The GRIMS. A psychometric instrument for the assessment of marital discord

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Research in marital therapy has been disadvantaged by the lack of a good, short and recent psychometric questionnaire to objectively assess the state of a marriage for research, demographic and clinical purposes. The Golombok Rust Inventory of Marital State (GRIMS) is a companion questionnaire to the Golombok Rust Inventory of Sexual Satisfaction (GRISS), and concentrates on aspects other than the sexual in a dyadic relationship between two adults living together. It is a 28 item psychometrically constructed inventory designed to produce a single scale along which changes in a marriage may develop as marital therapy progresses. It has been shown to be valid for this purpose, and to have a good reliability.

Many existing marital or relationship questionnaires tend to be rather long and depend on particular theoretical perspectives. However within marriage guidance as a wider community there is a mine of practical experience which has generated its own values and expectations about treatment and outcome, to some extent independently of any specific theoretical stance. The Golombok Rust Inventory of Marital State (GRIMS) has been constructed to give a short and easy to administer questionnaire to assess the state of a marriage and to identify the extent of any discord. It may be used for research purposes in any marital or relationship clinic. It is hoped that it will enable even small establishments to develop research on the basis of their clinical activity.

Of the existing marital and relationship questionnaires, the Locke-Wallace Marital Adjustment Test (Locke and Wallace, 1957) was one of the earliest instruments developed and is now somewhat dated in conceptualization. The Spouse Observation Check List (Weiss and Margolin, 1977) comprises four hundred items and is therefore tedious to complete. Other scales used in the assessment of marital satisfaction

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include the Marital Communication Inventory (Bienvenu, 1978), The Dyadic Adjustment Scale (Spanier, 1976), the Marital Satisfaction Inventory (Snyder, 1982), the Areas of Change Questionnaire (Weiss, Hops and Patterson, 1983) and the Marital Pre-Counselling Inventory (Stuart and Stuart, 1972). Some of these instruments were developed to be consistent with a theoretical perspective of marital satisfaction and as such have a restricted definition of marital adjustment/satisfaction. These scales, while receiving some subsequent validity and reliability estimations, have not generally been psychometrically constructed and consequently tend to contain a large number of redundant items. A scale used in the U.K. and Holland has been the Maudsley Marital Questionnaire (Crowe, 1978). Yet while this scale has been successful in both nine and 20 item versions at demonstrating reliability and validity (Arrindell, 1983; Arrindell and Schaap, 1985) it still raises doubts concerning the comprehensiveness and specificity of its original development.

The GRIMS is a questionnaire for the assessment of the overall quality of a couple's relationship. There are many different ideas and theories about the ideal marriage. While in the construction of the GRIMS a deliberate attempt has been made to avoid any of these theoretical preconceptions, ideas about a good or bad relationship cannot exist in an ideological vacuum. However, in spite of this many ideas and treatment procedures appear again and again under different labels and theories, and represent a folk psychological underpinning of marital treatment. The test specification of the GRIMS is based on the common aspects of the expertise of practitioners, counsellors and clients in the field. Many of these people will, of course, have their own ideas and theories, but taken as a whole they will also have common observations and priorities based on their often considerable experience.

Widespread consultations among a range of practising counsellors, and clients have provided the test specification, which reflects the practical situations encountered by them. The test specification of the GRIMS is therefore a functional one. The domain of items in the GRIMS particularly addresses those areas in which a marital therapist would hope to see change during therapy. A large number of items under this specification have been reduced, first conceptually and then psychometrically, to yield a short efficient scale.

Construction

Test specification

To generate the test specification, both marital therapists and their clients were used in clarifying specific areas of distress. Fifteen therapists

were asked to identify (1) areas which they believed to be important in marital harmony and (2) the areas they would assess during initial interviews. Information from clients was obtained in the context of a marital therapy study (Bennun, 1985) where 57 couples were specifically requested to identify their targets for change. Targets reported included the request that their partner after specific behaviours or habits that were left to be irritating or unpleasant (19%). These included issues related to punctuality and reliability, cleanliness, nagging, feeling excluded (by the other's interests), tidiness and the like. Three separate areas often raised included communication problems (11.2%), decision-making -11.9%) and household/domestic problems (11.9%). Communication problems included not just a lack of communication but also what was said and how it was expressed. Couples who described communication difficulties often experienced problems in communicating about specific topics (e.g. sex, finance). Household/domestic problems generally concerned the family home, responsibility for financial matters and sharing tasks. The three next most frequent problems included difficulties caring for each other and showing affection in a non-sexual way (8.0%). problems related to child care (7.7%) and relationships with extended family members (6.1%). These two latter areas of conflict show that often marital/relationship problems arise when a third person influences the stability of the dyad. Another problem area that was apparent, especially among young couples, was related to dependence independence conflicts (5.0%). Moving from a life as a single person into a twoperson and later three person-relationship requires that each individual maintain a boundary to some degree that enables them to have some autonomy and a continuing capacity for individuation. Other problems that were raised included sexual problems, jealousy, financial and work related problems, violence, and one partner presenting with a psychological disorder that adversely affected the marriage. The views of the clients and therapists were collated, reviewed and structured to produce a two dimensional test specification. Axis one specified areas of ii interests shared (work, politics, friends etc.) and degree of dependence and independence, (ii) communication, verbal and non-verbal, (iii) warmth, love and hostility, (iv) trust and respect, (v) roles expectations and goals, (vi) decision-making, and (vii) coping with problems and crises. Axis two specified areas in which the content of axis one may become manifest; it beliefs about, insight into, and understanding of the nature of dyadic relationships, (ii) behaviour within the actual relationship, (iii) attitudes and feelings about relationships, (iv) motivation for change, understanding the possibility of change, and

commitment to a future together, (v) extent of agreement within the couple.

The pilot version

Between three and six items were constructed for each cell of the test specification, generating 183 items which were reduced to 100 when overlap was eliminated. Items were sought which could meaningfully be answered by either sex. Six lie items were also included. Items were prepared as statements to which the respondent was asked to strongly agree, agree, disagree or strongly disagree. The items were thus forced choice (there was no 'don't know' category), but also allowed for strength of feeling to affect scores where views were strongly held. The pilot version of the test was administered to both partners in 60 client couples (representing 120 individuals) from marital therapy and marriage guidance clinics in the United Kingdom.

Item analysis

Preliminary item screening of the data eliminated all items which had a difficulty value of greater than 0.80 or less than 0.20 for either men or women. That is, items to which less than 20% either agreed or disagreed whether strongly or otherwise) were excluded. Further items were excluded where the number of non-responses exceeded 1%. While clients were strongly urged to answer all the items, there are invariably some items within a pilot version which they find impossible to answer due to non-applicability or other special reasons. The remaining 58 items were factor analysed using principal factoring. The use of factor analytic techniques on relatively small samples was justified on the grounds of (a) the difficulty of obtaining subjects of this type, (b) the replication of the analysis on different samples, (c) the use of parallel selection techniques, items only being selected when they behaved in the same way in two separate samples (this aspect in fact making the technique much more powerful than that which would be obtained through merely increasing the sample size itself), (d) confirmatory replication on subsequent samples, giving a total number of 358 and (e) the superiority of the technique over other item analysis procedures.

The pilot factor analysis was carried out for the men (n=60) and women (n=60) separately. Apart from some differentiating items the overall results were similar. It had been hoped that, as with the GRISS, it would be possible to extract a main scale and a series of sub-scales

which could provide a profile analysis. The factor structure clearly suggested a main factor which accounted for about 20% of the variance. For men, four subsequent factors accounted for 7.2%, 4.6%, 3.1% and 2.6% of the variance respectively, with a similar pattern for women. Factor identification by inspection of both the male and female items identified factor one as a general marital discord factor with some relation to a second factor which had an increased emphasis on sexuality and lie items. The low communality of subsequent factors at this stage was an indication of a unidimensional scale, however steps were taken to at least attempt to identify a sub-scale structure as this can be informative in certain circumstances. Re-analyses of the first four, five, six and seven factor solutions with oblique rotations were carried out to identify signs of stability. These analyses looked at men and women, combined and separately. Factors other than the first proved to be unstable under these conditions, although factors which could be named e.g. jealousy, the traditional marriage, outside relationships, sex problems, violence, etc. did occasionally emerge. It seemed that, although these various elements are important to the quality of a marriage, the interactions across and between possible sub-categorizations are so strong that they cannot on their own generate unidimensional scales. Directions of causality can point in either direction, and non-linear relationships may well abound. In spite of this, the large general factor indicates that from this pool of interacting situations, feelings, motivations and coping strategies, there does arise a strong and measureable single scale of marital quality. On this basis a unidimensional scale for marital discord was targeted and no attempt was made to build any sub-scale structure.

Elimination of items with low communalities on first a five and then a three factor solution reduced the 58 items to 42. These were further reduced to six major criteria (a) balance across the original test specification, (b) balance of positive and negative items to avoid acquiescence, (c) balance of items to which more than 50% agreed, with items to which less than 50% agreed, to reduce social desirability bias, (d) similarity of item behaviour in men and women, (c) size of loading on the general factor, and (f) low correlation with 'lie' items. Criteria (a) ensured content validity and eliminated duplication, criteria (b), (c) and (f) reduced bias, while criterion (e) achieved the aim of classical item analysis in selecting items with good discrimination. Criteria (d) enabled the development of an identical scale for men and women which simplifies administration. The resultant scale has 28 items and it is scored in such a way that a high score represents a problematic relationship. The factor structure of this scale was replicated on subsequent samples

and found to be stable. For the male scale the first factor accounted for 33% of the variance, and for the female scale 29%.

Standardization

The 28-item GRIMS was standardized using two groups: (i) a sample of attenders at a General Practitioners clinic in central London [30 men and 48 women (Rust, Golombok and Pickard, 1987)], and (ii) 80 couples presented as clients at marriage guidance clinics, sexual and marital counselling clinics throughout England. The general practitioner group was used as an approximation to general population data (Golombok, Rust and Pickard, 1984).

The item scale correlations (with the scale adjusted for each item) for both the pilot and the standardization studies are given in Table 1. For the 60 couples (120 subjects) in the pilot sample the mean GRIMS score for men was 37.12 (s.d. = 10.99), and for women 41.54 [s.d. = 11.26 (Rust et al., 1986)]. For the standardization clinical sample the male GRIMS mean was 30.76 (s.d. = 13.03), and the female GRIMS mean 35.51 (s.d. = 10.37). These are both significantly lower than those for the pilot clinical sample. However there were some differences in sampling between the two populations. In the pilot study the majority of the subjects came from marriage guidance council and marital therapy referrals, while in the standardization group there was a much larger number of couples referred for general relationship therapy, including sexual problems. For the general practitioner group (GP) the mean GRIMS male score was 28.37 (s.d. = 9.03) and the mean female GRIMS score was 27.21 (s.d. = 10.02).

A closer investigation of particular items containing substantive information showed that 19 (31%) of the clinical couples considered they were on the verge of separation, while only two (7%) of the GP group, did so. Further, 42 of the men in the clinical group (51%) were dissatisfied with their relationship, while only two of the GP men were dissatisfied (7%). The apparently anomalous group of 27 clinical men who were very satisfied with their relationship (33%) accounted for the relatively low GRIMS mean of the clinical group. It may be that some of these men were presenting primarily with sexual problems and were making the point that the relationship itself (sex apart) was satisfactory. However only eight of the clinical women considered that they were very satisfied with their relationship. A further explanation for this discrepancy may be that these men considered that it was only their partner who had a problem, and that they were attending the clinic to

Table 1.— Item analysis of the GRIMS. The correlations between each item and the total GRIMS scale adjusted for that item for men and women in the pilot and standardization clinical groups and in the General Practitioner (GP) group

Sample Sex	Pilot group ————————————————————————————————————		Standardization group				
			Clinical		GP		
	M 60	F 60	M 82	F 80	M 30	F 48	
Item			· · · · · · · · · · · · · · · · · · ·	.,			
1	0.67	0.51	0.52	0.58	0.48	0.67	
2	0.60	0.51	0.46	0.27	0.53	0.44	
3	0.74	0.67	0.74	0.56	0.28	0.57	
4.	0.37	0.33	0.33	0.14	0.23	0.31	
5	0.51	0.44	0.51	0.15	0.60	0.17	
6	0.64	0.48	0.57	0.70	0.66	0.35	
7	0.44	0.42	0.38	0.23	0.45	0.52	
8	0.44	0.46	0.65	0.53	0.49	0.43	
9	0.54	0.29	0.25	0.24	0.19	0.37	
10	().74	0.39	0.61	0.30	0.21	0.06	
11	0.43	0.34	0.44	0.20	0.00	0.06	
12	0.43	0.50	0.56	0.44	0.35	0.39	
13	0.39	0.35	0.58	0.36	0.35	0.53	
14	0.46	0.32	0.43	0.35	0.53	0.42	
15	0.61	0.45	0.73	0.45	0.63	0.60	
16	0.59	0.57	0.72	0.51	0.54	0.62	
17	0.56	0.64	0.64	0.54	0.31	0.58	
18	(0.40)	0.55	0.23	0.34	0.32	0.26	
19	0.68	0.39	0.41	0.47	0.50	0.41	
20	0.64	0.51	0.71	0.57	0.57	0.63	
21	0.47	0.51	0.45	0.45	0.14	0.26	
22	0.57	0.41	0.61	0.54	0.44	0.28	
23	0.42	0.45	0.13	0.17	0.49	0.13	
24	0.46	0.54	0.61	0.39	0.52	0.60	
25	0.60	0.56	0.60	0.38	0.52	0.43	
26	0.58	0.48	0.52	0.52	0.31	0.42	
27	0.63	0.64	0.66	0.58	0.56	0.67	
28	0.44	0.45	0.68	0.53	0.42	0.65	

provide support and to aid the therapist. This interpretation receives support from the literature (Lamb, 1986).

While these factors have mitigated against a significant mean difference between GP and clinical groups for the men, and reduced it for women, the raw GRIMS scores show much larger proportions of persons with high scores in the clinical group. Thus, 23 men in the clinical group (21%) have a GRIMS score of greater than 40, compared with one (3%) in the GP group. For women, the comparative figures were 26 (23%) in the clinical group, and one (4%) in the GP group.

A combination of norm referencing and criterion referencing yielded a transformed GRIMS scale which was able to give a good indication of the existence and severity of any relationship problem. Transformation was to pseudo-stanine scores (from 1 to 9 with higher scores indicating a worse relationship) and the transformation table is given in the *GRIMS Handbook* (Rust *et al.*, 1988).

Differences between male and female raw scores were not sufficiently large to justify separate transformations. These are therefore the same for men and women. A transformed score of 5 - average / represents a normal relationship just slightly worse than average in the population at large, Scores of 9 (very severe problems) and 8 (severe problems; will only be found where a relationship is in serious difficulty. Scale points 7 (bad) and 6 (poor) represent mild and moderate relationship problems respectively. Scores of 4 (above average), through 3 (good) to 2 (very good) represent varying degrees of above average relationships. Transformed GRIMS scores of 1 should be treated cautiously. The respondents are either being untruthful or are at such a tender stage of the relationship that prediction of its future course would be invalid on the basis of their responses alone.

Reliability

Split-half reliabilities and Cronbach alpha coefficients were obtained for men and women separately for the construction group and for both standardization groups (see Table 2). The figures for the construction group will however be upwardly biased as they are not independent of selection criteria.

In both standardization groups taken together the split-half reliability was $0.91 \cdot n = 132$; for men, and $0.87 \cdot n = 128$; for women.

Sample	Pilot Clinical		Standardization				
Nature			Clinical		GP		
Sex	M 60	F 60	M 82	F 80	M 30	F 48	
Split-half reliability	0.94	0.86	0.93	0.87	0.81	0.89	
Crombach's	0.92	0.89	0.91	0.86	0.85	0.89	

Table 2. Split-half reliabilities and Cronbach alpha for the subject groups

Validity

Content validity of the scale is high with respect to its specification, and high face validity has been incorporated into the item selection.

Initial evidence of diagnostic validity was obtained within the pilot group, where use was made of the fact that many couples at marital clinics were present primarily with sexual problems and with marriages which were otherwise satisfactory. Therapists were asked to make this diagnosis for the sample on the basis of their clinical interviews. Of the 60 couples, nine were diagnosed as having a sexual rather than a marital problem, and another 15 as having a strong sexual element to their marital problem. For men these three groups had GRIMS means of 40.87 for the marital problems group, 32.54 for the sexual complications group, and 27.89 for the sexual problems only group. Analysis of variance gave a significance of 0.0028 for the difference between these means. For women the GRIMS means were 45.37, 39.23 and 30.11 respectively (P < 0.0003). As expected, those with problems which were predominantly sexual in nature had significantly lower scores on the GRIMS.

In the standardization study there was no significant difference in ages between the GP group (mean age = 34.97 years, s.d. = 13.01, n = 29) and the clinical group (mean age = 36.33 years, s.d. = 12.13, n = 24; with some missing age data), the t-value being 0.40. For women in the standardization groups, the mean GRIMS scores were 27.21 (s.d. = 10.02, n = 48) in the GP group, and 35.51 (s.d. = 10.37, n = 80) in the clinical group. The t-test for the difference between womens' GRIMS

scores in these groups was significant at the 0.00001 level (t=4.44). For the men in the standardization study, group means for the GRIMS were 28.37 (s.d. = 9.03, n = 30) in the GP group, and 30.76 (s.d. = 13.03, n = 84) in the clinical group. The difference between these means was not (t=0.93). However this result needs considerable qualification. Cochran's C test for non-homogeneity of variance was significant at the 0.01 level, and a Multivariate t-test between the 28 GRIMS items in the two groups was significant at the 0.0001 level. The explanation almost certainly lies in the diverse nature of couples presenting for marital therapy. It must be remembered that these couples are not a random sample of bad marriages, but a group of couples who are sufficiently concerned about specific factors in their relationships to seek help. This is demonstrated quite clearly when the men in the marital therapy group are subdivided on the basis of critical items. Thus for item 26: 'I suspect we are on the brink of separation', 19 men in the clinical group (32%) agree to this item, while in the GP group only two (7%) of the men agree.

A rating of the validity of the GRIMS as an estimator of change was obtained from 24 clinical couples who received marital therapy and completed the GRIMS before therapy began and again after the fifth session (or the final session if earlier). The therapists, who were blind to the GRIMS results, were asked to rate the couple on a five-point scale ranging from '0-improved a great deal' through '1-improved moderately', '2-slightly improved', '3 not improved at all' to '4 got worse'.

For the men, the GRIMS score changed from 50.29 (s.d. = 16.48) before therapy to 36.67 (s.d. = 12.60) after therapy. The improvement was statistically significant at the 0.001 level (t=4.64). For the women the initial GRIMS score was 52.52 (s.d. = 14.24) and following therapy it was 39.93 (s.d. = 10.09). This improvement was also statistically significant at the 0.001 level (t=5.10). The average overall change resulting from therapy for men and women together was 13.23 GRIMS raw scale points.

Evidence of the validity of the GRIMS in assessing change was obtained. The GRIMS scores for the male and female partner were averaged for each couple. This average GRIMS score from before therapy was subtracted from the average GRIMS score following therapy, or at the fifth session, to give a GRIMS score for change during therapy (a large negative score representing a large improvement). This GRIMS change score was correlated with the therapist's ratings of change, giving a correlation coefficient of 0.77 (n = 24, P < 0.0001). This

provides firm evidence for the validity of change in the GRIMS score as an estimate of change in the quality of the relationship, or of the effectiveness of therapy.

While the scores of both the male and female partners are indicators of the state of the relationship itself, differences between them would be expected, particularly when one of the partners is doubtful of the viability of relationship while the other is keen on its continuation. The scores of both partners can be seen as representing some common and some specific variance. The extent of the communality is indicated by the correlation between the partners scores which, for the pilot study was 0.73 (representing a common variance of 50%). Within the standardization study the correlation between male and female partner's scores was 0.53 (P < 0.0001, n = 73). The size of this correlation is a good indication of the power of the test, and is of such a size as to give some confidence in predicting the state of a relationship from one of the partners alone.

Discussion

One advantage of the GRIMS over other marital or relationship questionnaires is its simplicity of administration. The client has to answer 28 questions on one side of paper within a standardized format. This makes it quick and uncomplicated for the client. The carbonized self-scoring sheet enables the therapist to obtain the result within 2 minutes. The marital relationship itself is, of course, always particularly complex and each couple's problems will have a unique aspect, so that the therapist when first seeing the clients will need to probe particular issues and underlying dilemmas. The GRIMS can provide a useful framework for this venture by giving an objective and standardized view of the severity of the couple's problem, while a quick preview by the therapist of the client's respone to the individual GRIMS questions can identify useful avenues to explore and save valuable clinical time.

The GRIMS is a companion test to the Golombok Rust Inventory of Sexual Satisfaction [GRISS (Rust and Golombok, 1985a and b, 1986)] which is in use in sex therapy and research. For this reason the GRIMS asks no questions directly about the sexual side of the relationship, although it does include expression of warmth and affection. This lack of overlap means that with the GRISS and GRIMS together it is possible to pinpoint a relationship problem as either marital or sexual and to adjust therapy accordingly (Rust et al., 1988; Golombok and Rust, 1988).

The GRIMS is primarily applicable to married or unmarried hetero-

sexual couples who live together. It is further applicable to such couples who are separated for work or similar reasons on a temporary basis, and to couples who are temporarily separated for other reasons so long as either one identifies the other as a primary partner. It may be used to some degree within multiple relationships or homosexual relationships, although no standardization data is available yet for these groups.

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