Development of a Rating Scale for Primary Depressive Illness

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This is an account of further work on a rating scale for depressive states, including a detailed discussion on the general problems of comparing successive samples from a 'population', the meaning of factor scores, and the other results obtained. The intercorrelation matrix of the items of the scale has been factor-analysed by the method of principal components, which were then given a Varimax rotation. Weights are given for calculating factor scores, both for rotated as well as unrotated factors. The data for 152 men and 120 women having been kept separate, it is possible to compare the two sets of results. The method of using the rating scale is described in detail in relation to the individual items.

A previous account of the use of a rating scale for the assessment of depressive states (Hamilton, 1960), must be regarded as little more than a preliminary report, intended to arouse interest and encourage the use and development of such a scale. This aim was achieved, since a number of papers have already been published in which the scale was used for evaluating drugs in the treatment of depressive states. In the 1960 paper, the data was based on the results obtained from a mere forty-nine male patients; the present work describes the results obtained from 152 male and 120 female patients.

Although the additional 103 male patients far outweigh the original forty-nine, the new correlation matrix for the male patients is very much the same as the original. The most obvious change is in the relation between the symptoms associated with anxiety and the others: there is a reduction of the size of the negative correlations, which in some cases have now swung over to positive (but only just). An adequate explanation for the change can be found by examining the case histories: a number of patients suffering from severe anxious (agitated) depression are to be found among the additional cases, i.e. cases who showed much depression accompanied by much anxiety; but this point will be considered in detail below.

The matrix of correlations was factor-analysed as before (by the method of principal components with unity in the leading diagonal) and six factors were extracted (Table 1). These are all, out of the total of seventeen, that have latent roots above unity, and it has been proposed (Kaiser, 1960) that this is one suitable criterion for judging the number of factors that should be extracted from a correlation matrix. The number is probably excessive, since for a mere 152 cases, it is unlikely that the 5th and 6th factors (with the smallest roots) have reached stability. Originally, the first three vectors were rotated graphically, by trial and error, until a reasonable approximation to simple structure was obtained. This time, all six factors have been rotated by the Varimax method (Kaiser, 1958). Finally, weights were computed so that factor scores could be calculated from the raw scores on the rating scales.

Table 1. Correlation matrix, means and S.D.s for men and women

Based on 152 men

Column key: 1 Depression · 2 Guilt · 3 Suicide · 4 Insomnia (initial) · 5 Insomnia (middle) · 6 Insomnia (delayed) · 7 Work and interests · 8 Retardation · 9 Agitation · 10 Anxiety (psychic) · 11 Anxiety (somatic) · 12 Somatic (gastro-intest.) · 13 Somatic (general) · 14 Libido · 15 Hypochondriasis · 16 Loss of insight · 17 Loss of weight · 18 Total. (Upper triangle = men; lower triangle = women.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Means	5·000	2·513	3·763	3·342	1·980	2·717	6·066	1·632	1·480	3·572	3·158	2·342	2·118	2·138	1·217	0·697	2·605	46·342
S.D.S	1·357	2·000	2·213	1·323	1·642	1·637	1·826	1·847	1·266	1·521	1·957	1·352	1·446	1·764	2·013	1·122	1·696	11·723
Depression		0·256	0·428	0·070	0·107	0·250	0·310	0·476	0·166	-0·006	-0·157	0·321	0·014	0·343	0·039	0·309	0·124	0·557
Guilt	0·437		0·315	-0·027	-0·066	0·190	0·234	0·249	0·062	-0·043	-0·012	0·106	0·016	0·231	0·051	0·344	0·144	0·460
Suicide	0·565	0·487		0·107	0·064	0·104	0·058	0·222	0·067	-0·158	-0·101	0·169	0·036	0·171	0·071	0·312	0·028	0·437
Insomnia (initial)	0·045	-0·003	0·131		0·217	0·109	0·161	0·036	0·154	0·004	-0·039	0·260	0·096	0·130	0·086	0·097	0·179	0·335
Insomnia (middle)	0·084	0·114	0·145	0·234		0·180	0·190	0·185	-0·024	-0·040	0·077	0·301	0·099	0·159	0·023	0·112	0·085	0·352
Insomnia (delayed)	0·220	0·103	0·290	-0·040	0·236		0·219	0·248	0·040	-0·113	-0·249	0·376	-0·067	0·172	0·121	0·159	0·212	0·439
Work and interests	0·426	0·269	0·367	0·133	0·163	0·382		0·272	0·269	0·139	0·317	0·342	0·158	0·207	0·205	0·226	0·137	0·579
Retardation	0·336	0·202	0·194	-0·135	-0·033	0·314	0·389		0·133	0·254	0·151	0·339	0·088	0·245	-0·003	0·374	0·032	0·431
Agitation	0·327	0·157	0·294	0·155	0·235	0·204	0·287	-0·026		0·393	0·192	0·112	-0·053	0·118	0·086	0·154	0·148	0·343
Anxiety (psychic)	0·029	0·013	0·116	0·043	0·151	-0·017	0·133	-0·272	0·269		0·479	-0·073	0·065	0·037	0·026	-0·104	0·188	0·202
Anxiety (somatic)	-0·048	-0·199	0·023	0·162	-0·032	-0·108	-0·216	-0·420	0·133	0·381		0·034	0·162	0·182	0·003	-0·174	0·111	0·235
Somatic (gastro-intest.)	0·232	0·121	0·184	0·049	0·195	0·292	0·341	0·325	0·036	-0·057	0·151		0·199	0·158	0·138	0·204	0·310	0·576
Somatic (general)	0·259	0·060	0·237	-0·085	0·002	0·080	0·366	0·152	0·052	0·147	0·050	0·268		0·102	0·091	0·059	-0·040	0·272
Libido	0·116	0·095	0·155	-0·007	-0·066	-0·078	-0·020	-0·013	0·007	0·047	-0·052	0·002	0·242		0·131	0·192	0·171	0·538
Hypochondriasis	-0·013	-0·032	0·006	0·057	-0·079	0·068	0·115	0·078	0·103	-0·013	0·111	0·012	-0·013	-0·073		0·448	0·274	0·402
Loss of insight	0·316	0·260	0·356	-0·087	-0·014	0·226	0·414	0·496	0·139	-0·062		0·303	0·005	-0·014	0·242		0·139	0·523
Loss of weight	0·142	0·108	0·134	0·147	-0·022	0·154	0·221	0·141	0·206	0·129		0·256	-0·023	-0·068	0·039	0·124		0·452
Total	0·622	0·457	0·688	0·277	0·335	0·480	0·675	0·363	0·506	0·310		0·447	0·394	0·250	0·235	0·421	0·394	
Means	5·400	2·392	3·275	2·683	1·800	2·517	5·150	1·158	1·833	4·392	3·508	2·483	2·942	1·958	1·025	0·542	2·608	45·650
S.D.s	1·368	1·774	2·238	1·675	1·723	1·824	2·057	1·820	1·410	1·721	2·118	1·264	1·252	1·849	1·934	1·068	1·682	11·724

Based on 120 Women

These factor scores are in T-form, i.e. they have a mean of 50 and a s.d. of 10. Tables 2a and 2b, and 3a and 3b give the factor saturations, and weights and constants for factor scores, both for principal component and Varimax factors.

In the development of this scale, some practical problems have appeared which are worth considering in detail. Two important ones are concerned with sampling and with calculation of factor scores.

Problems of sampling

A correlation matrix should always be derived from as large a number of cases as possible. In clinical work, except in the case of chronic patients in mental hospitals, it takes a long time to accumulate even a fair number of cases. It is therefore convenient and useful to obtain preliminary results from a moderate number of cases and to add further batches as they are accumulated. The 'population' of patients is therefore sampled at successive intervals, and the question arises whether such consecutive samples can legitimately be regarded as derived from the 'same' population. It is always possible that secular changes are occurring, and if this is so, the total sample cannot be regarded as being derived from any sort of 'existing' population. Patients who present themselves for treatment at a hospital are by no means a random sample of those suffering from any one disorder, since the milder cases do not apply for treatment, and of the rest, some will be treated by their general practitioner. Those who are sent to a consultant will vary in the nature of their illness according to the facilities for treatment available both to the general practitioner and to the consultant. As these change so will the process of selection change. Similar problems are found in the field of education.

The homogenity of the groups of patients can be tested by examining the means, variances and covariances (or correlations). The present total of cases consists of four groups: the original forty-nine cases, a further thirty-nine cases collected in exactly the same way by the same physicians, a group of fifteen cases seen in an acute admission ward of a mental hospital and rated by a colleague trained by the author,* and a final group of forty-nine cases, containing a larger proportion of outpatients than the first two groups. Furthermore, the last group of cases was collected after the appearance on the market of specific drugs for the treatment of depressions. There is therefore good reason to suspect that the last two groups do indeed differ from the first two. The difference in means can be tested by analysis of variance, but to test the differences in covariances would require a full analysis of dispersion. Preliminary examination of the data was made in a series of steps, and it was finally decided that a full analysis of dispersion would not yield useful information.

The first step consisted of an analysis of variance of the data on the individual items from the first two groups. These were collected one after the other in exactly the same way (the second group having been accumulated before the results from the first were published) and it is reasonable to assume that they should not differ more than any two random samples from the same population. The seventeen items of the scale plus an eighteenth consisting of a total score gave the following results: the differences between means gave an F ratio of less than unity in eleven variables, and an F ratio significant at the 5 per cent level and 1 per cent level in one variable each. The remaining five were non-significant. Such differences are a little large to be considered as satisfactory, but not too large. The null hypothesis was therefore accepted and it was therefore decided that the two groups could be summed into one. The next step was to compare the differences in the means of three groups of eighty-eight, fifteen and forty-nine cases respectively. The resulting F ratios were as follows: four were less than unity, three were significant at the 1 per cent level and five at the 0·1 per cent level: the rest were non-significant. It was clear that the null hypothesis had to be rejected.

Examination of the means shows that the fifteen cases admitted to the acute observation ward were obviously more ill than the other two groups. They were more depressed, retarded, and hypochondriacal, showed greater loss of appetite, energy and insight, and had had to be admitted into hospital more frequently because they had been so ill. The inclusion of this group therefore widens the range of illness from which the data are derived. On comparing the last group of forty-nine cases, seen after the introduction of antidepressive drugs, with the first group of eighty-eight cases, it was found that only three symptoms showed significant

* Thanks are due to Dr J. Rose for permission to use his data.

Table 2a. *Factor saturations from intercorrelations of items from rating scale (based on 152 men)*

	Principal components (latent vectors)						Varimax rotation					
Depression	0·675	−0·128	0·222	0·295	−0·186	−0·117	0·751	−0·020	0·282	−0·069	−0·023	−0·092
Guilt	0·474	−0·083	0·497	0·096	0·005	0·181	0·606	0·043	0·119	0·190	−0·053	0·313
Suicide	0·480	−0·228	0·344	0·119	0·000	−0·473	0·720	−0·142	−0·154	0·066	−0·046	0·265
Insomnia (initial)	0·313	0·175	−0·411	−0·168	−0·078	−0·577	0·038	0·023	0·129	0·104	0·025	−0·796
Insomnia (middle)	0·346	0·021	0·583	0·107	−0·021	−0·136	−0·017	−0·097	0·428	−0·107	0·275	−0·459
Insomnia (delayed)	0·505	−0·055	−0·198	−0·112	−0·422	0·326	0·143	−0·095	0·713	0·058	−0·228	0·004
Work and interests	0·561	0·244	−0·095	0·120	0·117	0·190	0·282	0·221	0·454	0·175	0·287	−0·023
Retardation	0·605	−0·409	−0·050	0·277	0·062	0·223	0·505	−0·355	0·436	−0·049	0·270	0·139
Agitation	0·187	0·644	0·281	−0·036	−0·222	−0·348	0·246	0·666	−0·072	0·132	−0·264	0·323
Anxiety (psychic)	−0·063	0·753	0·159	0·171	−0·021	0·082	−0·051	0·792	0·002	−0·009	0·030	0·055
Anxiety (somatic)	−0·085	0·751	0·051	0·277	0·083	0·131	−0·103	0·783	0·029	−0·076	0·197	0·074
Somatic (gastro-intest.)	0·632	0·096	−0·425	0·014	−0·097	0·053	0·176	−0·006	0·652	0·092	0·177	−0·325
Somatic (general)	0·168	0·161	−0·273	0·285	0·732	−0·017	0·015	0·102	−0·030	0·102	0·846	−0·084
Libido	0·500	0·177	0·105	0·263	0·036	0·051	0·450	0·233	0·271	0·027	0·188	−0·004
Hypochondriasis	0·352	0·184	0·084	−0·683	0·402	0·104	−0·028	0·023	0·091	0·887	0·084	−0·032
Loss of insight	0·622	−0·123	0·297	−0·354	0·299	−0·086	0·499	−0·160	0·056	0·653	0·073	−0·056
Loss of weight	0·376	0·366	−0·074	−0·402	−0·252	0·222	−0·038	0·263	0·499	0·402	−0·260	−0·084
			Latent roots									
Sum of squares	3·441	2·132	1·448	1·265	1·154	1·032	2·365	2·059	1·988	1·521	1·261	1·279

Table 2b. *Factor saturations from intercorrelations of items from rating scale (based on 120 women)*

	Principal components (latent vectors)						Varimax rotation					
Depression	0·701	0·174	0·234	−0·248	−0·024	−0·029	0·731	−0·029	0·162	0·276	0·032	−0·031
Guilt	0·539	0·044	0·180	−0·573	0·020	0·026	0·765	−0·192	0·068	−0·042	0·163	0·007
Suicide	0·676	0·294	0·176	−0·321	−0·034	−0·040	0·782	0·077	0·102	0·219	0·062	0·017
Insomnia (initial)	0·067	0·382	−0·433	−0·096	0·038	0·468	0·088	0·204	−0·152	0·015	0·128	0·692
Insomnia (middle)	0·238	0·295	−0·470	−0·076	0·542	−0·162	0·152	0·159	0·559	0·336	0·446	0·132
Insomnia (delayed)	0·530	−0·035	−0·266	0·243	0·184	−0·220	0·176	−0·082	0·311	0·596	−0·053	−0·044
Work and interests	0·748	0·066	−0·077	0·222	−0·009	−0·088	0·411	−0·042	−0·053	0·648	−0·180	0·034
Retardation	0·603	−0·514	0·102	0·143	0·008	0·040	0·224	−0·588	0·110	0·453	−0·198	−0·087
Agitation	0·393	0·489	−0·290	−0·129	−0·224	−0·149	0·492	0·404	−0·272	0·150	0·176	0·183
Anxiety (psychic)	0·031	0·662	−0·052	0·128	−0·143	−0·226	0·143	0·698	−0·068	0·115	−0·072	−0·005
Anxiety (somatic)	−0·309	0·727	0·152	0·208	−0·124	−0·034	−0·129	0·800	0·205	−0·066	0·035	0·038
Somatic (gastro-intest.)	0·530	−0·086	−0·059	0·451	0·297	0·242	−0·005	−0·212	0·097	0·733	0·067	0·214
Somatic (general)	0·336	0·263	0·534	0·478	0·164	0·164	−0·066	0·272	0·453	0·586	0·075	−0·341
Libido	0·070	0·274	0·601	0·012	−0·032	0·353	0·155	0·165	0·698	0·002	0·155	0·072
Hypochondriasis	0·120	−0·062	−0·228	0·253	−0·720	−0·163	0·023	0·106	−0·108	0·034	−0·808	0·027
Loss of insight	0·647	−0·379	0·051	−0·054	−0·308	−0·067	0·454	−0·439	−0·046	0·269	−0·438	−0·033
Loss of weight	0·335	0·126	−0·206	0·174	−0·206	0·656	0·102	−0·047	0·208	0·254	−0·200	0·717
Sum of squares	3·698	2·141	1·473	1·242	1·188	1·052	2·535	2·108	1·368	2·278	1·279	1·225

Latent roots

Table 3a. *Weights and constants for calculating factor scores (based on 152 men)*

	Principal components (Unrotated loadings)						Varimax rotation (Rotated loadings)					
Depression	1·45	−0·44	1·13	1·72	−1·18	−0·84	2·52	0·05	0·20	−1·25	−0·58	−0·34
Guilt	0·69	−0·19	1·72	0·38	0·02	0·88	1·38	0·26	−0·01	0·33	−0·28	1·48
Suicide	0·63	−0·48	1·07	0·43	0·00	−2·07	1·79	−0·21	−1·26	−0·15	−0·26	−1·12
Insomnia (initial)	0·69	0·62	−2·14	−1·00	−0·51	−4·23	−0·14	−0·18	−0·50	0·14	−0·24	−4·91
Insomnia (middle)	0·61	0·06	−2·46	0·52	−0·11	−0·81	−0·57	−0·42	1·19	−0·82	1·02	−1·93
Insomnia (delayed)	0·90	−0·16	−0·84	−0·54	−2·23	1·93	−0·39	−0·30	2·76	−0·25	1·49	0·67
Work and interests	0·89	0·63	−0·36	0·52	0·55	1·01	0·21	0·56	1·06	0·25	1·01	0·45
Retardation	0·95	−1·04	−0·19	1·18	0·29	1·17	0·89	−0·40	1·09	−0·68	1·02	1·12
Agitation	0·43	2·39	1·53	−0·23	−1·52	−2·67	1·28	2·80	−1·18	0·19	−1·94	−2·12
Anxiety (psychic)	−0·12	2·32	0·72	0·89	−0·12	0·52	0·26	2·47	0·31	−0·38	0·34	0·74
Anxiety (Somatic)	−0·13	1·80	0·18	1·12	0·37	0·65	−0·13	2·05	0·14	−0·38	0·76	0·49
Somatic (gastro-intest.)	1·36	0·33	−2·17	0·08	−0·62	0·38	−0·35	−0·24	2·36	−0·25	0·56	−1·13
Somatic (general)	0·34	0·52	−1·30	1·56	4·38	−0·11	−0·16	0·24	−0·79	0·52	4·75	−0·17
Libido	0·82	0·47	0·41	1·18	0·18	0·28	1·06	0·71	0·42	−0·41	0·67	0·36
Hypochondriasis	0·51	0·43	0·29	−2·68	1·73	0·50	−0·70	−0·12	−0·17	3·16	0·34	0·20
Loss of insight	1·61	−0·51	1·83	−2·49	2·31	−0·74	1·43	−1·02	−1·21	3·82	0·37	−0·11
Loss of weight	0·64	1·01	−0·30	−1·87	−1·29	1·27	−0·87	0·65	1·72	1·41	−1·53	0·13
Constant	16·37	26·91	53·01	34·51	52·46	57·13	25·25	27·08	28·93	49·44	38·86	66·21

Mean 49·50
S.D. 10·00

Table 3b. *Weights and constants for calculating factor scores (based on 120 women)*

	Principal components (Unrotated loadings)						Varimax rotation (Rotated loadings)					
Depression	1·38	0·59	1·16	-1·46	-0·15	-0·20	2·30	0·09	0·58	-0·14	0·24	-0·33
Guilt	0·82	0·12	0·69	-2·60	0·10	0·14	2·37	-0·61	0·05	-1·21	0·70	-0·02
Suicide	0·82	0·61	0·53	-1·15	-0·13	-0·17	1·58	0·26	0·16	-0·29	0·19	-0·09
Insomnia (initial)	0·11	1·07	-1·76	-0·46	0·19	2·65	-0·03	0·11	-0·31	-0·35	0·57	3·31
Insomnia (middle)	0·37	0·80	-1·85	-0·36	2·65	-0·89	0·11	0·59	-2·54	0·90	2·11	0·21
Insomnia (delayed)	0·79	-0·09	-0·99	1·07	0·85	-1·15	-0·33	0·27	-1·35	1·60	0·03	-0·47
Work and interests	0·98	0·15	-0·25	0·87	-0·04	-0·41	0·16	0·30	-0·25	1·25	-0·48	-0·05
Retardation	0·90	-1·32	0·38	0·63	0·04	0·21	-0·01	-1·28	0·39	1·05	-0·42	-0·26
Agitation	0·75	1·62	-1·40	-0·74	-1·33	-1·01	1·28	1·69	-1·40	-0·38	-1·27	0·51
Anxiety (Psychic)	0·05	1·80	-0·20	0·60	-0·70	-1·25	0·19	2·21	-0·33	0·26	-0·67	-0·40
Anxiety (Somatic)	-0·39	1·60	0·49	0·79	-0·49	-0·15	-0·27	1·78	0·75	0·08	-0·20	0·04
Somatic (gastro-intest.)	1·13	-0·32	-0·32	2·88	1·98	1·82	-1·53	-0·62	0·66	3·22	1·11	1·50
Somatic (general)	0·73	0·98	2·90	3·07	1·10	-1·24	-0·62	1·60	2·30	2·92	0·67	-2·20
Libido	0·10	0·69	2·21	0·05	-0·14	1·81	0·49	0·08	2·76	-0·10	0·64	0·63
Hypochondriasis	0·17	-0·15	-0·80	1·05	-3·13	-0·80	-0·37	0·66	-0·17	-0·10	-3·41	-0·05
Loss of insight	1·64	-1·66	-0·33	-0·40	-2·43	-0·60	1·26	-1·39	-0·32	0·13	-2·86	-0·34
Loss of weight	0·54	0·35	-0·83	0·83	-1·03	3·71	-0·50	-0·53	1·39	0·36	-0·72	3·67
Constant	20·51	20·92	44·08	37·99	49·81	44·99	29·58	26·66	39·63	23·69	50·36	36·96
Mean 49·50												
S.D. 10·00												

differences: depression, loss of energy and loss of interest. In all three, the last group was milder than the first. It was therefore concluded that although the tests of significance show that the three groups differ, the total of 152 patients cover a greater range of illness than the first group of forty-nine cases, and this meant that generalisations from the data would be more useful. It might have been thought that the use of antidepressive drugs by general practitioners would result in only the more severe cases being referred to psychiatrists, but the evidence here suggests that this had not in fact occurred.

Weights for factor scores

Factor analysis serves three main functions: (1) to reduce a mass of inter-relationships between variables to a simpler and more comprehensible pattern; (2) to use empirical data as a basis for the classification of 'tests' or 'persons'; and (3) to convert a set of correlated measurements into a set of uncorrelated scores. It has also been asserted that factor analysis can be used to give information on the structure of the mind or personality (where the data are derived from psychological variables); and on underlying causative functions or processes. These assertions are probably now made with much less conviction than formerly. In any case, it would be irrelevant to deal with these last two problems here.

The first three functions can better be regarded as three stages of factor analysis, but it is uncommon for published work to go beyond the first. In most published papers variables are intercorrelated, the matrix of correlations factor-analysed and the factors then usually rotated to some form of 'simple' structure. The factors are then named or 'identified' by the saturations. The classification of variables is implicit in the process of rotation and naming. Sometimes, scales containing many items, or batteries of tests, have been factor analysed and the results used to determine groupings of the constituents to give so-called factor scores. Examples are the Wittenborn (Wittenborn, 1951 and 1962) and Lorr IMPS (Lorr, McNair & Klett, 1964) scales for rating mental patients. The Maudsley Personality Inventory (Eysenck, 1955) is another example, although the choice of items was not derived from factor analysis. Scores on groups of items are not true factor scores but only rough approximations.

There are two mathematical models underlying factor analysis. In the standard methods the total variance is separated into common variance arising from common factors, and specific variance, which is ignored. The number of common factors is less than the number of variables. Additional assumptions about the relations between common and specific factors determine the particular type of analysis. The second model underlies what is often referred to as principal component analysis. Here, all the variance is analysed into common factors, and the number of factors (or components) is equal to the number of variables. If it is desired to ignore specific factors, the computational methods described by Harman (1960) are clear and not difficult to use. The variances of the scores on the different factors are proportional to the variances of the factors themselves (Hamilton, 1958). Many formulae for factor scores have been given by Kaiser (1962), but unfortunately, the actual computational procedures are difficult to follow.

Since factor scores are not true measurements, the actual values given to them are arbitrary. It would be advisable, therefore, to give them values in a form which is immediately comprehensible. The simplest form is that of standardized scores, having a mean of zero and a s.d. of unity. In this form, most of the scores are fractional, and the negative signs make them difficult to handle on a desk calculator. These difficulties are avoided by converting them into T-scores, with a mean of 50 and a s.d. of 10. Integral values are sufficiently accurate for normal purposes, and if it were necessary, the scores could be normalized. There is one disadvantage of T-scores, and that is seen when an attempt is made to determine the distribution. If the scores are assembled into groups of, say, half a s.d. in width, then many of the scores fall on the dividing lines, and have to be appropriately allocated. This can be avoided by making the mean to be 49·5, and then all scores fall into their appropriate groups without difficulty.

Much of the difficulty of calculating factor scores is avoided by starting with a factor analysis based, not on communalities, but on the whole of the variance, i.e. using unity in the leading diagonal of the correlation matrix. The method of principal components (with communalities) has always been regarded as the best, and if unity is used in the leading diagonal it makes very little difference to the factors with the larger variances. Many programmes are now available for use with electronic computers and they have eliminated the immense labour required by this method. (Hallworth, 1965; Hamilton, McGuire & Goodman, 1965).

The meaning of factor scores

Most rating scales, and this one in particular, use a system of scoring in which increasing severity of symptoms leads to a higher score. In this scale, all the ratings are concerned with pathological states, so that a healthy person would score a zero on the scale. The normal despondency produced by adverse circumstances is ignored when rating 'Depression', the rating for 'Anxiety' is a measure of that symptom occurring during the course of an illness, and is not concerned with the normal behaviour of the person with an anxious disposition. For this reason, the total of scores is closely related to a 'Ratio Scale' having some of the properties of the real numbers. Patients who have the same score have approximately the same severity of illness and so on.

This property, that zero forms the natural baseline, is lost in the factor scores. A normal person will score 17 on the first factor, and since symptoms of Anxiety and Agitation have a negative weighting, persons who show only these symptoms will actually score less than this basal figure. Although increasing scores above signify increasing severity of symptoms, less than 17 also signifies the presence of some symptoms. In practice, this is a trivial matter. The lowest possible score obtainable is 15 points and this would occur only if the patient had the maximum score on all symptoms of anxiety, and no other symptoms. Such a patient would not be diagnosed as a Depressive and the scale would be inapplicable. It must not be forgotten that a score of 50 represents the mean of the sample; although it might represent the mean score of the population of depressed patients, it is meaningless to consider it in relation to the population as a whole, ill and well.

When the scores on the bipolar factors are considered, the situation is even more complicated. A score above or below the mean of 50 represents, not severity, but a particular pattern of symptoms. The mean score represents the pattern of the mean of the group of patients in the sample. Unless there is some evidence that the population of patients was sampled to obtain a representative group, it is unlikely that this mean bears any relation to the mean of all depressed patients. If above or below the mean represents particular patterns of symptoms, it would seem logical to make the mean represent no particular pattern, i.e. to make this the score of a normal healthy individual. Clearly, this is not so, for the normal person will always score a figure that is represented by the Constant. It might be worth considering changing the Constant in each factor so that a normal person would score 50 in each factor, but to do this would destroy most of the advantages of the *T*-score.

The meaning of factors

Factors are usually interpreted according to the size and sign of the factor saturations, i.e. the correlations between factor and variables. There are other ways, which have been considered by Cattell (1962), consisting of the weights for estimating factors from the variables, and also the weights for estimating the variables from the factors. These three methods apply to orthogonal factors, but in the case of correlated factors, these three methods can also be applied to the reference vector of the factor, making six methods in all. A brief search through the literature seems to suggest that most investigators are content to use only the factor saturations, and even Cattell himself appears to regard this one method as sufficient for practical purposes (Pawlik & Cattell, 1964). Nevertheless, if factors are to be used for any practical purpose, it is likely to be through their use in classifying persons, i.e. through the use of factor scores, and it would then appear that the best way of determining the nature of a given factor is through the weights of its constituent tests. The distinction between these two methods is meaningless in the case of principal components, since the two are then identical, but when rotated factors are considered, then discrepancies between the two can appear.

In the present case, the differences are small for two reasons. The first is the method used for extracting the factors (principal components with unity in the leading diagonal), and the second is that the intercorrelations between the variables are fairly low. If the intercorrelations were zero, then the correlation matrix would be a unit matrix, and its inverse would also be a unit matrix, which when multiplied into the factor saturations would leave them unchanged. The greater the intercorrelations between the variables, the greater will be the differences between the factor saturations and the factor weights.

Identifying a factor by examining the characteristics of a group of persons who score, say, high on that factor, is a procedure which is not as simple as it seems. These persons have scores on other factors, and their characteristics will be related to all their factor scores. If the

factor in question has a relatively small variance, it may be hidden by the factors with larger variance. It is therefore advisable to take all the factors into account when grouping persons according to factor scores. Furthermore, bipolar factors cannot be considered in the same way as unipolar or general factors. In the preliminary report on this rating scale this point had been forgotten, leading to an unfortunate error which was not corrected in time. In the case of bipolar factors, the nature of the factor must be demonstrated not only by considering those individuals who score high on the factor but also those who have a low score. The direction of scoring such a factor is arbitrary, i.e. the signs of the weights given to the test scores can be reversed without altering the nature of the factor. The same applies to factor saturations: those with negative saturations must be considered equally with those with positive saturations. Had this been done, the names that were given to the factors to identify them would have been seen to be incomplete if not actually misleading. There is no point in wasting space by going into the errors in detail here, but it is hoped that the following account will be reasonably accurate. In any case, 'identifying' factors and naming them is but a preliminary step. In the end, the methods of experiment must be applied to the problem. 'The proof of the pudding is in the eating.'

MALE PATIENTS

Description of the factors

In the first factor (F_1), all the saturations are positive except for two negligible negative saturations of -0.1 for both types of symptoms of Anxiety. In the original sample, the correlation matrix gave rise to a first factor which showed negative saturations for these two and for Agitation. On this basis it was concluded, somewhat hastily, that the first factor represented the symptoms of Retarded Depression. The evidence now available suggests that the first factor is a General Factor of Depressive Illness, measuring the severity of the symptoms. The present group of 152 men include a much wider range of severity of illness than the original forty-nine; and this is reflected in the change of the correlations: the positive ones tend to be larger and the negative ones to be smaller. Furthermore the crude total score on the rating scale correlates with the first factor to the extent of 0.93, whereas the correlation with the second factor is 0.3, and with the other factors down to negligible levels.

Experience with factor analysis in the field of intelligence provides the backing for the present opinion. The subtests for intelligence or general ability have positive intercorrelations and the first factor is a general factor of intelligence or ability. The second factor extracted usually represents the pattern of Arithmetical versus Verbal abilities. This is true only if the correlations are based on tests from a wide range of ability. If the range is narrowed, the intercorrelations diminish in size and some may become negative. This has the effect of reducing the variance of the first factor as compared with the second and other factors. If the subjects were selected so that they all had the same score on the total test, then the matrix of correlations would be 'bipolar', the first factor would disappear, leaving the bipolar factor (Arithmetical *v.* Verbal) to appear as the largest factor. A selection of subjects not quite so limited in range would produce results intermediate to those described. This appears to be the situation in this case, for the variance (size of the latent root) of the first factor is 3.44 and of the second 2.13. These two variances are very close together. In the investigation described by Kiloh & Garside (1963) the variables are similar to those in this rating scale, but only out-patients were included, so that the range of severity of illness was relatively limited. Not surprisingly, their bipolar factor had a variance larger than the general factor.

The second factor (F$_2$) is a typical bipolar factor, with the symptoms of Anxiety (psychic and somatic) and Agitation having high positive saturations and counterbalancing the negative saturations of Retardation, Suicide, Depression and Loss of Insight. Here, it would appear, is the traditional clinical dichotomy of Retarded *v.* Agitated Depression; a triumphant vindication of clinical experience by mathematical techniques (or perhaps the other way round!). Unfortunately, the nature of factor analysis precludes such a simple identification between clinical syndromes and factors. In the clinic, a patient can be diagnosed as suffering from an Anxious (Agitated) Depression or a Retarded Depression. If his symptoms are not clearly either one or the other, he will be described as suffering from a mixed or intermediate type of illness. In all cases, he may be severely ill or only slightly ill. A high score on F$_2$ indicates a pattern of symptoms like that of Anxious Depression, but a low score does not signify the same thing on a milder level; it shows that the patient has a pattern of symptoms corresponding to a Retarded Depression. If we wish to consider the severity of the symptoms, we have to turn to the score on F$_1$. Thus, to describe the clinical syndromes in terms of factor scores, we have to use two factors. Examination of the factor saturations confirms this point. An agitated depressed patient can be severely depressed and even suicidal, but the presence of these symptoms will *diminish* the score on F$_2$. This is contrary to the way the clinician would think, for he includes the symptoms of depression and suicide in the syndrome. Of course, a rotation of the factor axes to a half-way position would reconcile the clinical and factor-analytic approaches, but only if the other factors were ignored; and this would be indefensible. A score on F$_2$ indicates merely a pattern of symptoms; it is an index number reflecting a particular profile of scores, and the information it provides is therefore incomplete from the clinical viewpoint.

The next factor (F$_3$) contrasts Insomnia, Loss of Appetite and Fatiguability at one end, with Guilt, Suicide and Loss of Insight at the other. The fourth factor contrasts Hypochondriasis, Loss of Weight and of Insight against a varied collection of symptoms, all with low saturations. In a previous paper (Hamilton & White, 1959) it was pointed out that although these latter symptoms did not form a previously recognized pattern, the patients who had high scores on this factor did form a group characterized by instability of personality and social history. The other end of the factor shows a pattern much like that of a hypochondriacal syndrome. It is unlikely that the next two factors are sufficiently stable to be worth considering in detail.

<center>FEMALE PATIENTS</center>

Description of the factors

The first factor (F$_1$) (Table 2b) is a general factor, much like that of the men, but shows some minor differences in the order of symptoms as determined by the saturations. Only one variable (somatic symptoms of Anxiety) has a negative saturation, but this is not negligible. The second factor F$_2$ is a bipolar factor contrasting, at the positive end, the symptoms of Anxiety (somatic and psychic), Agitation and Initial Insomnia with Retardation and Loss of Insight at the negative end. It also bears a close resemblance to the corresponding factor for the men.

The third factor (F_3) contrasts Loss of Libido, Fatiguability and Depression at one end with Insomnia (middle and initial), Agitation, Delayed Insomnia and Hypo-chondriasis. It appears to correspond roughly with the F_4 of the men. The fourth factor contrasts Loss of Energy and Appetite, together with Hypochondriasis, against Guilt, Suicide, Depression and Agitation. It most closely resembles F_3 of the men. F_5 and F_6 are also probably not yet sufficiently stable to be worth considering in detail.

COMPARISON BETWEEN MEN AND WOMEN

The resemblance and differences described are based on impressions derived from examination of the factor saturations. This does not help very much because it has long been recognized that variation between samples from the same population will give rise to differences in the factors. The method of rotation to simple structure was devised to overcome this difficulty. The Varimax method was used for the data here. It gives a good approximation to simple structure with the restriction that factors remain orthogonal (Tables 2a and 2b). Weights for factor scores are given in Tables 3a and 3b. Factor scores obtained by using these weights and constants have a s.d. of 10 and a mean of 49·5. To obtain factor scores in true T-form the constants should be increased by 0·5.

On comparing the (Varimax) rotated factors, it would appear that the first factors show a great resemblance, the second ones not so good, but it is difficult to go much further. An objective method is required and of the various methods proposed, there can be little doubt that the neatest and most elegant is that of Ahmavaara. This has been used here but will be reported elsewhere (Hamilton, unpublished).

There are a number of features of depressive illness which differ between the sexes. There are objective differences, such as the mean age of onset for patients admitted to hospital, which is lower for women than for men; and incidence, which is greater in women than in men. There is also some evidence that the pattern of symptoms differ between the sexes, though this is rarely mentioned in textbooks. These and others are good reasons for dealing separately with men and women when considering symptomatology, prognosis, response to treatment and so on. A rating scale such as this provides an opportunity to examine the differences in symptoms by means of the refinements of statistical techniques, and the results so obtained show clearly that such differences can by no means be ignored.

Comparison of the mean scores of the seventeen items of the rating scale carried out on 152 men and 120 women shows that men rate higher on items (7) Inability to Work and Loss of Interest, (4) Initial Insomnia (very highly significant), and (8) Retardation (significant); whereas women rate higher on (13) Fatiguability, (10) Psychic Symptoms of Anxiety (very highly significant), (1) Depression and (9) Agitation (significant). For the other ten symptoms, no differences are significant, and indeed in seven of them the F ratio is less than 1. This is true also for the total score on the scale, which is almost equal for the two groups. The greater anxiety and agitation, together with the lesser retardation, of women is well in accord with clinical experience, but the greater initial insomnia among men is not. It is not possible to be certain as to the significance of the men's greater score on inability to

work and loss of interest. This may be partly an artifact of the method of rating. Admission to hospital because of the illness is always given a full rating but if men are unable to work it is not so great a problem for them to be admitted to hospital as in the case of women, whose responsibilities can less be spared at home. In contrast to their lesser deterioration of working capacity and interests, women show a greater loss of energy and fatiguability. It may be that the ratings on these two symptoms represent opposite aspects of the same phenomenon, and this hypothesis is given some plausibility by the fact that the sum of the scores on the two items is almost identical for the two sexes.

The difference in mean scores does not give a complete account of all the differences in the ratings. The next step (which, strictly speaking, should have been done preparatory to the comparison of means) is to compare the variances of the items. For eight items, the women have a greater variance than the men, and less for nine items. The variances for total scores are almost exactly equal (as are the means). The three largest variance ratios are for items (4) 1·60, (13) 1·33 and (10) 1·28. The last one is one of the items where the variance of the men is greater than that of the women. As these three are statistically significant, it could be said that chance results are slightly exceeded.

Examination of the correlation matrix for women (Table 1) shows that it resembles that for the male patients, but in general, the positive correlations tend to be a little larger and the negative ones a little smaller. There are two exceptions, the items (14) Loss of Libido and (15) Hypochondriasis, which show correlations that have come down and, in the former, have even swung over to being slightly negative.

USE OF THE RATING SCALE

Despite the fact that some of the items are rated from 0–8 points and others are rated from 0–4, a total score on the seventeen items has a correlation of 0·93 with a first factor score. The scale thus fulfils its purpose of providing a simple way of assessing the severity of a patient's condition quantitatively, and for showing changes in that condition. It should not be used as a diagnostic instrument. A set of items to be so used should include not only those which will show the presence of the symptoms that the patient has, but also those which the patient has not, for a diagnosis not only includes the patient within a certain category but also excludes him from others. It is possible that the scale may have other uses, e.g.: predicting outcome and selection of treatment, but these have not yet been worked out.

General considerations

Ratings can be done in a number of ways, depending on the purpose, but whatever this may be it must never be forgotten that the scores are merely a particular way of recording the rater's judgement. Other things being equal, the value of the ratings therefore depends entirely on the skill and experience of the rater and on how adequate is the information available to him. This scale was devised for recording the severity of symptoms of a patient (apart from minor and temporary fluctuations) and therefore questioning should be directed to his condition in the last few days or week. It is desirable to obtain additional information from relatives, friends, nurses

etc. and this should always be done whenever there is doubt about the accuracy of the patient's answers. A question frequently asked concerns the length of time required to make a rating, i.e. for how long should the patient be interviewed in order to obtain sufficient information on which to base a judgement. This will obviously depend on the skill of the rater and the condition of the patient. Sick patients cannot think quickly and they should never be hurried. An adequate interview will surely be not less than half an hour, for that gives an average time of about two minutes per item, which is not really sufficient.

The following points about interviewing will be obvious to the skilled interviewer, but it does no harm to emphasize them. The patient should not be pressed and should be allowed sufficient time to say what he wants to say; but he should not be allowed to wander too far from the point. The number of direct questions should be kept to a minimum and such questions should be asked in different ways and, in particular, both in positive and negative form, e.g. 'How badly do you sleep?' and 'How well do you sleep?' Questions should be asked in language which the patient understands and ordinary words should never be used in a technical sense. It must not be forgotten that patients sometimes misuse technical words. Patients should be helped and encouraged to admit to symptoms of which they are ashamed. Normal people do not talk freely about themselves to strangers, and this is true of patients; it is therefore helpful to delay a detailed assessment to a second interview.

When ratings are repeated they should be made independently. The interviewer should not have previous ratings in front of him and should use a new form on each occasion; this may seem a trivial matter but experience has shown that it is important (Jacobsen, 1965). As far as possible he should avoid asking questions relating to changes since the previous interview. In order to increase the reliability of ratings, it is advisable for two interviewers to be present, one of them conducting the interview and the other asking supplementary questions at the end. The two raters should record scores independently and then sum them after the interview to give the rating for the patient. Discussion can take place after this. A discrepancy of one point on any item is of no consequence, but a difference of two points requires careful consideration. Experience has shown that a preliminary training done on about a dozen patients should produce close agreement. A difference of 4 points on the total score is the maximum allowable, but in practice, the difference is rarely more than 2 points. There is a great practical gain from having two raters: occasionally one of them may not be available and then the other can do the rating (and double his scores). With increasing experience, a rater can learn to give half points, but summed scores from two raters should be converted into integers for each item.

Symptoms are rated finely or coarsely; the former are on a five-point scale (0–4) where the numbers are equivalent to absent, doubtful or trivial, mild, moderate and severe. The latter are on a three-point scale (0–2) equivalent to absent, doubtful or mild, and obvious, distinct or severe.

The rating of male patients

(1) Depression (0–4)

Depressed mood is not easy to assess. One looks for a gloomy attitude, pessimism about the future, feelings of hopelessness and a tendency to weep. As a guide, occasional weeping could

count as 2, frequent weeping as 3, and severe symptoms allotted 4 points. When patients are severely depressed they may 'go beyond weeping'. It is important to remember that patients interpret the word 'depression' in all sorts of strange ways. A useful common phrase is 'lowering of spirits'.

(2) Guilt (0–4)

This is fairly easy to assess but judgement is needed, for the rating is concerned with pathological guilt. From the patient's point of view, some action of his which precipitated a crisis may appear as a 'rational' basis for self-blame, which persists even after recovery from his illness. For example, he may have accepted a promotion, but the increased responsibility precipitated his breakdown. When he 'blames' himself for this, he is ascribing a cause and not necessarily expressing pathological guilt. As a guide to rating, feelings of self-reproach count 1, ideas of guilt 2, belief that the illness might be a punishment 3, and delusions of guilt, with or without hallucinations, 4 points.

(3) Suicide (0–4)

The scoring ranges from feeling that life is not worth living 1, wishing he were dead 2, suicidal ideas and half-hearted attempts 3, serious attempts 4. Judgement must be used when the patient is considered to be concealing this symptom, or conversely, when he is using suicidal threats as a weapon, to intimidate others, obtain help and so on.

(4), (5), (6) Insomnia (initial, middle and delayed) (0–2)

Mild, trivial and infrequent symptoms are given 1 point, obvious and severe symptoms are rated 2 points; both severity and frequency should be taken into account. Middle insomnia (disturbed sleep during the night) is the most difficult to assess, possibly because it is an artifact of the system of rating. When insomnia is severe, it generally affects all phases. Delayed insomnia (early morning wakening) tends not to be relieved by hypnotic drugs and is not often present without other forms of insomnia.

(7) Work and interests (0–4)

It could be argued that the patient's loss of interest in his work and activities should be rated separately from his decreased performance, but it has been found too difficult to do so in practice. Care should be taken not to include fatiguability and lack of energy here; the rating is concerned with loss of efficiency and the extra effort required to do anything. When the patient has to be admitted to hospital because his symptoms render him unable to carry on, this should be rated 4 points, but not if he has been admitted for investigation or observation. When the patient improves he will eventually return to work, but when he does so may depend on the nature of his work; judgement must be used here.

(8) Retardation (0–4)

Severe forms of this symptom are rare, and the mild forms are difficult to perceive. A slight flattening of affect and fixity of expression rate as 1, a monotonous voice, a delay in answering questions, a tendency to sit motionless count as 2. When retardation makes the interview extremely prolonged and almost impossible, it is rated 3, and 4 is given when an interview is impossible (and symptoms cannot be rated). Although some patients may say that their thinking is slowed or their emotional responsiveness has been diminished, questions about these manifestations usually produce misleading answers.

(9) Agitation (0–4)

Severe agitation is extremely rare. Fidgetiness at interview rates as 1, obvious restlessness with picking at hands and clothes should count as 2. If the patient has to get up during the interview he is given 3, and 4 points are given when the interview has to be conducted 'on the run', with the patient pacing up and down, picking at his face and hair and tearing at his clothes. Although agitation and retardation may appear to be opposed forms of behaviour, in mild form they can co-exist.

(10) Anxiety (psychic symptoms) (0–4)

Many symptoms are included here, such as tension and difficulty in relaxing, irritability, worrying over trivial matters, apprehension and feelings of panic, fears, difficulty in concentration and forgetfulness, 'feeling jumpy'. The rating should be based on pathological

changes that have occurred during the illness and an effort should be made to discount the features of a previous anxious disposition.

(*11*) *Anxiety (somatic symptoms) (0–4)*

These consist of the well-recognized effects of autonomic over-activity in the respiratory, cardiovascular, gastro-intestinal and urinary systems. Patients may also complain of attacks of giddiness, blurring of vision and tinnitus.

(*12*) *Gastro-intestinal symptoms (0–2)*

The characteristic symptom in depression is loss of appetite and this occurs very frequently. Constipation also occurs but is relatively uncommon. On rare occasions patients will complain of 'heavy feelings' in the abdomen. Symptoms of indigestion, wind and pain, etc. are rated under Anxiety.

(*13*) *General somatic symptoms (0–2)*

These fall into two groups: the first is fatiguability, which may reach the point where the patients feel tired all the time. In addition, patients complain of 'loss of energy' which appears to be related to difficulty in starting up an activity. The other type of symptom consists of diffuse muscular achings, ill-defined and often difficult to locate, but frequently in the back and sometimes in the limbs; these may also feel 'heavy'.

(*14*) *Loss of libido (0–2)*

This is a common and characteristic symptom of depression, but it is difficult to assess in older men and especially those, e.g. unmarried, whose sexual activity is usually at a low level. The assessment is based on a pathological change, i.e. a deterioration obviously related to the patient's illness. Inadequate or no information should be rated as zero.

(*15*) *Hypochondriasis (0–4)*

The severe states of this symptom, concerning delusions and hallucinations of rotting and blockages, etc., which are extremely uncommon in men, are rated as 4. Strong convictions of the presence of some organic disease which accounts for the patient's condition are rated 3. Much preoccupation with physical symptoms and with thoughts of organic disease are rated 2. Excessive preoccupation with bodily functions is the essence of a hypochondriacal attitude and trivial or doubtful symptoms count as 1 point.

(*16*) *Loss of insight (0–2)*

This is not necessarily present when the patient denies that he is suffering from mental disorder. It may be that he is denying that he is insane and may willingly recognize that he has a 'nervous' illness. In case of doubt, enquiries should be directed to the patient's attitude to his symptoms of Guilt and Hypochondriasis.

(*17*) *Loss of weight (0–2)*

The simplest way to rate this would be to record the amount of loss, but many patients do not know their normal weight. For this reason, an obvious or severe loss is rated as 2 and a slight or doubtful loss as 1 point.

(*18*) *Diurnal variation (0–2)*

This symptom has been excluded from the rating scale as it indicates the type of illness, rather than presenting an addition to the patient's disabilities. The commonest form consists of an increase of symptoms in the morning, but this is only slightly greater than worsening in the evening. A small number of patients insist that they feel worse in the afternoon. The clear presence of diurnal variation is rated as 2 and the doubtful presence is 1 point.

The following three symptoms were excluded from the rating of symptoms because they occur with insufficient frequency, but they are of interest in research.

(*19*) *Derealization and Depersonalization (0–4)*

The patient who has this symptom quickly recognises the questions asked of him; when he has difficulty in understanding the questions it usually signifies that the symptom is absent. When the patient asserts that he has this symptom it is necessary to question him closely;

feelings of 'distance' usually mean nothing more than that the patient lacks concentration or interest in his surroundings. It would appear that the severe forms of this symptom are extremely rare in patients diagnosed as depressive.

(20) Paranoid symptoms (0–4)

These are uncommon, and affirmative answers should always be checked carefully. It is of no significance if the patient says that others talk about him, since this is usually true. What is important in the mild symptom is the patient's attitude of suspicion, and the malevolence imputed to others. Doubtful or trivial suspicion rates as 1, thoughts that others wish him harm rates as 2, delusions that others wish him harm or are trying to do so rates as 3, and hallucinations are given 4 points. Care should be taken not to confuse this symptom with that of guilt, e.g. 'people are saying that I am wicked'.

(21) Obsessional symptoms (0–2)

These should be differentiated from preoccupations with depressive thoughts, ideas of guilt, hypochondriacal preoccupations and paranoid thinking. Patients usually have to be encouraged to admit to these symptoms, but their statements should be checked carefully. True obsessional thoughts are recognised by the patient as coming from his own mind, as being alien to his normal outlook and feelings, and as causing great anxiety; he always struggles against them.

The rating of female patients

The same general principles apply to the rating of women as of men, but there are special problems which need to be considered in detail. For the sake of completeness, all items will be listed.

(1) Depression (0–4)

It is generally believed that women weep more readily than men, but there is little evidence that this is true in the case of depressive illness. There is no reason to believe, at the moment, that an assessment of the frequency of weeping could be misleading when rating the intensity of depression in women.

(2) Guilt (0–4)

(3) Suicide (0–4)

(4), (5), (6) Insomnia (initial, middle, delayed) (0–2)

(7) Work and interests (0–4)

Most women are housewives and therefore their work can be varied, both in quantity and intensity, to suit themselves. Women do not often complain of work being an effort, but they say they have to take things easily, or neglect some of their work. Other members of the family may have to increase the help they give. It is rare for a housewife to stop looking after her home completely. If she has an additional job outside the home she may have to change it to part-time, or reduce her hours of work or even give it up completely. Women engage in hobbies less frequently than men. Loss of interest, therefore, may not be as obvious. Patients may complain of inability to feel affection for their families. This could be rated here, but it could be rated under other symptoms, depending upon its meaning and setting. Care should be taken not to rate it in two places. It is a very valuable and important symptom if the patient mentions it spontaneously but could be very misleading as a reply to a question.

(8) Retardation (0–4)

(9) Agitation (0–4)

(10) Anxiety (psychic) (0–4)

(11) Anxiety (somatic) (0–4)

These last three symptoms appear to be more common in women than in men.

(12) Somatic symptoms (gastro-intestinal) (0–2)

(13) Somatic symptoms (general) (0–2)

It is not uncommon for women to complain of backache and to ascribe it to a pelvic disorder. This symptom requires careful questioning.

(14) Loss of libido (0–2)

In women whose sexual experience is satisfactory, this symptom will appear as increasing frigidity, progressing to active dislike of sexual intercourse. Women who are partially or completely frigid find that their customary toleration of sex also changes to active dislike. It is difficult to rate this symptom in women who have had no sexual experience or, indeed, in widows since loss of libido in women tends to appear not so much as a loss of drive but as a loss of responsiveness. In the absence of adequate information of a pathological change a zero rating should be given.

Disturbed menstruation and amenorrhoea have been described in women suffering from severe depression, but they are very rare. Despite the difficulties in rating, it has been found that the mean score for women is negligibly less than men.

(15) Hypochondriasis (0–4)

(16) Loss of insight (0–2)

(17) Loss of weight (0–2)

(18) Diurnal variation (morning, afternoon and evening) (0–2)

(19) Depersonalization, etc. (0–4)

(20) Paranoid symptoms (0–4)

(21) Obsessional symptoms (0–2)

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