITEM31	08690	02741
ITEM32 ITEM33	07452 02111	•13877 -•04261
ITEN34	.30440	05136
ITEM35	.03185	•17567
ITEM36	•03864	•01141
ITEM37	.17315	24623
ITEM38	•11794	.06054
ITEM39	•01477	.14930
ITEM40	.03470	.06165
ITEM41	•08669	13494
ITEM42	03656	•03382
ITEN43	·20265	.00424
ITEM44	03865	.67110
ITEM45	01544	09495
ITEM46	07772	•04930
ITEM47	•22616	00901
ITEM48	23541	18380
ITEM49	•08623	14240
ITEM50 ITEM51	12141 .02310	•07276 •07168
ITEM52	•12709	05206
ITEM53	07275	11488
ITEM54	40371	11430
ITEM55	.03116	02071
ITEM56	• 49241	08599
ITEM57	.23046	12546
ITEM58	•02977	23950
ITEM59	08247	02539
ITEM60	02721	• • 00840
ITEM61	17567	06539
ITEM62	•00661	•09627
ITEM63	•03450	02520
ITEM64	00471	•12846
ITEM65	10272	06055
ITEN66	06125	02559
ITEM67 ITEM68	•01293 -•03808	•05789 •08302
ITEM69	27146	00288
ITEM71	05530	10319
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APPENDIX E

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OBLIQUE FACTOR STRUCTURE MATRIX AFTER FOTATION WITH KAISER NORMALIZATION

DELTA =

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	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM1	09570	+07855	.14617	.01428	,08015
ITEM2	·23093	+14781	23283	.04832	13502
ITEM3	.24304	.12153	03106	06993	- 23905
ITEM4	16664	.12615	04723	36218	02450
ITEM5	01707	.26316	.10289	.02815	.11556
ITEM6	.10846	00469	.00937	•05104	•00187
ITEM7	•17197	09591	08168	12702	+06135
ITEM8	06701	.10485	·16546	.07455	.04036
ITEM9	07807	+04977	•12144	•73302	05686
ITEM10	•18622	.01776	06474	23351	•01314
ITEM11	.24297	·10676	11617	-,21924	24791
ITEM12	.31579	•04937	10785	69025	00585
ITEM13	+38467	10960	27105		10920
ITEM14	•28839	.13588	06374	08954	25344
ITEM15	.00315	+05729	00171	02014	.32173
ITEM16	.09219	.02509	02595	14434	15920
ITEM17	04430	.29670	·11578	00108	06597
ITEM18	13650	.12935	.22697	.21543	02589
ITEM19	17678	.10478	.21161	04102	04289
ITEM20	08172	.23748	•15227	+11662	•10501
JTEM21	11968	.08111	.20446	13538	.05071
ITEM22	.10552	•09648	•05936	04076	.05290
ITEM23	·18568	.03335	+00625	11091	-,05697
ITEM24	.45590	04204	31845	20401	08657
ITEM25	02260	.17081	.13117	.11198	•01500
ITEM26	-,12963	•14064	.18840	.14248	.00062
ITEM27	06565	+01462	.51923	.00601	.10242
ITEM28	.24834	.04466	12206	13455	17168
ITEM29	.36823	.00930	21722	13341	-,14438
ITEM30	.08127	.09880	.05118	19711	. 18786
ITEM31	.00519	.02446	.03225	.10769	.01505
ITEM32	.03830	05224	.02708	14907	.32557
ITEM33	.37125	.04439	19211	21348	23751
ITEM34	.80184	.00168	17163	-,20859	12200
ITEM35	.38686	07979	13829	-+22733	04108
ITEM36	18283	09297	.50502	.14719	03038
ITEM37	+06327	+24926	+23382	.05020	,25428
ITEM38	.40289	02165	17354	.02436	10721
ITEM39	.33226	.01110	06267	03071	.02192
ITEM40	.24149	.13856	12534	12891	41002
ITEM41	.1245 2	.09801	00717	·03129	61529
ITEM42	·25677	02701	.04489	-,18340	06351
ITEM43	-,16656	·17259	.71011	.04173	.06192
ITEM44	.09446	-,22893	.04952	+04519	.20126
ITEM45	-+24439	+02395	.75906	.09573	.05706
ITEM46	.41 734	04161	14541	16840	19849
ITEM47	+78442	+04958	15086	07818	12653
ITEM48	19760	.10842	+10212	+56241	.08037
ITEM49	·21671	.07614	18896	17719	27214
ITEM50	13431	+29309	+45809	+02400	+10492

	FACTOR]	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM51	07651	.06143	.121 28	.00965	.11334
ITEM52	12994	·37126	.24130	10972	.03016
ITEM53	23428	•22179	.22588	.02178	.08732
ITEM54	21094	+22328	.42088	+10265	~.00498
ITEM55	.26379	·19769	00624	01887	-,03690
ITEM56	.01119	.22572	.15607	.00746	14260
ITEM57	.31942	•07589	21200	10334	19179
ITEM58	.01557	.65004	.07931	.05528	07116
ITEM59	07057	.17377	.16383	.08605	.02676
ITEM60	.34791	.05698	14019	09639	40374
ITEM61	.35770	•03397	08613	07667	11150
ITEM62	-,09368	.08682	.05219	.20170	.04334
ITEM63	.10399	.33157	.03104	.02470	.03083
ITEM64	.01003	•07909	.09366	08625	03232
ITEM65	08066	.08103	.12544	03299/	.04076
ITEM66	.20707	05095	15885	16582	04642
ITEM67	.17528	.06150	11884	46965	19575
ITEM68	24185	.35406	.48872	.14393	.00616
ITEM69	36848	.24317	.54876	•16545	.11212
ITEM70	·11415	•19827	.17437	09770	.10178
ITEM71	.15571	•18260	04699	13059	35690
	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
ITEM1	08140	.04555	.07459	.06619	.08331
ITEM2	•09465	31367	09128	18918	15397
ITEM3	.03914	31823	07294	28105	01726
JTEM4	.26173	31657	-,05729	15846	·00118
ITEM5	•02589	05404	.35815	•24277	.23447
ITEM6	02150	03273	01981	07290	• • 02177
ITEM7	·03538	15926	09530	10883	04537
ITEM8	.15286	08695	• 34 783	.35378	00626
ITEM9	12592	.10063	·12720	.18175	•00892
ITEM10	•01563	13970	12133	07613	-+21991
ITEM11	•04589	24575	00063	22963	13685
ITEM12	01410	21689	17159	17722	29593
ITEM13	.01435	69793	13153	15330	27544
ITEM14	07035	68884	00875	07228	
ITEM15	.07033	.00970	·22867	•24993	.01573
ITEM16	06913	17052	05125	16419	11850
ITEM17	13358	01083	•33215	.13879	.05591
ITEM18	07726	·16542	.14110	.03711	•18554
ITEM19	06994	06136	•35277	.05488	.18804
ITEM20	03025	07060	+33749	.17034	.14135
ITEM21	01628	04478	+26264	·26932	05033
ITEM22	15333	-:04179	•11774	05445	.04840
ITEM23	01958	12670	09363	70256	17355
ITEM24	•06205	39086	09773	-,15460	35976
ITEM25	09905	.07103	.76110	12993	.03219
ITEM26	06494	···• 01177	•74653	• 30769 [.]	.15030
ITEM27	.11135	+02821	.05156	.12136	.12822
ITEM28	08101	03991	.00381	28839	27577
ITEM29	.01351	23313	10139	21457	20373
ITEM30	•4278 0	07195	+03458	10808	07588

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	FACTOR 6	FACTOR 7	FACTOR8	FACTOR 9	FACTOR 10
ITEM31	01886	•08891	.19150	. 12842	.05867
ITEM32	.05599	.05027	-,02918	.01619	.05568
ITEM33	.18463	31863	03040	09616	-,27866
ITEM34	03625	32483	00134	12968	20190
ITEM35	.14482	53181	06326	21140	-,10057
ITEM36	07376	.08402	.30502	.17011	.17987
ITEM37	22244	.12699	.21788	.17792	.06244
ITEM38	00943	06012	26056	17713	18597
ITEM39	.16269	12075	04105	11241	10687
ITEM40	21670	49370	03633	09008	11064
ITEM41	03241	19627	.05449	03376	04711
ITEM42	.02832	10837	.05153	24973	03422
ITEM43	+00507	.15843	.22334	00277	.16456
ITEM44	•08435	04548	07210	•08222	03177
ITEM45	02138	•05651	.131 20	+02127	.16884
ITEM46	.17893	21583	14908	50555	19371
ITEM47	09020	34906	03255	18916	13481
ITEM48	16594	·17907	.20466	.15912	.12915
ITEM49	01160	16533	16203	13950	18849
ITEM50	02832	.00793	.1 3876	.16255	.04853
ITEM51	02582	·02660	.23784	•16936	.05126
ITEM52	01757	12807	.22778	·05678	.07319
ITEM53	05098	08618	.31739	.26985	03214
ITEM54	08509	05087	.28226	•09973	·28856
ITEM55	60752	19952	.18051	01897	.01012
ITEM56	19913	.07643	•24277	.19047	01812
ITEM57	.13414	19234	.00702	07786	`19970
ITEM58	03947	09974	+22405	•07596	.09331
ITEM59	12248	.03381	.20322	.12892	.19545
ITEM60	04722	23229	01618	23846	08458
ITEM61	14414	23538	02747	15330	04982
ITEM62	14584	.01921	•24929	•71981	.06653
ITEM63	57529	08830	<u>،22478</u>	.08204	03243
ITEM64	02708	04677	03372	.00730	.01556
ITEM65	0537.0	04841	.10422	•08107	•64449
ITEM66	.07506	24553	08360	20377	60202
ITEM67	00123	39708	05830	12856	42071
ITEM68	11757	.07860	. 13398	.11389	.11152
ITEM69	08397	•03689	.1 5785	.14185	.36005
ITEM70	18432	02450	.09747	•23698	00004
ITEM71	01181	39176	.00359	.08730	24434

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	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15
ITEM1	06011	02382	.17297	03487	.42228
ITEM2	01301	00394	17495	.22359	15925
ITEM3	04606	.06212	08809	.17502	21736
ITEM4	03579	.22597	05309	.20145	18921
ITEM5	16382	.12237	.27965	.02354	.29422
ITEM6	.11318	.05343	.01466	.01877	.03377
ITEM7	.69980	.14126	17119	.09942	-,04449
ITEMB	24756	00443	.27925	07024	.05486
ITEM9	05748	-,12819	.14856	17601	~.03054
ITEM10	.10666	•07896	07501	.85022	.03453
ITEM11	03486	.21507	08630	•70123	10253
ITEM12	.23772	.13905	06494	• 59064	.13090
ITEM13	.31851	.09502	-,15618	.43238	-,15000
ITEM14	.07993	.14214	11732	.18647	03492
ITEM15	•09651	02706	. 19121	03306	04395
ITEM16	+26310	•53455	06430	+11073	.04221
ITEM17	07865	.12721	.15135	00046	.03537
ITEM18	00234	.13194	. 45418	10042	.12594
ITEM19	21955	•19256	·26505	00628	.10538
ITEM20	16975	08486	.20989	11802	.1031 9
ITEM21	22824	11207	.26161	03475	10285
ITEM22	.11527	.06080	•09028	01855	+08987
ITEM23	.14132	.16983	07461	.17179	05958
ITEM24	•31176 E	08505	09624	•34751	01473
ITEM25	05291	04428	.27176	09210	.04916
ITEM26	21908	01467	.31825	11094	.05110
ITEM27	26096	·14995	.16838	.07570	00930
ITEM28	•03578	•23038	02901	•30333	03357
ITEM29	.12604	.11900	03531	•35965	.04292
ITEM30	05415	.07246	05800	.10042	18027
ITEM31	12777	.03540	•54478	01005	.21772
ITEM32	•11526	•12298	.06559	•03992	.38917
ITEM33	•08320	.20977	04824	.34186	19950
ITEM34	.20064	•05439	07097	+30247	03084
ITEM35	.12372	+14396	12883	.34028	07460
ITEM36	23065	.05048	.22423	-+22269	.28363
ITEM37	04986	07106	.23710	09267	.29650
ITEM38	•25578	01155	14133	.28410	.02887
ITEM39	•25282 0775/	.08778	06447	.20295	11638
ITEM40	.23756	.01453	16458	.11809	02389
ITEM41	06544	.13918	-+01936	•13465	13285 .09463
ITEM42	+11922	• 47648	02864	.08929	
ITEM43 ITEM44	09626 .09632	•09490 •15480	•20895 •0 47 06	-,11960	•06264 -•07039
				.03008	
ITEM45 ITEM46	09093 .12434	•02173 •17586	•11981 -•20760	-,15287 ,38582	•14910 -•18604
ITEM47	•12434 •07671	•13901	20780		18804
TTEM48	14915	05902	•21231	<u></u>	.20292
ITEM49	•18631	-:03702 -22351	•21231 -•13912	.25309	.06737
ITEM50	15987	.14392	•23531	06977	05378
I LUOV	+10707	♦ I ~ Q Z ~	+ 7000 T	-+ V07//	

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	FALTOR II	FACTOR 12	FACTOR 13	FACTUR 14	FACTOR 15
ITEM51	10903	.02656	.62580	11613	00276
ITEM52	-,16748	.12046	.21189	·07918	• 00574
ITEM53	22759	.00822	.50419	00207	.05812
ITEM54	21371	.14138	.17899	05518	.12775
ITEM55	.00594	15869	.03107	.13323	08268
ITEM56	.00622	.08003	.13794	00154	.16312
ITEM57	.18008	•09644	02231	.27749	22728
ITEM58	10203	.1 0175	.14819	.08847	+04866
ITEM59	17887	.04777	.23952	04403	.03388 10438
ITEM60	.20564	.25021	16088	.35585	.00225
ITEM61	. 12238	.13333	13220	•20074 -•13565	.03250
ITEM62	04038	01112 .	.28107		-,01746
. ITEM63	16319	.20087	.13692		
ITEM64	04779	•52046	.12620	.21186	05818
ITEM65	.04581	-+01789	.08033	08994	.08243
ITEM66	.27564	01713	14416	•27827	06174
ITEM67	.18146	.09586	14685	.50092	+00065
· ITEM68	13632	•07765 00505	.22966	11588	+05828
ITEM69 ITEM70	06656	•09505 -•19449	•19547 •19845	15212	+03694
ITEM71	05002 09816	•15794	.03552	•01536 •32264	•01130 -•25245
ILIVI					
	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
ITEM1	00586	·0697 4	•06799	06694	.03375
ITEM2	21328	06612	.•20098	.14444	.03831
ITEM3	48942	13917	.11331	.15193	•21491
ITEM4	22813	•01093	04536	.14455	.21510
ITEM5	11181	.15458	.12979	16697	.15250
ITEM6	16914	04945	00731	02585	. 48791
ITEM7	17866	14799	07145	00715	.19958
ITEMB	03988	.25242	01781	49089	.11684
ITEM9 ITEM10	.00003 14788	•05563 •04660	•07145 •01348	11725 .08252	•04003 •08921
ITEM11	13321	03341	.05780	.08252	•04476
ITEM12	07188	•01454	03202	.02450	+05048
ITEM13	21173	10374	08191	.13104	·13728
ITEM14	18615	.00728	.10385	04899	.05490
ITEM15	04777	16574	.07783	19915	.22628
ITEM16	10919	06131	.03584	.13024	.00212
ITEM17	02170	.10037	.08323	12451	.25707
ITEM18	•06789	.17257	.05119	13059	+07323
ITEM19	09556	.22577	.03219	09270	+05279
ITEM20	•02078	.27365	04670	50001	.14369
ITEM21	•03255	.43791	.26754	30315	•01170
ITEM22	13849	.18128	.00695	35610	.11561
ITEM23	21526	02166	.00523	.07505	.13767
ITEM24	30751	04218	00870	•289-66	•38874
ITEM25	.03343	.15563	+02635	15456	.04119
ITEM26	.09593	+24480	.11520	-,28340	01996
- ITEM27	-+01652	.37451	00581	11040	•01688
ITEM28	10630	.10697	+17874	•13975	.26299
ITEM29	-,24315	09084	+19796	.16730	.10343
ITEM30	00916	06293	01480	.01437	.11861

	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
ITEM31	•06204	•10293	15686	07241	.00159
ITEM32	.06309	.03329	30874	08078	.12896
ITEM33	21296	02939	13064	01578	.16249
ITEM34	33285	.00825	.02400	.02467	.20414
ITEM35	12454	03154	00596	.01936	.23898
ITEM36	.04839	.09431	04580	26896	.07545
ITEM37	04567	.22652	00992	10350	.08098
ITEM38	61036	16500	.13319	.07491	.23688
ITEM39	53781	02107	.01923	01615	.25890
ITEM40	05928	03731	.02243	.01163	.14254
ITEM41	13904	.00389	.07437	.00837	.05848
ITEM42	41217	02165	07634	.05574	.22910
ITEM43	.07171	.17264	.01336	25949	.01902
ITEM44	10042	.07292	07180	04844	.14920
ITEM45	00862	.12383	04003	07242	.01456
ITEM46	42647	10693	17860	•04024	.28996
ITEN47	40632	02395	03074	07082	.21488
ITEM48	00880	.17249	08450	.03300	.03178
ITEM49	04595	09510	·00679	03842	.00672
ITEM50	00087	·27720	09446	13090	.17846
ITEM51	.01364	17977	+13421	10320	.06737
ITEM52	•02085	.40572	•33368	-,29662	.18146
ITEM53	.05991	.41062	+13441	-+33266	+02060
ITEM54	05905	.32044	28175	21531	.10798
ITEM55	17666	.06165	·02003	16794	.24731
ITEM56	.01347	.10477	.28699	27005	.11491
ITEM57	13429	09373	.11130	•04503	.16622
ITEM58	07776	·23944	.13114	20937	•08769
ITEM59	.05800	•76093	.01020	18218	06402
ITEM60	46578	10453	.03220	.04432	. 17674
ITEM61	54438	•02869	08192	05345	.22176
ITEM62	.02228	22286		13327	•00786
ITEM63	•02226	•33234	•04606	22237	.1 7849
ITEM64	00884	.1 3013	02139	11553	.10605
ITEM65	07008	.14969	05950	05234	.10675
ΙΤΕΜ66	20443	08764	•02939	.1 5770	.17450
ITEM67	08415	05968	•06062	03266	•09891
ITEM68	07508	.16401	02900	29418	02071
ITEM69	10040	.24710	12273	17140	15483
ITEM70	11665	·40655	.17135	17540	.04579
ITEM71	14009	.03130	.01991	12209	12531

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	FACTOR 21	FACTOR 22
ITEM1	.01091	02034
ITEM2	04086	.16356
ITEM3	14213	+04846
ITEM4	10565	.02573
ITEM5	09207	+04995
ITEM6	076 58	.01617
ITEM7	11646	.03558
ITEM8	.12822	25908
ITEM9	06380	04636
ITEM10	15363	•04802
ITEM11	05893	•16501
ITEM12	18241	.18016
ITEM13	05625	+06320
ITEM14	12810	.16349
ITEM15	•03667	21220
ITEM16 ITEM17	22922 14240	.17217
ITEM18	05058	•15861 -•02481
ITEM18	05832	.41818
ITEM20	•14715	18042
ITEM21	•09973	14388
ITEM22	08785	.17820
ITEM23	15070	05717 -
ITEM24	01102	•04429
ITEM25	.08045	03546
ITEM26	.08506	• 06984
ITEM27	08363	00686
ITEM28	35600	.07707
ITEM29	44654	•16794
ITEM30	00331	+05634
ITEM31	•00696	01567
ITEM32	16127	00822
ITEM33	08237	.02797
ITEM34	17810	.11085
ITEM35	18957	•09526
ITEM36	+15199	.14239 05528
ITEM37 ITEM38	02578 23746	03528 .07005
ITEM39	25330	.05117
ITEM40	36213	.16532
ITEM41	04767	.15547
ITEM42	14783	.12529
ITEM43	06414 .	02487
ITEM44	20521	01927
ITEM45	.05632	01049
ITEM46	-+20458	.12358
ITEM47	14928	.06198
-ITEM48		11713 -
ITEM49	10919	•44722
ITEM50	18405	.22420

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FACTOR 21 FACTOR 22

ITEM51	.01260	.04159	
ITEM52	•04998	·03258	
ITEM53	.21622	20927	
ITEM54	.02435	.11724	
ITEN55	09388	·17229	
ITEM56	03737	.20636	
ITEM57	05164	·26453	
ITEM58	03672	,11511	
ITEM59	.00784	.02287	
ITEM60	19877	.30796	
ITEM61	01576	.13199	
ITEM62	02844	07865	
ITEM63	-,09772	00701	
ITEM64	05559	.15007	
ITEM65	.00972	.00754	
ITEM66	10771	02349	
ITEM67	27509	·22352	
ITEM68	24225	· .08097	
ITEM69	10400	.14680	
ITEM70	16173	11964	
ITEM71	.01131	.18430	
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APPENDIX F

FACTOR LOADINGS OBLIRGE ROTATION

DELTA = .250

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM1	06853	.05565	.08341	00387	+03785
ITEM2	.06014	·20258	15236	.17406	.06457
Ì ITEM3	.03978	.07601	.04882	04314	11514
ITEM4	.02243	.13613	01157	32150	.02109
ITEM5	00770	.18666	04913	.00859	.12498
ITEM6	01570	02410	•01239	.06659	03144
ITEM7	.01036	02434	.02520	00909	.07840
ITEM8	00713	.02250	.03645	00968	06272
ITEM9	00305	•01714	•07476	•73852	02154
ITEM10	07002	02624	.06198	.01349	.09213
ITEM11	.01687	• 05989	01353	02053	10387
ITEM12	.11570	•01903	.03355	52450	.02285
ITEM13	.06312	13638	07989	19965	.03149
ITEM14	.10119	.07150	.03817	.05246	06347
ITEM15	+00197	.03106	08260	05075	.26601
ITEM16	05137	.02003	.00074	04940	05957
ITEM17	07803	.16279	•01789	02821	06258
ITEM18	03053	.07106	.10441	.15997	09144
ITEM19	20611	06870	.03589	07283	00176
ITEM20	03094	.14440	.00237	.05661	+02738
ITEM21	03855	02929	.08671	.10904	+04436
ITEM22	.05729	.00551	02470	02671	.05650
ITEM23	01284	.01791	+06722	.01031 -	.04714
ITEM24	.17692	.00123	13619	06758	03634
ITEM25	.05526	.01326	.03341	•04637	01256
ITEM26	01761	04736	•02936	•06936	.00061
ITEM27	.10435	07986	.50588	01024	+03537
ITEM28	.05550	03295	08731	02402	11200
ITEM29	.14844	01556	12876	•02977	.00822
ITEM30	•08969	.1 9175	.10420	14452	.21310
ITEM31	.07828	03652	07877	•05592	06701
ITEM32	•05424	02625	01502	08592	.23310
ITEM33	+19272	•05384	08708	11596	19589
ITEM34	.73012	01482	•04596	09674	04666
ITEM35	+17565	09434	00856	03391	+09145
ITEM36	00815	21785	.44199	.04897	11583
ITEM37	.19146	.1 6766	.1834 9	00728	.17877
ITEM38	.16606	•01858	06186	.10988	03148
ITEM39	.14913	.02344	00925	.04175	.07044
ITEM40	.04336	.03276	02792	02117	32475
ITEM41	•05497	+03091	•03973	.02417	-,58746
ITEM42	.10762	05534	.05102	15498	03456
ITEM43	.07813	.06506	.71193	02034	02098
ITEM44	.05315	25221	•04682	•09598	.19434
ITEM45	03512	07007	- • 8 0767	•03266	02432
ITEM46	•14178	03276	03014	02569	12884
ITEM47	.69137	.01302	•02967	.02226	01938

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	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM48	09049	.10635	03192	• 46828	•01944
ITEM49	•06783	•11745	12624	04438	16470
ITEM50	03681	•16229	.38523	01214	+06393
ITEM51	+00399	04424	01262	-+08975	•08797
ITEM52	12494	•26759	.12085	11718	.05330
ITEM53	18276	.09050	.06563	05920	.02268
ITEM54	15463	•06816	.27843	+05247	09297
ITEM55	.12084	04354	01264	.00785	.05995
ITEM56	•05849	.13070	.10897	02128	13394
ITEM57	.19097	+11287	11040	+00040	07777
ITEM58	.01886	•61619	02419	.06717	01643
ITEM59	•05731	•04845	02324	•03641	-+07484
ITEM60	.09133	•00730	06064	•00862	28809
ITEM61	.14430	02614	04276	03366	06033
ITEM62	•01704	01172	05741	•09593	04422
ITEM63	•04317	•09407	07344	•01824	•05738
ITEM64	04672	•03050	+03573	03073	+00422
ITEM65	01307	•02592	.01577	10199	03358
ITEM66	06030	02731	.00016	02444	+02407
ITEM67	12699	01980	.00006	28226	08709
ITEM68	15031	•21403	•37888	•08743	02253
ITEM69	24172	•11678	.41108	.10562	.08703
ITEM70	11649	•03770 •10544	•07598 •01923	-•16345 -•06648	•02653 -•23578
ITEM71	•03786	• • • • • • •			
	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
ITEM1	.03105	05003	02749	.01010	•01873
ITEM2	.06168	25785	03177	10175	06046
ITEM3	04407	18187	04834	16338	•06799
ITEM4	.10324	16819	03994	03685	.07210
ITEM5	.05712	09125	.21344	. 18243	. 18786
ITEM6	06553	•00799	08480	03473	،03645
ITEM7	•07974	10523	•02566	00350	.05509
ITEMB	•11096	05647	·16555	·20521	09813
ITEM9	02766	05537	•04799	•06494	08110
ITEM10	04480	•05823	00645	.04601	01970
ITEM11	04601	02838	•09236	12425	.05736
ITEM12	05979	00563	10812	03121	12115
ITEM13	07899	56935	01872	00040	08437
ITEM14	07061	69111	03405	.00920	.00816
ITEM15	00248	.02983	+15265	+16646	00076
ITEM16	03658	13238	.00710	03559	08085 .00796
ITEM17	15301	.02917	+21656	•10836 -•10101	.12107
ITEM18 ITEM19	•01829	.08137	03155	-+ TATAT	• * * * * ^ / / /
		- 04075	74707	- 07070	. 08944
ITEM20	02311 06658	06275 07840	•24793 •14911	02839 02798	.08966 .05331

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	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
ITEM21	01718	06130	.09745	.11905	12619
ITEM22	12329	00098	.02169	-,13704	.03319
ITEM23	06996	05706	.01315	71849	12079
JTEM24	.06169	23365	01165	.00802	21651
ITEM25	05455	.08341	•78026	04483	05043
ITEM26	01338	05860	.68096	.10918	.05076
ITEM27	•09179	•01485	06877	•07778	.05105
ITEM28	08989	.06929	.07016	21476	17660
ITEM29	•04780	18754	00208	08739	04693
ITEM30	.26303	00561	.07622	07288	07056
ITEM31	.03571	•04794	•04996	•00523	.00900
ITEM32	.03840	.00586	04662	.01624	.02841
ITEM33	.08120	09423	.01115	.03190	15907
ITEM34	05954	15053	.04350	.02581	02192
ITEM35	+04326	48926	.00849	11635	+05465
ITEM36	•00574	02200	.15059	.05259	.00934
ITEM37	18121	.09376	.06952	•09648	03404
ITEM38	.03739	.10450	20089	00203	06092
ITEM39	•14247	.04225	.02272	00121	02922
ITEM40	13551	48898	01841	.01068	.00112
ITEM41	•05733	07298	.02685	•05700	.01475
ITEM42	00438	•03668	.08524	12852	02475
ITEM43	.01742	•09136	+09494	12551	.03014
ITEM44	.02642	06576	06645	.10299	02518
ITEM45	.04058	05897	.03307	05278	.00208
ITEM46	.06355	•02938	01247	37232	05746
ITEM47	20037	16132	03176	05830	.02644
ITEM48	06164	•05734	.08292	.02852	04622
ITEM49	.04341	05885	14905	00889	10122
ITEM50	08824	.00843	06388	.10966	09755
ITEM51	01424	02878	.03396	·00852	01687
ITEM52	03454	10710	•01419	06616	.03255
ITEM53	04943	09415	•06923	+05236	13600
ITEM54	08225	03912	.12233	00297	.14323
ITEM55	74214	08084	.07002	02012	.05930
ITEM56	09874	.09325	•09412	·15699	04857
ITEM57	•09770	04162	•04555	•02865	07467
ITEM58	03795	02673	•03455	.02602	.06083
ITEM59	+00818	•03936	•04501	03046	+12461
ITEM60	01337	00489	•06979	06370	•05505
ITEM61	16984	02438	02539	04059	.01387
ITEM62	07110	01407	•07662	•69737	00507
ITEM63	68990	01259	•03971	00007	05044
ITEM64	13128	+05211	14353	•04771	.03043
TTEM65	00082	09129	•02268	•04968	.67351
ITEM66	+05905	12902	•05565	10676	54715
ITEM67	03053	25039	•02647	00815	28847
ITEM68	09819	•03521	05395	· 00780	03711
ITEM69	02261	04582	•02485	.03119	+19751
ITEM70	12059	00669	04504	.14434	03638
ITEM71	07315				17450
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ITEM1 06148 00932 .10148 .01847 .324 ITEM2 10991 02923 08822 .07968 133 ITEM3 15787 01603 .02973 .00096 194 ITEM3 11850 .15084 .00929 01319 097 ITEM5 14160 .11070 .09362 .066704 .197 ITEM5 12894 .15119 08254 .03186 027 ITEM6 12894 01573 .07585 04544 .056 ITEM7 .02721 06671 .02110 .67744 .058 ITEM10 .05371 07337 04422 .92416 .087 ITEM12 .13143 01658 .05947 .38337 .193 ITEM13 .20098 00242 .04497 .18115 .017 ITEM14 .01053 .07315 05543 .00479 .00337 00239 ITEM14 .01053 .07315 02389 .00359 .0031 .00239 .00239 .00239 </th <th>15</th>	15
ITEM2 10991 02923 08822 .07968 131 ITEM3 15787 01603 .02973 .00096 192 ITEM4 18578 01603 .02973 .00096 192 ITEM4 18578 0170 .0032 .06704 .192 ITEM5 14160 .11070 .09362 .06704 .192 ITEM5 14160 .11070 .09362 .06704 .192 ITEM5 14160 .11070 .09362 .06704 .0318 ITEM5 14160 .11070 .09362 .06704 .0318 ITEM1 .06703 .07337 .04622 .04544 .056 ITEM10 .05371 07337 -04622 .92416 .0877 ITEM13 .20098 00242 .04497 .18115 017 ITEM13 .20098 00242 .04497 .18115 017 ITEM14 .01035 .07315 05543 04498 .018 ITEM14 .01053 .07315 <	43
ITEM3 15787 01603 .02973 .00094 194 ITEM4 10850 .15084 .00929 01319 097 ITEM5 14160 .11070 .09362 .06704 .194 ITEM5 14160 .11070 .09362 .06704 .197 ITEM5 14160 .11070 .09362 .06704 .194 ITEM5 12894 01573 .07585 04544 .0564 ITEM9 .02291 09213 .04208 .01190 0664 ITEM10 .05371 07337 04622 .92416 .087 ITEM11 07327 .05671 02110 .67474 056 ITEM13 .20098 00242 .04497 .18115 017 ITEM14 .01053 .07315 05553 04498 .018 ITEM17 03262 .05488 00057 00359 0021 ITEM18 .11538 .10039 .41557 .00239 .0033 ITEM19 .16117 .06182 <td></td>	
ITEM4 10850 .15084 .00929 01319 097 ITEM5 14160 .11070 .09362 .06704 .197 ITEM5 01707 .01317 .01763 01707 .033 ITEM6 .04708 01917 .01763 01707 .033 ITEM9 .65731 .15119 08254 .03186 024 ITEM9 .02291 09213 .04208 .01190 0664 ITEM10 .05371 07337 04622 .92416 .087 ITEM11 07327 .05671 02110 .67474 058 ITEM12 .13143 01658 .05947 .38337 .193 ITEM13 .20098 00242 .04497 .18115 017 ITEM13 .20098 00238 .06922 .00321 094 ITEM14 .01053 .07315 05563 04498 .018 ITEM14 .11538 .10039 .41557 .00239 .0033 ITEM17 03262 .05481	
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ITEM4200011 .449930299010610 .121	
ITEM43 .06974 .01985 .0365000339045	
ITEM44 .04009 .13488 .02620 .00782035	52 ·
ITEM45 .04765021630331400762 .040	
ITEM4602302 .0166605489 .17539013	
ITEM4706337 .02183 .0132100150022	

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	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15
ITEM48	03903	+03624	.06513	13677	•16728
ITEM49	•09726	.13418	03438	.06842	.1 1079
ITEM50	04934	.01086	•07933	08174	04027
ITEM51	01846	02563	•63494	11438	16322
ITEM52	05231	.03695	•03833	.04523	13164
ITEM53	03537	02263	•35728	•05619	04965
ITEM54	05451	.02460	02376	.04847	17289
ITEM55	-,00151	·01909	00863	+08281	09969
ITEM56	• 05331	.04 035	00938	00475	·00 3 53
ITEM57	•12622	•00893	•07766	.12269	21325
ITEM58	.00529	.04086	.01015	.04172	.03230
ITEM59	01404	01502	•01991	03555	•02603
ITEM60	•09560	.14109	07944	18958	06371
ITEM61	.02572	•05028	10587	•04287	.05615
ITEM62	•06531	•05539	•07477	04526	00855
ITEM63	10350	.10740	01505	•02182	00393
ITEM64	02448	.44450	.08810	.16887	06046
ITEM65	.12318	06053	.01680	.03156	•00468
ITEM66	.15816	03694	04347	.07685	•04778
ITEM67	•07326	04440	06127	.28741	.09322
ITEM68	00991	.00150	.08591	04940	•02793
ITEM69	.11695	•04725	.03218	.01394	01969
ITEM70	.02421	24407	•06668	•00900	04621
ITEM71	06289	+05568	•09347	•16598	18035

	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
ITEM1	05453	01414	•21745	.00491	.02531
ITEM2	11185	.02044	.06200	• 083 87	01413
ITEM3	38516	14396	03577	.08561	.10665
ITEM4	11030	•01761	17270	.07800	.13903
ITEM5	11682	03303	.1 3074	04614	.05440
ITEM6	06446	06815	•01047	02598	.49052
ITEM7	06726	06574	00349	01817	.09321
ITEM8	07198	•04969	02617	45679	.06584
ITEM9	00341	01187	01563	04328	•06384
ITEM10	04776	.01740	•00868	.07129	00102
ITEM11	•01389	05147	.00225	02250	04962
ITEM12	+03324	•02891	•04998	•01631	07849
ITEM13	01145	05040	10188	.06146	00087
ITEM14	00578	01255	•05453	04166	-,08111
ITEM15	04635	•04580	+02641	12348	.15623
ITEM16	02747	02293	•04952	.13024	10817

		FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
ITEM17		•01996	05021	01283	.01243	.20778
ITEM18		•06985	•04096	.05596	00833	.05770
ITEM19		11293	•10241	00465	•04252	.00542
ITEM20		•02502	•08292	-+02964	42307	+08648
ITEM21		.01808	.30134	•16971	17693	02180
ITEM22		10209	•11340	+05639	28895	00382
ITEM23		07883	•05587	02026	00932	•01931
ITEM24		12719	•10197	~.02522	•25700	•31730
ITEM25		.02920	•00004	04036	+02855	07473
ITEM26		•06666	•04241	•04157	08799	09604
ITEM27		.01147	•25786	02620	• 0 03 79	00714
ITEM28		.01879	.17659	.06840	.12363	+19123
ITEM29		13225	03194	•10931	.10736	02953
ITEM30		.06710	06599	12014	04493	•09910
ITEM31		.04131	03306	11605	00434	03585
ITEM32		.08552	00353	12557	09404	•07292
ITEM33		06251	.00720	21498	10967	.05525
ITEM34		10455	.06824	.03571	.05130	01773
ITEM35		•10293	.00532	03727	05703	12855
ITEM36		.01955	07378	.13316	12927	.10711
ITEM37		06286	•06973	.05740	•09621	02099
ITEM38			08622	•13627	00869	.10174
ITEM39		46091	•01068	06314	06873	.08704
			•00620	05584	•01718	•06767
ITEM40		.10057		00648	.00324	•06427
ITEM41 ITEM42		05771	•04445	01100	.03092	•06378
		32050	00882			
ITEM43		•09146	03663	•04025	08510	02969
ITEM44		05593	+05690	08647	06994	•09559
ITEM45		01073	03481	•06260	•09884	•01991
ITEM46		24834	•00496	23568	13236	•16280
ITEM47		16970	02326	04220	07854	02862
ITEM48		07704	•12650	03823	•14643	.07828
ITEM49		•04705	•00222	•05871	07699	02809
ITEM50		.04015	.09343	21270	.04875	.14312
ITEM51		01242	00825	• 05595	•03981	•01838
ITEM52		.07300	•24932	•24565	14101	.13917
ITEM53	•	.01276	.17147	.09143	17812	02074
ITEM54		04263	.15207	25961	07531	•06943
ITEM55		04484	12338	01322	00178	•07378
ITEM56		.02018	01722	.31751	10259	•07670
ITEM57		.00728	03467	00335	.03317	.10629
ITEM58		02161	•09650	.00082	06795	01448
ITEM59		05515 ،	•76605	04713	00678	09884 .
ITEM60		-,33813	03427	01454	+00179	.03516
ITEM61		45411	• 04578	03571	06331	+05246 :
ITEM62		06211	•06402	02589	•04647	00722 .
ITEM63		.10534	.13581	02879	03182	.04719
ITEM64		.07451	•03563	02699	07709	·05062 ·
ITEM65		04894	.09315	01393	•03921	•09206 ·
ITEM66		12369	.01024	02480	•08338	.10352
ITEM67						
		+02098	05653	•01614	08034	
ITEM68		12501	07322	10713	15971	09708
ITEM69		17598	.05365	16339	00006	22181
ITEM70			+28478	06571	03213	01795
ITEM71		06904	04345	11034	11791	21542

موادر مواري والمردي والمرجوع المرد المرد والم

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يراد بالاستروبين والمراجع المراجع المراجع

	FACTOR 21	FACTOR 22
ITEM1	.01099	02112
ITEM2	.01555	.10957
ITEM3	05072	08205
ITEM4	00635	06924
ITEM5	09547	.01117
ITEM6	.00743	•00097
ITEM7	.02876	01585
ITEM8	•06983	22537
ITEM9	08786	00210
ITEM10	01563	04033
ITEM11	•03769	.00816
ITEM12	03915	•07987
ITEM13	.14451	03902
ITEM14	.01000	•01947
ITEM15	.02133	14643
ITEM16	09073	.00911
ITEM17	13073	.09499
ITEM18	05506	05326
ITEM19	00510	.40722
ITEM20	• 09962	14875
ITEM21	.05350	11366
ITEM22	02831	.18196
ITEM23	04722	03736
ITEM24	.16479	.01541
ITEM25	00124	04436
ITEM26	01646	.08482 01141
ITEM27	03357 29967	02746
ITEM28 ITEM29	36597	•05711
ITEM30	•01031	•06374
ITEM31	.00326	00010
ITEM32	07018	.02020
ITEM33	+03774	07680
ITEM34	-+02915	.01221
ITEM35	05147	•00945
ITEM36	.15706	•16776
ITEM37	.00371	03755
ITEM38	10591	.01035
ITEM39	12300	.01003
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ITEM40	27479	•01373
ITEM41	02313	.00835
ITEM42	.02065	00089
ITEM43	06989	07808
ITEM44	-•11807	•01975
ITEM45	.10578	03656
ITEM46	04326	.02065
ITEM47	.01403	06064
ITEM48	•23668	04654
ITEM49	.00962	.36418
ITEM50	08637	.21614
ITEM51	.00112	.08475
ITEM52	.03570	00787
ITEM53	.18261	18383
ITEM54	.11325	.08722
ITEM55	.03751	.06533
ITEM56	05879	.15592
ITEM57	•02864	.20646
ITEM58	01653	.01576
ITEM59	.01151	.07342
ITEM60	04545	.14537
ITEM61	·16606	•05686
ITEM62	04448	03673
ITEM63	03414	08817
ITEM64	•06667	•05206
ITEM65	•01159	02115
ITEM66	.00819	04658
ITEM67	16316	.11356
ITEM68	21935	.02633
ITEM69	-+04343	.12620
ITEM70	18465	08611
ITEM71	.10043	•06753

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والمرجع والمراجع فيتحمد والمراجع والمحموم ومراجع محمد والمحم

APPENDIX G

DELTA = +500

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OBLIQUE FACTOR STRUCTURE MATRIX AFTER ROTATION WITH KAISER NORMALIZATION

	1000				
	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM1	03351	.17697	•21772	.08295	.14260
ITEM2	.29000	19226	33549	. 18384	•02388
ITEM3	.53271	11208	15076	04515	12206
ITEM4	.33004	01892	13842	44896	02819
ITEMS	.11334	.36837	•22477	.07362	·12699
ITEM6	•19552	.00322	02035	.03934	-,00867
ITEM7	.30562	21792	18301	12886	.11416
ITEM8	03426	.73991	•29142	.02380	.00988
ITEM9	07535	.17525	.20479	.79398	07813
ITEM10	.27062	16676	19211	15818	.05813
ITEM11	.27729	09450	22720	16710	21577
ITEM12	.26759	24509	24405	61143	.00255
ITEM13	.39554	23491	-,42018	39552	.00917
ITEN14	.28610	.00037	12537	05268	18557
ITEM15	.03592	.33937	.07774	06806	•39344
ITEM16	.23810	22443	07931	16193	21241
ITEM17	00744	.19054	.17528	•04297	18675
ITEM18	15052	•23683	.35808	.26849	13757
ITEM19	.01894	.12239	.30498	06054	09618
ITEM20	12735	.70058	.27835	•14952	.05102
ITEM21	11406	•52172	.32054	.14612	.05002
ITEM22	.17562	.18441	•09212	01747	.06655
ITEM23	.30108	20228	11581	10124	05101
ITEM24	.49015	30530	45552	21451	.02331
ITEM25	07927	.32457	·25840	•09426	02289
ITEM26	18754	.46013	•36186	+13237	04164
ITEM27	02119	.23993	•56883	02212	.06243
ITEM28	25783	22153	20027	09035	25886
ITEM29	• 42334	33294	32843	01105	08690
TTEM30	.07143	.00424	.00015	27407 -	
ITEM31	07291	.1955 5	.15498	•09639	02243
ITEM32	+02758	•04378	•05729	15579	.28158
ITEM33	• 40139	.01458	28932	26229	30995
ITEM34	• 6 0406	22429	27939	-,24508	09113
ITEM35	.31559	11665	24474	22180	•04683
ITEM36	14212	.32106	•59763	•05779	02386
ITEM37	.02537	.13341	•35502	.05356	•21927
ITEM38	•69808	28852	29917	+07482	02324
ITEM39	•67190	10712	14680	02252	•03375
ITEM40	•18786	17399	20232	03121	40202

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	FACTORI	FACTOR 2	FRETOR 3	FASTUR 4	FRETOR5
ITEM41	.18277	00994	03859	.04140	70268
ITEM42	.56246	10232	00049	-,30278	05847
ITEM43	14593	.30150	.73006	.03349	00357
ITEM44	.20016	00054	•04664	.05962	+32028
ITEM45	12662	.1814 2	.72954	.05534	+03668
ITEM46	•58937 -	22533	30422	17355	17156
ITEM47	.64070	11384	24230	12495	-10129
ITEM48	12876	.22300	.24591	•56885	+06697
ITEM49	.18415	27724	26554	13938	-,35738
ITEM50	06078	.1 7067	•52362	.04040	03057
ITEM51	06410	•22678	.24955	06762	.12391
ITEM52	09366	.44740	.3169 8	07362	.04061
ITEM53	20778	.63143	.36948	·00813 ·	.08442
ITEM54	06745	•37364	•52383	•11264	13909
ITEM55	·23915	· 014 07	•01191	•00776	08832
ITEM56	01289	.15851	•23794	.01132	21074
ITEM57	•28852	25971	28925	10929	19017
ITEM58	.05525	•32833	.15747	•19149	16430
ITEM59	12960	.33040	.32291	.10591	07762
ITEM60	• 59889	23484	25285	05951	37488
ITEM61	• 6 5568	04980	15088	10130	00726
ITEM62	09518	.30522	.20536	.19679	02851
ITEM63	00207	.23908	.12924	.06430	09049
ITEM64	.08408	.11617	•12021	13171	06565
ITEM65	00025	.12808	.21015	00345	.04358
ITEM66	•31884	22636	31245	15496	.04117
ITEM67	.22190	16967	25905	38848	16779
ITEM68	07119	.33949	•57093	.24474	13054
ITEM69	11337	•24767	•63722	.22817	•02180
ITEM70	•00759	•26609	•23467	02060	•08474
ITEM71	•18945	•09238	08577	10982	37274
	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
ITEM1	01975	11156	.01171	•098 62	.04928
ITEM2	.10050	1855 8	.05123	22768	.13782
ITEM3	01837	•05584	06177	33510	.11796
ITEM4	•08429	•05470	.03351	20628	.13024
ITEM5	20968	31288	•01316	•29008	18124
ITEM6	05485	01526	.01050	06861	.00382
ITEM7	.16236	.07175	00082	13666	05914
ITEM8	13076	08345	00266	.35531	18208
ITEM9	15186	09950	09540	.18261	07927
ITEM10	•06355	-24764	04166	09714	•11279
ITEM11	00839	.15611	•14264	25727	•02962
ITEM12	.04200	.33889	03792	17756	.10534
ITEM13	•11507	•35409	•06892	16748	.02650
ITEM14	12487	•09198	+05141	-•08596 •27373	•08784 ••••24663
ITEM15 ITEM16	09128		09118 09118	18720	•16798
ITEM16	40814	•19646 -•11705	•25536 -•15459	18/20 .15100	24937
ITEM18	21747	32829	02240	.01550	00112
ITEM18	25009	19052	•05171	•14744	18913
ITEM20	28808	28459	09091	•14388	19455
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	FACTUR 6	FACTOR 7	FACTOR 8	FACTUR 9	Factorio
ITEM21	23795	03157	01093	•27642	02152
ITEM22	23696	09694	09985	05305	06543
ITEM23	.00281	•20420	•01722	75365	404597
ITEM24	.18108	•41278	06229	15070	11715
ITEM25	28346	12393	02115	.16712	73586
ITEM26	30831	24915	.01180	.35145	
ITEM27	09453	16642	•01954	.15418	•13782
ITEM28	11272	.31216	11418	35757	01010
ITEM29	•08367	.26166	13436	25806	+08448
ITEM30	.27086	.13305	÷14744	12634	09417
ITEM31	13152	08839	.07942	+19718	12803
ITEM32	.01702	02719	.09382	.04583	.01480
ITEM33	.07815	• 33696	.13753	10980	.01449
ITEM34	05182	.23419	.05237	10416	17471
ITEM35	.12258	•14391	.13190	25460	00510
ITEM36	16018	19204	.21119	.25588	24309
ITEM37	37162	11649	15055	•28385	20458
ITEM38	•13971	•22882	11432	18008	•13988
ITEM39	•15540	.13443	13642	11570	05195
ITEM40	15847	.11869	23647	12723	.03808
ITEM41	05218	.03545	.05055	03644	00013
ITEM42	07503	.13080	.34002	22537	00481
ITEM43	19853	22777	03442	.01303	09266
ITEM44	.07107	.10390	.08022	.13200	.13043
ITEM45	08068	18878	00868	.06025	05583
ITEM46	•13676	.25410	.10950	53114	.05011
ITEM47	17819	.15987	.13764	17382	07446
ITEM48	22760	19413	.06676	.22544	12794
ITEM'49	.03820	.25253	.19385	08877	.1 8791
ITEM50	33380	05314	13020	.24465	.10949
ITEM51	19222	08120	06758	.24322	13815
ITEM52	32125	18638	12521	.03135	.04265
ITEM53	29324	07496	11051	·29390	06320
ITEM54	33695	35304	00079	.15043	06648
ITEM55	67629	03579	01636	.02004	11011
ITEM56	31823	04239	03134	.26381	18595
ITEM57	+11865	.23770	.12727	02314	13941
ITEN58	-,38371	21333	15015	.08121	•03346
ITEM59	-,34841	32224	18956	.1 7030	00924
ITEM60	04788	.12045	•08559	23963	.01133
ITEM61	-,18289	•07936	.10002	10685	.02780
ITEM62	27046	13130	16588	•76554	12102
ITEM63	78272	04862	10164	•09687	01056
ITEM64	28637	+01314	• 4 4797	•05737	.35124
ITEM65	10383	75809	06710	•08562	05744
ITEM66	•18733	.69011	11591	23667	04457
ITEM67	.05076	•47243	12753	15469	.06783
ITEM68	36830	19211	25345	·12382	.16292
ITEM69	26473	42878	12983	.19285	.10585
ITEM70 -			65508	.25310	.06534
ITEM71	13125	•26498	•08925	•13044	.15224

	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15
ITEM1	.24489	.04322	.19663	•57242	.00282
ITEM2	•04376	•19401	23528	.07781	03377
ITEM3	•03488	.15614	12854	08362	.21042
ITEM4	08520	•01995	09106	15158	.29018
ITEMS	•33433	.03258	.34095	·23977	.12900
ITEM6	•04254	06120	01788	00415	00222
ITEM7	06352	60883	23039	12183	19720
ITEM8	.06618	.07740	•31800	02279	.04340
ITEM9	• 06388	00007	.20444	05578	.01017
ITEM10	.01332	01036	16124	•00955	00541
ITEM11	•06793	.08123	16915	06440	.01780
,ITEM12	•07957	07349	16730	•06011	17488
ITEM13	18218	07942	28688	08163	04887
ITEM14	+04196	02148	14512	•06444	02579
ITEM15	•11429	26413	.19 957	08828	.09381
ITEM16	.20081	50269	07951	01106	.08531
ITEM17	•22824	13068	.21023	03012	•07299
ITEM18	•20222	31069	•59363	.06156	.10853
ITEM19	•05796	.04798	.32580	•04790	12065
ITEM20	05253	.01361	•26869	.10544	14092
ITEM21	•24533	03058	.28601	08009	•05879
ITEM22	• 0 6798	07203	.13418	03905	,69008
ITEM23	•00745	10609	14900	02665	01089
ITEM24	15376	•01317	23208	•09209	.01240
ITEM25	•04825	07130	.33120	•08111	00446
ITEM26	•12540	.02426	•41052	•04635	04807
ITEM27	•10310	.13921	•22691	13654	.15061
ITEM28	•35656	03434	09906	12779	.15603
ITEM29	•34435	.09549	09413	10449	02356
ITEM30	00980	•11046	10246	20256	.06160
ITEM31	08330	.12106	•68858	.07578	04460
ITEM32	05403	06528	•09157	•07545	11623
ITEM33	12596	.00073	11478	21209	.06498
ITEM34	•07807	.17802	12745	04815	15952
ITEM35	•02788	.08242	20195	17807	03794 -
ITEM36	•09494	.15281	.31410	·12954	15788
ITEM37	•03480	.01609	•31953	.38918	07728
ITEM38 ITEM39	•14034	•01596	22533	.04048	08908
	•03733	13266	12583	18147	-+04859
ITEM40 ITEM41	•06507 •08313	11394 .04432	191 02 03874	03366 03028	13625 .02951
ITEM42	•10283	+17124	03704	•01025	•06928
ITEM43	•10203	11530	.28644	01164	02271
ITEM44	•11620	00903	•04009	51719	03963
ITEM45	03097	08258	•18076	14544	•07135
ITEM46	-+11095	•05962	29066	24072	02342
ITEM47	• • • • • • • • • • • • • • • • • • • •	.21405	10900	11722	09898
ITEM48	-,19631	02159	•28746	.31182	.13046
ITEM49	•06689	09363	17920	.10325	42585
ITEM50	04210	04826	•31998	07376	05539
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	FACTORI	FACTOR	2 FACTOR 13	FACTORIN	FAR JR15
		-			
ITEM51	.12357	01507	•71226	02539	00243
ITEM52	.29640	11608	•24763	.16215	02784
ITEM53	•02183	07390	.53508	.19434	•03826
ITEM54	31358	04202	·27425	.10621	05873
ITEM55	.02396	03274	.06258	.02135	-+18778
ITEM56	•50750	11664	•16984	.20150	29333
ITEM57	.06503	03605	07605	14162	22307
ITEM58 ITEM59	+11702	12661 01443	+20249	•27553	02677 06264
	05205		• 32660	.04677	
ITEM60	+06527	10494	20523	08685	08685
ITEM61	13866	.02499	15617	·06509	-+13623
ITEM62	•03681	10754	.36119	-+01567	.04771
ITEM63	•07025	05816	•21622	•08074	05886
ITEM64 ITEM65	.14464	22542	.16670	15040 .07128	+03677
	07456	11628	•14167 -•25521		+00551
ITEM66	07150	15348		•01790 -•00989	+02561
ITEN67	.10338	08237	24090		-+17027
ITEM68	.12368	17730	.33103	•03082	.01079
ITEM69	12083	26623	.30220	•06240	01352
ITEM70	•09094	05017	•21936	•03637	04105
ITEM71	06602	•06399	00502	07799	07061
	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
ITEM1	17840	02960	07889	07428	.15229
ITEM2	.31147	.00544	.44303	•29984	•11949
ITEM3	•15356	12303	•41531	•20836	.15032
ITEMA	•37323	10009	•35572	·19839 ·	•19272
ITEM5	.19938	.08252	06297	07081	•32899
ITEM6	.02503	78939	.10231	.04014	.03283
ITEM7	03541	-•27406	•31282	.1 8730	16065
ITEM8	•05902	.06211	15318	18098	•03685
ITEM9	03516	.03161	19473	24720	04416
ITEM10	•07823	13970	•30639	• 82 729	03198
ITEM11	•15826	.00037	•38136	• 754 08	.07385
ITEM12	.10558	10303	•44109	•65736	06875
ITEM13	.00608	19492	.77656	•53585	04978
ITEM14	•10939	.04544	•69658	•21777	.11699
ITEM15	.14544	20923	12312	06718	14077
ITEM16	•02878	.11137	.29014	.11399	.23113
ITEM17	.30070	14661	05334	06271	.30108
ITEM18	.03520	.01491	27620	18306	02520
ITEM19	.12232	.04844	07444	07667	•67690
ITEM20	.10853	.02278	15911	21176	.00896
ITEM21	.04583	•14707	15458	13901	.14006
ITEM22	•05622	00252	•04359	06277	.11443
ITEM23	•07083	11023	•28054	.23254	.00805
ITEM24	+06509	45924	•58382	.44725	15670
ITEM25	•09091	.06557	19279	18371	.09354
ITEM26	•09628	.16524	20543	23200	.25449
ITEM27	.10285	08873		.01110	.10843
ITEM28	•11757	24500	•25710	.34200	.05639
ITEM29 ITEM30	•10957 •56987	08055	•49772 •09047	•43628 •11272	•07847
		10899		4 4 5 7 5	04303

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ITEM12

ITEM13

ITEM15

ITEM14 -

.05120

-.17059

.11187

.12525

.08702

.09512

.02416

.11846

-,03303

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FACTOR 15	FACTOR 17	tActor 18	FACTOR 19	FACTOR 2C
01232	.06460	18210	08890	.03517
00461	10668	01377	•04211	02431
.22509	-,06573	.43953	.39010	11645
.11811	22646	.58561	₁ 37315	-,32130
.12101	23897	• 68605	• 421 97	02328
21020	03291	24223	32306	•24999
.15003	.01171	21842	19068	14995
.00870	26503	·3 2077	• 362 25	15740
.20415	17316	•26480	•23846	07417
.03908	09007	.61415	.16659	.05554
•03085	01953	•26032	•1 2626	10762
•03404	11178	·22885	•07777	.21016
.11752	.12403	27395	22363	•03105
09870	15316	.11475	.04785	.10007
06460	.00735	21405	23886	.11521
+15915	28041	•4 5672	• 49649	06235
•12746	15329	•55498	•32318	28678
09387	•02525	38303	40885	.10312
16888	07095	•34868	.33805	•10490
•40281	06374	13513	-+16744	.31954
•08884	•03985	17993	23594	.16271
•33386	•0175 8	03343	00192	•25203
•07606	13886	21961	13795	.15508
.12754	.02878	17353	15973	•38748
.00107	08429	.22517	·10727	.07044
.11066	05900	09335	06302	.05647
• 3 7653	24436	•35569	•35539	10327
•57747	·20355	01289	.01578	.16125
.12711	.21487			.14768
				•14475
			•	.07372
				·06969
				•09287
				.26251
				.09973
				08752
				.12608
				+22725
				.35029
				.10706
•19597	•25839	•37283	•33916	.11325
FACTOR 21	FACTOR 22			
22540	.07092			
.29155	.01073			
+25918	20623			
.00105	.07414			
22489	.05483			
05068	04007			
05752	-,11528			
01940	.09260			-
				-
.05120	.04544			
	00461 .22509 .11811 .12101 21020 .15003 .00870 .20415 .03908 .03085 .03404 .11752 09870 06460 .15915 .12746 09387 .16888 .40281 .08884 .33386 .07606 .12754 .00107 .11066 .37653 .57747 .12711 .07415 04961 .00729 .10262 .14294 .00745 04961 .00729 .10262 .14294 .00745 04961 .00729 .10262 .14294 .00729 .12754 .00729 .12754 .00729	01232 .06460 0046110668 .2250906573 .1181122646 .1210123897 2102003291 .15003 .01171 .0087026503 .2041517316 .0390809007 .0308501953 .0340411178 .11752 .12403 0987015316 06460 .00735 .1591528041 .1274615329 09387 .02525 .1688807095 .4028106374 .08884 .03985 .33386 .01758 .07606 .13886 .12754 .02878 .0010708429 .1106605900 .3765324436 .57747 .20355 .12711 .21487 .0741515230 0496113474 .00729 .09282 .10262 .07247 .14294 .01268 .0040204093 .0301824303 .1172312615 .22993 .22793 .14261 .27477 .04934 .06926 .19597 .25839 FACTOR 21 FACTOR 22 22540 .07092 .29155 .01073 .2591820623 .00105 .07414 22489 .05483 0506804007 .038704432 04943 .09260 .0238704432 04432 06073 .14845	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

FACTOR 21 FACTOR 22

ITEM16	14900	,1 0649
ITEM17	12917	16056
ITEM18	08233	.07108
	00383	.12942
ITEM19		
ITEM20	06110	· 01 586
ITEM21	·25979	•48248
ITEM22	07498	+06446
ITEM23	02739	.05902
ITEM24	.03409	.13832
ITEM25	•01014	·05259
ITEM26	.07113	.09564
ITEM27	04966	.40369
ITEM28	19949	•31258
ITEM29	18601	•04829
ITEM30	00586	•03293
ITEM31	24167	•05436
ITEM32	69012	.06745
ITEN33	09701	•08846
ITEN34	06565	.16895
ITEM35	06337	.11 075
ITEM36	04799	02353
ITEM37	20881	.19520
ITEM38	01049	05586
ITEM39	07549	.07188
ITEM40	07764	14302
ITEM41	•16576	• 014 08
ITEM42	16851	.14941
ITEMA3	05289	,04218
ITEM44	21484	.23503
	.01056	
ITEM45		.04543
ITEM46	07414	01647
ITEM47	02630	·07557
ITEM48	01718	.1423 3
ITEM49	11263	00322
ITEM50	09851	.14151
		.12792
ITEM51	+15353	
ITEM52	25295	•27264
ITEM53	.20416	,27987
ITEM54	18499	.14133
ITEM55	.05082	04008
ITEM56	.08593	02342
ITEMŚZ	•21158	•06345
ITEM58	01711	•03442
ITEM59	02444	• 63 553
ITEM60	.05268	10481
ITEM61	•07587°	00385
ITEM62	03124	.11289
		.20155
ITEM63	03533	
ITEM64	01574	•22556
ITEM65	02260	.03877
ITEM66	•05217	.02070
ITEM67	05647	05365
ITEM68	13231	18955
ITEM69	00819	01106
ITEM70	•06898	•23492
ITEM71	•25651	•00005

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APPENUIX H

FACTOR LOADINGS: SECOND ORDER FACTOR ANALYSIS. ORTHOGONAL ROTATION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
FACTOR1	22037	37296	.56059	04551	03601
FACTOR2	.45143	05580	.06249	19828	16683
FACTOR3	.50108	•32588	11568	12293	.11823
FACTOR4	•01746	•59984	.02685	.10859	16354
FACTOR5	.14504	.03306	02347	• 56793	•44115
FACTOR6	33751	05292	13607	+22809	05230
FACTOR7	01519	•43399	34904	· 22717	•23177
FACTOR8	.60639	.11998	.08818	08073	•05532
FACTOR9	.41387	.12594	18967	.19 005	.05437
FACTOR10	.16597	•46867	11812	-+09468	.15298
FACTOR11	27822	13134	.24332	01094	.28013
FACTOR12	.09307	13909	.19250	39201	.03418
FACTOR13	.65630	.11817	00734	.03811	.15121
FACTOR14	02870	-•63961	•19407	14987	10375
FACTOR15	•04719	.10573	01799	04937	•52587
FACTOR16	01094	.02212	66952	.11708	•08156
FACTOR17	.63445	02605	01312	.11420	04254
FACTOR18	.10774	.03591	11578	.02151	•09579
FACTOR19	51618	·00730	03811	.01866	00761
FACTOR20	.14107	09640	•59091	.02063	.10556
FACTOR21	00041	.11997	14224	•17049	07647
FACTOR22	•02541	07615	•02757	64542	.10641

FACTOR 6

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FACTOR1	02655	
FACTOR2	10192	a
FACTOR3	•22253	
FACTOR4	23001	FACTORS ON LEFT
FACTOR5	.26875	-
FACTOR6	.38423	SIDE OF TABLE REFER
FACTOR7	00315	
FACTOR8	16710	
FACTOR9	20018	TO FACTORS DERIVED
FACTOR10	.15013	
FACTOR11	11684	FROM AN OBLIQUE
FACTOR12	•29113	
FACTOR13	10030	FACTOR ANALYSIS WITH
FACTOR14	•08739	
FACTOR15	11111	a DELTA PARAMETER OF
FACTOR16	03952	a DELIA BARAMETER DI
FACTOR17	04101	•
FACTOR18	40372	- (
-FACTOR19	~.03851	.25.
FACTOR20	•12236	
FACTOR21		
	•09351	
FACTOR22	•01829	