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Measuring Dyadic Adjustment: New Scales for Assessing the Quality of Marriage and Similar Dyads*

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This study reports on the development of the Dyadic Adjustment Scale, a new measure for assessing the quality of marriage and other similar dyads. The 32-item scale is designed for use with either married or unmarried cohabiting couples. Despite widespread criticisms of the concept of adjustment, the study proceeds from the pragmatic position that a new measure, which is theoretically grounded, relevant, valid, and highly reliable, is necessary since marital and dyadic adjustment continue to be researched. This factor analytic study tests a conceptual definition set forth in earliler work and suggests the existence of four empirically verified components of dyadic adjustment which can be used as subscales [dyadic satisfaction, dyadic cohesion, dyadic consensus and affectional expression]. Evidence is presented suggesting content, criterion-related, and construct validity. High scale reliability is reported. The possibility of item weighting is considered and endorsed as a potential measurement technique, but it not adopted for the present Dyadic Adjustment Scale. It is concluded that the Dyadic Adjustment Scale represents a significant improvement over other measures of marital adjustment, but a number of troublesome methodological issues remain for future research.

The concept of marital adjustment has taken a prominent place in the study of marriage and family relationships. Despite widespread criticism of marital adjustment and related concepts (Spanier and Cole, 1974; Hicks and Platt, 1970), it is probably the most frequently studied dependent variable in the field.[1] Although writers such as Lively (1969) have suggested that we abandon the use of such vague and ambiguous concepts, it is clear that this advice has not been heeded since a plethora of studies on marital adjustment have been published since these criticisms have appeared. My colleagues and I have argued, from a pragmatic standpoint (Spanier and Cole, 1974), that methodologists cannot ignore the clear continuing need that family researchers have for adequate measures, including those of the paper and pencil type, in order to assess the quality of adjustment in marital relationships.[2]

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[1] Spanier and Cole (1974) cited over 150 empirical studies using the marital adjustment concept. In a marital adjustment propositional inventory and theoretical integration project presently being conducted in collaboration with Robert Lewis, we have identified over 300 articles in which marital adjustment or a related concept is the dependent variable.

[2] Although previous work has been critical of marital adjustment scales and research (Spanier, 1972; Spanier, 1973; Spanier and Cole, 1974; Spanier, Lewis, and Cole, 1975), we have argued that it would be most fruitful to direct our efforts at clarification of the problems in definition, conceptualization, and measurement. The

During the past few years an increasing interest in the study of nonmarital cohabitation and other emerging household arrangements has suggested the importance of generalizing our methods for assessing relationship adjustment to include nonmarital dyads. It can be argued that a family sociology which has as its foundation the study of familial structures and functions must also provide for the study of household arrangements in which functions common to formal marriage arrangements exist within the context of variant family structures.[3]

This article presents a new scale for the measurement of dyadic adjustment, including subscales which measure four empirically verified components: dyadic satisfaction, dyadic consensus, dyadic cohesion, and affectional expression. The scale construction process is among the most comprehensive used to date in the development of a measure of adjustment for dyadic relationships, including marriage. This article presents a summary of the process followed in scale construction; the theoretical rationale and conceptual framework used as a basis for the study; an evaluation of validity and reliability; and a factor analytic assessment of the relationship between the items, subscales and the total Dyadic Adjustment Scale. The final 32-item scale is presented in the appendix.

CONCEPTUAL RATIONALE[4]

Spanier and Cole (1974), in addressing conceptual and measurement problems associated with marital adjustment scales, suggested that an adequate scale would need to follow from a definition of adjustment which met the following conditions: (1) It would be distinguishable from other concepts; (2) It would be operationalizable. In other words, a measure could be developed which follows from and is consistent with the definition proposed; (3) It would account for all criteria thought to be important in the conceptualization of adjustment; (4) It would not be so abstract that it could not be clearly conceptualized nor would it be so specific that it could not apply to a study of all marriages.

Previous scale development has focused on the marital dyad, since this relationship was of greatest interest to family researchers. However, the need to have more general measures which will allow us to simultaneously or independently study nonmarital dyads led us to consider a fifth point suggesting that: (5) Definitionally, we can allow for investigation of any nonmarital dyad which is a primary relationship between unrelated adults who are living together.

Marital or dyadic adjustment may be viewed in two distinct ways—as a process, or as a qualitative evaluation of a state. Defining dyadic adjustment as a process rather than a state has several implications for measuring the concept, the most important of which is that a process can best be studied over time. Although cross-sectional studies have some value in the investigation of adjustment, it is evident that "process" could be studied best with a longitudinal design.

The second view of adjustment, as a qualitative evaluation, may itself be defined in two distinct ways. First, the assessment of adjustment may assume that there exists a continuum of adjustment in which a "snapshot" of the continuum is taken at one point in time. This definition acknowledges a process, but studies dyadic adjustment by looking at the process only at specific points on the continuum. It is the evaluation of the characteristics and interactions of the relationship which are the focus of this approach. Alternately, one may define dyadic adjustment without reference to a time dimension. When adjustment is conceptualized as an unchanging state, the technique of studying it is simplified since the researcher need only be concerned with the quality of the relationship at the time of data collection.

Current measures of marital adjustment generally do not assess a changing process, but rather measure a position on a continuum

present study is an attempt to improve the measurement in this area by integrating nominal definitions, operational definitions, and measurements in a more consistent manner than has been done previously. It has been argued (Spanier and Cole, 1974) that adjustment is an appropriate concept for investigation and can be conceptually distinguished from concepts such as success, happiness, satisfaction, stability, integration, cohesiveness, or consensus.

[3] Winch (1974) has called such an arrangement a "domestic family." He delineates the specific variants of familial social systems when structural and/or functional requirements are not met.

[4] The discussion in this section is adapted from Spanier and Cole (1974).

from well-adjusted to maladjusted. A "process" definition, however, is predicated not only on the existence of a continuum, but also on the belief that *movement* along the continuum. Definitionally, then, we could say measured. The process consists of those events, circumstances and interactions which move a couple back and forth along this continuum. Definitionally, then, we could say that dyadic adjustment is a process of movement along a continuum which can be evaluated in terms of proximity to good or poor adjustment.

Considering both the complexities of studying process and the oversimplification resulting from a static "snapshot" conception, a definition evolved which represents a synthesis of the marital adjustment literature as well as our own thinking about the phenomenon (Spanier and Cole, 1974). We have accepted the idea that dyadic adjustment is a *process* rather than an unchanging state, but that the most heuristic definition would allow for a measure which would meaningfully evaluate the relationship at a given point in time. This approach is most consistent, we believe, with previous research which has sought to evaluate the quality of the marital (dyadic) relationship within a given time frame. Thus, we subscribe to the notion that adjustment is an ever-changing process with a qualitative dimension which can be evaluated at any point in time on a dimension from well adjusted to maladjusted. Consistent with this point of view, dyadic adjustment can be defined as a process, the outcome of which is determined by the degree of: (1) troublesome dyadic differences; (2) interpersonal tensions and personal anxiety; (3) dyadic satisfaction; (4) dyadic cohesion; and (5) consensus on matters of importance to dyadic functioning. We have suggested that these hypothesized components of adjustment are applicable to both marital and other dyadic relationships. Consequently, my purpose in developing the Dyadic Adjustment Scale is to create a measure which can be used by researchers interested in the marital relationship but also by researchers interested in other dyadic relationships, such as unmarried cohabiting couples. The present study attempts to go beyond the standard procedure of presenting the scale and its reliability and validity by additionally attempting to test the adequacy of the definition suggested above. A final working definition, designed to determine the presence of the suggested components, will be presented.

PREVIOUS MEASURES OF MARITAL ADJUSTMENT

The study of marital adjustment has a history dating back to Hamilton's (1929) classic study. Since that time a number of measures have been developed which have purported to assess the quality of marital relationships. The measures which have been developed and published over the years and descriptive information about them are summarized in Table 1. A cursory examination of these previous measures indicates that few of them have an adequate demonstration and reporting of validity and reliability, nor do they have a clear conceptual plan behind the scale development. In addition, none of these previous scales is specifically designed for use with dyads other than marriage.

OVERVIEW OF PROCEDURES

The procedures used in the development of the Dyadic Adjustment Scale are extensions of those used by Terman (1938) and Locke and his colleagues (Locke, 1947; Locke and Karlsson, 1952; Locke and Wallace, 1959; Locke and Williamson, 1958) many years ago. The present scale, however, is the product of a more comprehensive process, which attempts to go beyond the procedures used by Locke, his colleagues, and the developers of other marital adjustment scales (*e.g.*, Nye and MacDougal, 1959; Orden and Bradburn, 1968; Burgess and Cottrell, 1939). The process is briefly outlined below, and is discussed in more detail in subsequent sections of this article:

1. All items ever used in any scale measuring marital adjustment or a related concept were identified. This search produced a pool of approximately 300 items.
2. All duplicate items were then eliminated from the original pool of items, thus leaving for further analysis all items previously used at least once.
3. Three judges other than the principal investigator examined all items for content validity. Items were judged unacceptable and eliminated if a consensus existed that an item did not meet content validity criteria. Items had to be relevant for relationships in the

TABLE 1. OVERVIEW OF PUBLISHED MEASURES OF MARITAL ADJUSTMENT AND RELATED CONCEPTS*

Developer	Name of Scale	Year Published	Reliability	Validity	Number of Questions	Number of Respondents
Adams	Marriage Adjustment Prediction Index	1960	NR†	Predictive, Concurrent, and Construct	743††	100
Bernard	Success in Marriage Instrument	1933	.96 - .97 Split half	Content, Concurrent, Construct	100	115 males 137 females
Bowerman	Bowerman Marriage Adjustment Scales	1957	.80 - .90 Reproducibility	Concurrent	67	102 couples
Buerkle & Badgley	Yale Marital Interaction Battery	1959	.90 Reproducibility	Concurrent	40	186 adjusted couples 36 unadjusted couples
Burgess & Cottrell	Burgess-Cottrell Marital Adjustment Form	1939	NR	Content, Concurrent, Predictive	130	526 couples
Hamilton	Marital Adjustment Test	1929	NR	Concurrent, Construct	13	104 couples
Inselberg	Marital Satisfaction Sentence Completion	1961	NR	Concurrent	13	29 wives 80 couples
Katz	Semantic Differential as Applied to Marital Adjustment	1965	NR	Content, Construct	20	40 couples
Locke	Marital Adjustment Test	1951	NR	Concurrent	29	201 divorced couples 200 happy couples 127 others
Locke & Williamson	Marital Adjustment Test	1958	NR	Concurrent	20	171 males 178 females
Locke & Wallace	Short Marital Adjustment Test	1959	.90 Split half	Content, Concurrent	15	118 males 118 females
Manson & Lerner	Marriage Adjustment Inventory	1962	NR	Construct	157	120 males 117 females
Manson & Lerner	Marriage Adjustment Sentence Completion Survey	1962	NR	Content	100	120 males 117 females
Most	Rating of Marital Satisfaction and Friction	1960	NR	Concurrent, Construct	65	40 females
Nye & MacDougall	Nye-MacDougall Marital Adjustment Scale	1959	.86 - .97 Reproducibility	None	9	1300 females
Orden & Bradburn	Dimensions of Marriage Happiness	1968	NR	Content, Construct	18	781 males 957 females
Terman	Marital Happiness Index	1938	.60 H-W Correlation	Concurrent	90	792 couples

*Adapted from Straus (1969) and original sources. This summary does not include related measures of variables such as marital integration (Farber, 1957), marital strain (Hurvitz, 1965), or marital communication (Navran, 1967); some scales based on modification of earlier scales (Burgess and Wallin, 1953; Karlsson, 1951); indirect measures (Kirkpatrick, 1937); single-item measures (Rollins and Feldman, 1970); or multiple-item measures not intended for use as scales (Burr, 1970).

†NR = Not Reported

††Not all questions in this scale were considered measures of marital adjustment

1970's and judged to be indicators of marital adjustment or a closely related concept, as defined by Spanier and Cole (1974). This preliminary screening of items was necessary to avoid presenting the respondent with too lengthy a questionnaire.

4. Approximately 200 remaining items were included in a questionnaire with a standard complement of social background variables. Among the questionnaire's 200 items were several new items which were developed to tap areas of adjustment which I thought had been ignored in previous measures. In addition, sets of items and scales previously used were expanded in order to make them more complete. Finally, to test the hypothesis that alternative wording in a fixed-choice dyadic adjustment scale might produce different results and unpredictable response sets, approximately 25 items were included with alternative wording in the question and in the fixed-choice response categories.

5. The questionnaire was administered to a purposive sample of 218 married persons in central Pennsylvania. The sample consisted primarily of working and middle class residents of the area who worked for one of four industrial or corporate firms which agreed to cooperate in the study.

6. Questionnaires were mailed to every person in Centre County, Pennsylvania, who had obtained a divorce decree during the 12 months previous to the mailing. These respondents were asked to respond to the relationship questions on the basis of the last month they spent with their spouses. Ninety-four usable questionnaires were obtained from approximately 400 persons whom we were able to locate.

7. A small sample of never-married cohabiting couples was given the questionnaire to determine potential problems in question-wording and applicability of the scale for nonmarital dyads. These data are not part of the scale construction analysis.[5]

8. Frequency distributions were analyzed and all items with low variance and high skewness were eliminated.

9. Questions with alternative wording, structure, and category choices were further examined. Where differences in response variation were significant, items with the lesser variation were excluded.

10. Remaining variables were analyzed using a *t*-test for significance of difference between means of the married and divorced samples. Items which were not significantly different at the .001 level were eliminated. Fifty-two variables remained following application of this stringent criterion.

11. Remaining questions with alternative wording were reexamined and items with the lowest *t*-value were excluded. Forty items remained at this point.

12. The remaining 40 variables were factor analyzed to assess the adequacy of our definition, determine the presence of hypothesized components, and make a final determination of items which were to be included in the scale. Thirty-two items remained after eight were eliminated due to low factor loadings (below .30).

13. The issue of variable weighting was considered. After empirical comparisons were considered, using alternative weighting procedures and consideration of the scaling literature, a decision was made against weighting.

SAMPLING AND SOCIAL CHARACTERISTICS OF SAMPLE

A nonprobability purposive sampling technique was used to locate respondents for this study. It was not the study's objective to generalize findings to a larger population, but rather to obtain samples of married and divorced persons who would complete a lengthy self-administered questionnaire in order to allow us to do a comprehensive item analysis and scale assessment. Therefore, probability sampling techniques were not considered necessary.

Two hundred and eighteen white, married persons were located through the cooperation of four corporations in Centre County, Pennsylvania. We wanted to avoid the university community and any special problems with response sets which might exist in a population of sophisticated test-takers. However, limited funds necessitated that we remain within 30 miles of the

[5] Although the Dyadic Adjustment Scale was designed for use with unmarried dyads and pretested for validity, appropriateness and relevance, only married couples were used to assess reliability. Future research has been planned (Lewis and Spanier, 1975) which will assess the reliability of the scale for unmarried dyads and which will allow us to compare married and unmarried couples.

university. Consequently, the strategy described was utilized for locating the married sample. Respondents were promised and subsequently given a summary of the findings, and employers were promised and given a similar, but more complete, summary of the study.

The divorced sample was obtained through questionnaires which were mailed to all persons in Centre County, Pennsylvania, whose final decree had been granted during the 12 months previous to the mailing of the questionnaire. These respondents, located through county divorce records, were asked to respond to each item in the context of the last month they spent with their former spouse. Four hundred of the five hundred and fifty persons were located using the addresses available in the courthouse records. Ninety-four completed questionnaires were obtained through this process.[6] Selected social characteristics of the sample are summarized in Table 2.

TABLE 2. SELECTED SOCIAL CHARACTERISTICS OF MARRIED AND DIVORCED RESPONDENTS

Characteristic	Married Sample	Divorced Sample
Number of males	109	41
Number of females	109	49
Number married only once	206	74
Number married more than once	12	20
Mean age	35.1	30.4
Median months engaged	7	4
Mean number of years married	13.2	8.5
Percent Catholic	12.4	14.4
Percent Methodist	38.7	26.7
Percent Lutheran	11.5	13.3
Percent Presbyterian	7.4	11.1
Percent Other Protestant	25.1	23.3
Percent Jewish	None	1.1
Percent Atheist, Agnostic, None	5.1	10.0
Percent interfaith marriages	19.7	46.7
Median frequence of church attendence	Once a month	Occasionally
Median yearly family income	$12,000.00	$10,000.00
Mean years education	13	14
Median family life-cycle stage (Duvall, 1967)	4	3
Mean number of children	2.0	1.6

FACTOR ANALYSIS: TESTING THE ADEQUACY OF THE DEFINITION

Following the selection of the best 40 potential items for the scale, a factor analysis was performed with the following objectives: (1) To test the adequacy of the proposed definition of dyadic adjustment. Our interest was in confirming whether or not the hypothesized components of adjustment could be empirically verified; (2) To determine which items should be included in the final adjustment scale; whether each item loaded highly on the appropriate factor, and whether items could be eliminated without influencing the validity or reliability of the scale; (3) To facilitate understanding of how each of the items included in the scale relates to each other, the subscales, and the total scale.

The factor analysis program available in SPSS was used for this study.[7] Since the hypothesized factors were thought to be interrelated and not orthogonal, oblique rotation was specified.[8] Using the criteria specified in the previous section, all of the items included in the questionnaire which were designed to assess interpersonal tensions and personal anxiety had been discarded.[9] Thus, the 40 items included in the factor analysis tested the adequacy of four of the original five dimensions (dyadic satisfaction, dyadic cohesion, dyadic consensus, and troublesome dyadic differences).

[6]This low response rate appears to be normative for survey samples of recently divorced individuals. See, for example, Scanzoni (1968:455) and Dean and Bresnahan (1969).

[7]The factor analysis program available in SPSS (Nie, Bent, and Hull, 1970) was used and the following program options were in effect: oblique rotation, principal factoring with iteration, maximum number of factors specified = 5, minimum eigenvalue = 1.0, maximum number of iterations = 25, delta value for oblique rotation = zero.

[8]Indeed, the average intercorrelation between the four empirically derived subscales was subsequently found to be .68.

[9]This finding should not be interpreted to mean that interpersonal tensions and personal anxiety are unimportant to dyadic functioning, but rather that it is not a clearly identified component of dyadic adjustment, as conceptualized and operationalized in this study. I should like to hypothesize for future research that this dimension is an important, but conceptually separate, dimension of dyadic functioning.

TABLE 3. SCALE COMMUNALITY, SUBSCALE AFFILIATION, AND SUBSCALE FACTOR LOADINGS OF DYADIC ADJUSTMENT SCALE ITEMS

Variable Number	Communality	Subscale	Factor Loadings: Dyadic Consensus Factor	Dyadic Satisfaction Factor	Dyadic Cohesion Factor	Affectional Expression Factor
1	.62	Dyadic Consensus	.54	—.15	.10	—.02
2	.63	Dyadic Consensus	.72	.12	.14	—.01
3	.31	Dyadic Consensus	.57	.09	.05	.02
4	.75	Affectional Expression	.35	—.10	.12	—.57
5	.56	Dyadic Consensus	.64	—.00	.03	—.17
6	.61	Affectional Expression	.21	—.07	.11	—.56
7	.60	Dyadic Consensus	.58	—.21	.04	—.06
8	.61	Dyadic Consensus	.73	—.15	—.06	—.05
9	.33	Dyadic Consensus	.46	—.16	—.11	—.09
10	.72	Dyadic Consensus	.59	—.20	.05	—.06
11	.68	Dyadic Consensus	.34	—.22	.21	—.24
12	.56	Dyadic Consensus	.59	—.22	.13	.04
13	.34	Dyadic Consensus	.51	—.02	.00	—.11
14	.47	Dyadic Consensus	.52	—.15	.16	—.06
15	.31	Dyadic Consensus	.40	—.16	—.08	—.13
16	.71	Dyadic Satisfaction	—.03	—.70	.01	—.20
17	.53	Dyadic Satisfaction	.01	—.54	.12	—.09
18	.85	Dyadic Satisfaction	.03	—.67	.23	—.17
19	.62	Dyadic Satisfaction	.10	—.48	.27	—.03
20	.69	Dyadic Satisfaction	.01	—.82	—.01	.02
21	.66	Dyadic Satisfaction	.07	—.65	.13	—.02
22	.67	Dyadic Satisfaction	.07	—.61	.19	—.01
23	.44	Dyadic Satisfaction	.14	—.32	.28	.09
24	.47	Dyadic Cohesion	.20	—.11	.50	.07
25	.48	Dyadic Cohesion	—.09	.01	.71	—.05
26	.68	Dyadic Cohesion	.16	—.09	.65	—.07
27	.66	Dyadic Cohesion	.17	—.04	.68	—.04
28	.51	Dyadic Cohesion	—.00	—.05	.65	—.02
29	.24	Affectional Expression	—.04	.06	—.02	—.48
30	.54	Affectional Expression	.04	—.19	.12	—.55
31	.76	Dyadic Satisfaction	.07	—.53	.24	—.16
32	.57	Dyadic Satisfaction	.27	—.62	—.07	.06

The analysis indicated that one of the hypothesized factors, troublesome dyadic differences, could not be empirically verified and these items were accordingly eliminated.[10] However, four items which were thought to be indicators of dyadic satisfaction or dyadic consensus were combined and verified as a separate factor, which I have called affectional expression.

Table 3 lists the item communality with the total scale, the subscale affiliation of each item, and the loading for each item on each subscale factor. The items are numbered according to their position in the scale, as presented in the appendix.

Table 3 indicates that 32 items remained in the total Dyadic Adjustment Scale following the elimination of the eight items suggested as inappropriate by the factor analysis. Three of the original five hypothesized components were found to exist (dyadic satisfaction, dyadic consensus, and dyadic cohesion). In all cases, except the four affectional-expression items, the items hypothesized as indicators of each factor were confirmed to have their highest loading (in all cases above .30) with that factor.[11]

[10]Conceptually, troublesome dyadic (marital) differences may be indistinguishable from consensus on matters of importance to dyadic functioning. The attempt to define two groups of items which separate these concepts may be premature from a conceptual standpoint. Nevertheless, items were retained in the scale only if they had a factor loading above .30. The troublesome dyadic differences questions did not emerge as a clearly identified factor, and had lower than acceptable factor loadings on any other factor.

[11]It can be noted that an earlier factor analytic study by Locke and Williamson (1958) identified four factors similar to those found in the present study (companionship, agreement, affectional intimacy, and euphoria). However, Locke and Williamson's interpretation of the factors and the items which loaded highly on each factor are at variance with the findings in the current study, even though many of the items are identical or similar. This differential finding may be due to differences in

The factor analysis allows us to conclude that 32 items give a more or less complete indication of dyadic adjustment. These 32 items can be grouped into four meaningful components (dyadic satisfaction, dyadic cohesion, dyadic consensus, and affectional expression) which are conceptually and empirically related to dyadic adjustment.

SCALE DESCRIPTION

The Dyadic Adjustment Scale is designed to serve a number of different needs. First, for those wishing to use an overall measure of dyadic adjustment, the 32-item scale can be completed in just a few minutes, is only two pages in length, can easily be incorporated into a self-administered questionnaire, and can be adapted for use in interview studies.

The scale is additionally useful since it allows researchers with more limited needs to use one of the subscales alone without losing confidence in the reliability or validity of the measure. For example, researchers interested specifically in dyadic satisfaction may use the 10-item subscale for this purpose. The format of the scale allows for easy coding or scoring. We have not been able to deal adequately with the problems of direction-of-wording and halo effects, but we have attempted to structure the scale in a way that encourages the respondent to think about each of the items being presented.

The scale has a theoretical range of 0-151. The source of the items included in the scale varies considerably. Some will be found in previous scales, others are modifications of items used previously, and others were developed specifically for the present study.[12]

We cannot claim to have adequately dealt with the problems of conventionality and social desirability as measurement issues (Edmonds, Withers and Dibatista, 1972; Spanier and Cole, 1974) but recent research and critiques (Dean and Lucas, 1974; Clayton, 1975) suggest that these limitations may have been overstated. We have attempted to minimize these and other traditional methodological problems throughout. However, researchers concerned about these issues who still wish to measure adjustment could use the approaches of Murstein and Beck (1972) or Dean and Lucas (1974), who measured potentially confounding influences and then controlled for them in their final analyses. It should be noted, however, that neither set of findings was significantly altered by controls for conventionality or social desirability.

Previous work has explored the problem of unit of analysis in marital adjustment scales (Spanier, 1972, 1973; Spanier and Cole, 1974). The problem of clarifying whether the present scale can be considered a measure of individual adjustment to the relationship versus adjustment of the dyad as a functioning group has not been solved. Some scale items (notably item 32) assess the individual's adjustment to the relationship. Most of the items, however, attempt to assess the respondent's perception of the adjustment of the relationship as a functioning group. Since this latter type of item predominates, the researcher could assume that partner differences in responding to the scale items largely reflect differing perceptions of the relationship's functioning.

VALIDITY

Content Validity.[13] Items included in the Dyadic Adjustment Scale were evaluated by three judges for content validity. Items were included only if the judges considered the items: (1) relevant measures of dyadic adjustment for contemporary relationships; (2) consistent with the nominal definitions

procedures or may indicate a shift in the nature of marital adjustment during the 20 years since the data for the first study were collected. A fifth factor found in the earlier study, masculine interpretation-wife accommodation, did not emerge in the present study. It must be stated, however, that the factors found by Locke and Williamson are lacking in conceptual clarity, since a cursory examination suggests that some of the items associated with the factors appear to be conceptually unrelated.

[12] Some questions included in the final scale were not originally intended as measures of adjustment, but met the criteria for inclusion in our study. For example, items 25-28 are from a marital stress scale developed by Feldman (1965). The final item on the scale, part of the dyadic adjustment component, was developed originally as a measure of commitment (Spanier, 1971). A later study (Dean and Spanier, 1974) suggests that commitment was an overlooked variable in marital adjustment and an argument was made for its inclusion in future measures of the concept. The importance of this concept as a component of adjustment was confirmed in the present study.

[13] Content validity involves the systematic examination of the test content to determine whether it covers a representative sample of the behaviors, attitudes, or characteristics to be measured.

TABLE 4. SUMMARY SCORES AND STANDARD DEVIATIONS FOR THE DYADIC ADJUSTMENT SCALE AND ITS SUBSCALES, BY MARITAL STATUS

	Married		Divorced		Total	
	Mean	SD	Mean	SD	Mean	SD
Dyadic Consensus Subscale	57.9	8.5	41.1	11.1	52.8	12.1
Dyadic Satisfaction Subscale	40.5	7.2	22.2	10.3	35.0	11.8
Dyadic Cohesion Subscale	13.4	4.2	8.0	4.9	11.8	5.1
Affectional Expression Subscale	9.0	2.3	5.1	2.8	7.8	3.0
DYADIC ADJUSTMENT SCALE	114.8	17.8	70.7	23.8	101.5	28.3
	N = 218		N = 94		N = 312	

suggested by Spanier and Cole (1974) for adjustment and its components (satisfaction, cohesion, and consensus); and (3) carefully worded with appropriate fixed choice responses.

Criterion-related Validity.[14] The scale was administered to a married sample of 218 persons and a divorced sample of 94 persons. Each of the 32 items in the scale correlated significantly with the external criterion of marital status. In other words, for each item, the divorced sample differed significantly from the married sample ($p < .001$) using a *t*-test for assessing differences between sample means. In addition, the mean total scale scores for the married and divorced samples were 114.8 and 70.7 respectively. These total scores are significantly different at the .001 level. Table 4 presents the summary scores for the Dyadic Adjustment Scale and each of its subscales.

Construct Validity.[15] Since all items with content validity used in previous marital adjustment scales were included in the research instrument originally tested, it is possible to assess how the Dyadic Adjustment Scale correlated with other, previously-used marital adjustment scales. We selected the Locke-Wallace Marital Adjustment Scale (1959—the most frequently used scale) for assessing whether the Dyadic Adjustment Scale measures the same general construct as a well-accepted marital adjustment scale. The correlation between these scales was .86 among married respondents and .88 among divorced respondents ($p < .001$).[16]

Construct validity was further established through the factor analysis of the final 32-item scale. As previously noted, four interrelated components (dyadic satisfaction, dyadic cohesion, dyadic consensus, and affectional expression), three of which were hypothesized as components of adjustment, were found to exist. Thus, the Dyadic Adjustment Scale partially appears to measure the theoretical construct defined earlier (Spanier and Cole, 1974).

RELIABILITY

Because of this study's interest in producing a comprehensive dyadic adjustment scale, with identifiable and empirically verified components, reliability was determined for each of the component scales as well as the total scale. The most appropriate measure of internal consistency reliability is Cronbach's Coefficient Alpha (1951), a conservative estimate of internal consistency which is a variant of the basic Kuder-Richardson (1937) formula (Anastasi, 1968). Table 5 summarizes the reliability coefficients

[14]Criterion-related validity indicates the effectiveness of a test in predicting an individual's behavior, attitudes, or characteristics in specified situations (predictive validity) or diagnosing or assessing an existing status (concurrent validity). The present scale has been demonstrated to have concurrent validity.

[15]Construct validity refers to the extent to which a test measures a theoretical construct or trait.

[16]The correlation for the total sample (N = 312) was .93 ($p < .001$). The high correlation between the Dyadic Adjustment Scale and the Locke-Wallace Marital Adjustment Scale suggests the possibility that the scales are redundant. It can be argued that an established scale with a large normative data base is preferable, all other things being equal, to a newer scale tested on a limited population. The high correlation was expected, however, since many of the items are similar, if not identical, and since the basic procedures for scale development were also similar. Nevertheless, I shall argue that the advantages of the present scale (namely, its appropriateness for use with unmarried dyads; the availability of subscales with separate reliability estimates; an evaluation of validity using a contemporary sample; and the consideration of a number of methodological and conceptual issues not previously included in reports of marital or dyadic adjustment scale development) speak favorably for its use in future research requiring a paper and pencil measurement assessing dyadic adjustment.

TABLE 5. RELIABILITY ESTIMATES FOR THE DYADIC ADJUSTMENT SCALE AND ITS COMPONENT SUBSCALES*

Scale	Reliability	Number of Items
Dyadic Consensus Subscale	.90	13
Dyadic Satisfaction Subscale	.94	10
Dyadic Cohesion Subscale	.86	5
Affectional Expression Subscale	.73	4
DYADIC ADJUSTMENT SCALE	.96	32

*Cronbach's coefficient alpha is used as the reliability estimate.

for the total scale and its components. The total scale reliability is .96.[17] The data indicate that the total scale and its components have sufficiently high reliability to justify their use.

THE WEIGHTING ISSUE

In an earlier discussion of the weighting issue (Spanier and Cole, 1974), it was suggested that paper and pencil adjustment scales have the disadvantage of having to define, *a priori,* which variables are important for assessing the quality of a relationship. We suggested that only in the event that empirical research should confirm that couples nearly universally define the same areas as important in their relationships, would it be acceptable to use fixed lists of items from one couple to the next. We also pointed out, however, that previous research in other areas has found attempts at weighting items troublesome. This study has examined the problems associated with weighting items by including a set of items in the questionnaire which asked the respondent to : (1) indicate the importance of each of the items on a traditional list of problem areas (on a dimension of very important, somewhat important or not at all important); and (2) indicate the approximate extent of agreement or disagreement between the respondent and his or her partner.

The purpose of this dual approach was to assess whether items should be weighted on the agreement-disagreement continuum according to their importance to the person. It can be argued, for example, that it is of lesser consequence to the relationship if the couple disagrees on a matter of no importance than if they disagree on an item of great importance.

Our data demonstrate quite clearly that individuals are able to answer two-part questions of this nature without difficulty, and they are able to make a clear judgment about the importance of the item. However, we found that on the areas surveyed by the 32 items in the scale, the importance variable is skewed in the direction of "very important." The only items on which a nontrivial proportion of the respondents indicated that the item was not at all important were religious matters (28.7 percent) and ways of dealing with in-laws or parents (20.6 percent).

The correlation between weighted and unweighted adjustment scores was .53 among married persons, .48 among divorced persons, and .63 for the total sample. The analysis indicated, therefore, that correlations between weighted and unweighted adjustment scores, although significant at the .001 level, are sufficiently different from 1.0 to merit consideration of weighting. However, primarily because of the skewness toward "very important" in rating areas of dyadic adjustment and the moderately high correlation between the weighted and unweighted scores in the present sample, a decision was made not to use weighted scores. Although theoretically and methodologically relevant, weighting does not appear to enhance our ability to assess adjustment to a degree which would indicate that weighting items according to importance is worth the additional effort. Consequently, the evidence for the use of weighted items was not compelling in the present study.

An extensive literature has developed concerning the desirability of another form of weighting, namely, weighting items according to factor loadings obtained through factor analysis or beta weights obtained through multiple regression analysis (*e.g.*, Allen, 1973; Smith, 1974; Werts and Linn, 1970; Lawler and Porter, 1967, 1973; Nathanson and Becker, 1973). The Locke-Wallace Marital Adjustment Scale (1959), among others, contains differential weights for each of the 15 items. Locke and Wallace did not explain how they decided on the weights for their items, but researchers have continued to

[17]A separate assessment of scale reliability using the Spearman-Brown average inter-item formula for internal consistency (Guilford, 1954: 354, 359) was also found to be .96.

use the scale without questioning the coding scheme.

In a further similar analysis, items were weighted by factor loadings and the total scale scores correlated with unweighted scale scores. The correlations were similar to those reported for weighting by importance. After carefully examining the arguments for and against weighting according to norms empirically derived from one or more samples, we have decided against weighting the items. Although there is a theoretical rationale, but not a convincing empirical basis, for weighting, the Dyadic Adjustment Scale is coded according to interval continuums ranging from zero to one less than the number of fixed choices. The suggested coding scheme is indicated in the appendix.

SUMMARY AND RECOMMENDATIONS FOR THE FUTURE

The primary objective of this study was to develop a scale which could be used with confidence to assess the quality of marriage and similar dyads. This paper has attempted to thoroughly present the results of a scale development process designed to meet the need for relevant, valid and reliable measures which can be used in survey research on marital and nonmarital dyadic relationships. An earlier paper (Spanier and Cole, 1974) attempted to present an exhaustive review of the problems with and prospects for developing a measure of dyadic adjustment. This study and the scales which have resulted cannot claim to have solved all of the methodological problems which have plagued the field for some time. I believe, however, that the process used in this study and the scales which have resulted represent a step in the desired direction.

Methodological problems inherent in the use of paper and pencil measures can only be minimized, never eliminated. Indeed, it would be desirable to supplement the present study with one which would develop measures for use in laboratory or observational research. The multitrait-multimethod approach (Campbell and Fiske, 1959) would, of course, give us greater confidence in our methods. Future studies should consider the problems of conventionality, social desirability, unit of analysis, and husband-wife or partner differences in perceptions. Finally, research similar to that presented in this article might profitably start from a larger pool of items. These should reflect a broader conception of marital functioning, including the concept of marital adjustment but also dimensions of marital quality, such as adaptability, communication, interpersonal tensions, or conflict. Such a reconceptualization could be combined with the use of unidimensional and multidimensional scaling techniques to provide carefully validated, reliable and relevant marriage and family measurement instruments.

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APPENDIX

DYADIC ADJUSTMENT SCALE

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances	5	4	3	2	1	0
2. Matters of recreation	5	4	3	2	1	0
3. Religious matters	5	4	3	2	1	0
4. Demonstrations of affection	5	4	3	2	1	0
5. Friends	5	4	3	2	1	0
6. Sex relations	5	4	3	2	1	0
7. Conventionality (correct or proper behavior)	5	4	3	2	1	0
8. Philosophy of life	5	4	3	2	1	0
9. Ways of dealing with parents or in-laws	5	4	3	2	1	0
10. Aims, goals, and things believed important	5	4	3	2	1	0
11. Amount of time spent together	5	4	3	2	1	0
12. Making major decisions	5	4	3	2	1	0
13. Household tasks	5	4	3	2	1	0
14. Leisure time interests and activities	5	4	3	2	1	0
15. Career decisions	5	4	3	2	1	0
	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
16. How often do you discuss or have you considered divorce, separation, or terminating your relationship?	0	1	2	3	4	5
17. How often do you or your mate leave the house after a fight?	0	1	2	3	4	5
18. In general, how often do you think that things between you and your partner are going well?	5	4	3	2	1	0
19. Do you confide in your mate?	5	4	3	2	1	0
20. Do you ever regret that you married? (*or lived together*)	0	1	2	3	4	5
21. How often do you and your partner quarrel?	0	1	2	3	4	5
22. How often do you and your mate "get on each other's nerves?"	0	1	2	3	4	5

	Every Day	Almost Every Day	Occa-sionally	Rarely	Never
23. Do you kiss your mate?	4	3	2	1	0
	All of them	Most of them	Some of them	Very few of them	None of them
24. Do you and your mate engage in outside interests together?	4	3	2	1	0

How often would you say the following events occur between you and your mate?

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25. Have a stimulating exchange of ideas	0	1	2	3	4	5
26. Laugh together	0	1	2	3	4	5
27. Calmly discuss something	0	1	2	3	4	5
28. Work together on a project	0	1	2	3	4	5

These are some things about which couples sometimes agree and sometime disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no)

	Yes	No	
29.	0	1	Being too tired for sex.
30.	0	1	Not showing love.

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.

0	1	2	3	4	5	6
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

32. Which of the following statements best describes how you feel about the future of your relationship?

5 I want desperately for my relationship to succeed, and *would go to almost any length* to see that it does.
4 I want very much for my relationship to succeed, and *will do all I can* to see that it does.
3 I want very much for my relationship to succeed, and *will do my fair share* to see that it does.
2 It would be nice if my relationship succeeded, but *I can't do much more than I am doing* now to help it succeed.
1 It would be nice if it succeeded, but I *refuse to do any more than I am doing* now to keep the relationship going.
0 My relationship can never succeed, and *there is no more that I can do* to keep the relationship going.