VALIDATION OF FEMININITY/MASCULINITY SCALE OF CALIFORNIA PSYCHOLOGICAL INVENTORY IN PAKISTAN[#]

Iftikhar Ahmad, M. Anis-ul-Haque, & Anila

National Institute of Psychology
Centre of Excellence
Quaid-i-Azam University
Islamabad, Pakistan

CPI has been cross-culturally used in many countries. The present study aims at examining the validity of F/M Scale of the inventory in Pakistan. Urdu version of the 32-item scale (Ahmad, 1986) was used on 180 students. The mean scores for females and males were obtained as 17.02 (SD=3.15), and 13.68 (SD=3.10), respectively, the difference being statistically significant (p<.001). Item-analysis of the scale identified items of weak validity and the few items which were possibly reversals. Itemmetric data of eight other countries on the scale were presented to provide a cross-cultural appraisal on individual items. It appears that some of the items poorly differentiated between the sexes in the Asian countries: Pakistan, Korea, and Japan; as compared to European countries, because of the cultural differences and possibly translation problems. On the whole the scale seems to function well. A try-out on a larger and diversified samples could well be undertaken for further research.

The Femininity/Masculinity (F/M) scale of the CPI (Gough, 1957, 1987) was initially developed (Gough, 1952) as a 58-item measure having three goals: (i) to differentiate between males and females, in all places and cultures; (ii) to distinguish between homoerotic and heteroerotic men and women; and (iii) to define a personological syndrome that could properly be conceptualized as "feminine" at one pole and "masculine" at the other. The items were chosen because of their ability to discriminate between the responses of large samples of men and women, e.g., "I would like to be a nurse — (T)", "I very much like hunting — (F)", while these items are obvious, most items on the scale are more subtle. The items themselves do not directly deal with sex differences or sex related behaviour. They deal with emotions and interpersonal sensitivity, e.g., "I am inclined to take things hard — (T)", "I want to be an important person in the community — (F)". Items answered "true" more often by women are keyed for the "true" answer, and items answered as "true" more often by men are keyed for the

---

"false" answer. This method of scoring produced a scale whose higher scores were indicative of femininity, and whose lower scores were indicative of masculinity. Because of this, the scale was assigned the label "Fe", standing for "femininity". When the 480-item form of the CPI was published in 1957, the scale was shortened to 38 items. The 20 items dropped were those showing weakest differentiations between men and women in new or "cross-validity" samples, and in a comparison between a sample of homoerotic men in comparison with a matched sample of heteroerotic men.

Because of the theoretical claim to universal validity in differentiating men from women, cross-cultural work was soon initiated using translation of the 'Fe' scale into ten languages: Arabic, French, Hebrew, Italian, Japanese, Korean, Norwegian, Romanian, Spanish, and Turkish (Gough, 1966; Gough, Chun, & Chung, 1968; Levin & Karni, 1971; Nishiyama, 1975; Pitariu, 1981; Torki, 1988). Studies of these versions in various countries revealed statistically significant differences in the predicted direction in every application. Within-sex studies of homoerotic and heteroerotic persons also showed statistically significant differentiations in the hypothesized direction, for both men (Siegelman, 1978), and women (Wilson & Greene, 1971).

In the 462-item form of the CPI (Gough, 1987), the 38-item "Fe" scale was shortened to 32 items and given a new label "F/M" standing for Femininity/Masculinity. As before, the higher scores were more indicative of feminine reactions, and the lower scores were more indicative of masculine reactions.

The present 32-item form of the F/M scale will remain intact in the new 434-item form of the CPI (Gough, 1995). It contains 15 items scored "true" for femininity, and 17 items scored "false". The total score is, therefore, on a bipolar continuum, with more feminine persons scoring high and more masculine scoring low.

For the bipolar scoring, based on all 32 items, large scale studies of observers' descriptions of persons with higher or lower scores (Gough, 1987) show that those with above average F/M scores tend to be described as gentle, feminine, sensitive, and worrying; whereas, those with below average scores tend to be described as confident, aggressive, masculine, and strong.

The present study examined the validity of the 32-item F/M scale in differentiating between males and females in Pakistan, tested with

the Urdu[##] version of the CPI (Ahmad, 1986) that was developed through translation-back translation method. The item numbers from the Urdu version are the same as the American CPI. It also provided endorsement rates for each item so that nondifferentiating items, if any, could be identified. In the Urdu translation of the CPI, one item from the F/M scale had to be drastically modified. The original English text stated "I prefer a shower to a bath tub." In the Urdu version this was changed to "I do not take much interest in household things." The scored or "feminine" answer to this item is "false". This item also had to be modified in the Japanese, Korean, and Turkish versions of the inventory due to cultural reasons and practices.

Data from other countries (Gough, 1994) is reproduced in Table 2 to facilitate cross-cultural comparisons on individual items.

In the present study, nine additional CPI items were scrutinized, because of their probable discrimination between the responses of men and women. These were items 8, 17, 132, 215, 220, 286, 291, 301, and 377 from the Urdu version of the CPI.

METHOD

Sample

The subjects participating in this study were the college and university students (11 to 16 years of education) at Rawalpindi and Islamabad which is a typical Pakistani population, and belonged to a cross-section of all the socioeconomic classes. At the time of administration, all subjects were regular students. The sample consisted of 90 males and 90 females. The *mean* ages were 19.93 (SD = 1.15) for the males, and 19.05 (SD = 1.07) for the females.

Procedure

The F/M scale and the additional nine items of the CPI were administered to groups of subjects at their respective educational institutions during their class hours.

[##] Urdu is an official language of Pakistan and a second language in fact. Its population is spread over provinces. People belonging to these provinces are basically ethnic groups whose first languages are the regional languages, i.e., Punjabi, Pushto, Sindhi, Baluchi, and Kashmiri. Urdu is learned at the schools in every province.

RESULTS AND DISCUSSION

As shown in Table 1, scores on the 32-item scale differentiated significantly between the males and females, with a *mean* of 17.02 for the females, and 13.68 for the males. For the American norm, samples of 1,000 persons of each sex (Gough, 1987) the *means* on F/M were 20.00 (*SD* = 3.12) for females, and 13.59 (*SD* = 3.44) for males. The new Spanish manual (Seisdedos, 1992) reported *means* of 18.14 (*SD* = 3.13) for females, and 13.97 (*SD* = 2.64) for males. The new French manual (Lavoegie, 1994) reported *means* of 18.71 (*SD* = 2.90) for females, and 15.03 (*SD* = 3.2) for males, based on a 30-item version of the F/M scale. The *t*-test of 7.17 converts to a point biserial correlation of .47. This coefficient is comparable to those from prior cross-cultural applications, and identical to those found in Italian and Turkish comparisons.

Table 1

Means, standard deviations, t-value and rpb value for gender on Urdu version of F/M Scale of the CPI

Gender	*n*	*M*	*SD*	*t*	*rpb*
Males	90	13.68	3.10		
				7.17[*]	.47[*]
Females	90	17.02	3.15		

d.f= 178, [*]*p*<.001

For the item contrasts, Pakistani endorsement rates were compared to rates for eight other countries (H. G. Gough, personal communication, June, 1994). These percentages are given in Table 2. The CPI item numbers from the Urdu version appear in the first column, followed by the percentage of males and females answering "true" in the eight other countries, and in Pakistan. The 15 items listed first are those scored for "true" on the F/M scale, and the 17 items listed below them are those scored for "false" on the F/M scale. This itemmetric data indicate that 24 items of the F/M scale differentiated between males and females in the keyed direction in Pakistan; followed by 25 items in Korea; 26 items each in France, Turkey, and Japan; 27 in Venezuela; 30 in Israel; and 31 items each in Italy, and U.S.A.

Thus eight items (Nos. 39, 114, 129, 143, 217, 232, 244, and 278) discriminate in the opposite direction on the Urdu version, possibly due to translation problems and lack of cultural equivalent concepts. These items, save Nos. 39, 129, and 143, show a moderate 5-6 per cent difference which seems small considering the small size of the sample. However, notable reversals are:

39- I must admit that I enjoy playing practical jokes on people.

129- I think I would like to drive a racing car.

143- I like to be with a crowd who play jokes on one another.

The notion of "playing jokes" or "practical jokes" are alien in Pakistani culture, thus difficult to render in Urdu, in the Pakistani society.

On the basis of critical analysis it does come out that the Urdu translation of these items could be reviewed. In Japanese translation of item no. 129, "racy car" was substituted for "racing car" which in English clearly means a car used in automobile races, which are dirty, grueling, and dangerous. Not many women say "true" to the English item. In the Japanese version, "racy car" can mean a sporty, trendy, and expensive "fun" car like a Mercedes-Benz convertible. It appears that the notion of automobile race is not there in a Japanese version. Given this interpretation, many women thus say "true" as it happened in Pakistani data here. However, to H. G. Gough (personal communication, August 10, 1995) the endorsement rates for the Japanese sample do not necessarily mean that the item is invalid in that culture.

On other items 45 vs. 69, 50 vs. 61, and 49 vs. 76 per cent "true" responses were observed by males and females, respectively. For items no. 39 and 143 which have somewhat similar content, a reversal is also revealed in Arabian data for these items (Torki, 1988).

CONCLUSION

This investigation largely supports the validity of the Urdu version of the F/M scale in Pakistan although some of the items did not seem to function as well here as they did in U.S.A and the European countries. Before any changes are made in the scale, the 8 "problem" items in Urdu should be reexamined, and restudied on large and more diversified samples. Also, subtler clinical implications of F/M scale, i.e., manifesting with nonnormal sexual preferences, and behaving in such a way as to be viewed by observers as "feminine" or "masculine",

Table 2
*Item tallies as percentage of subjects giving 'true' response to CPI items in samples from Pakistan and other countries**

CPI[Ø] 'Fe' Items	France		Israel		Italy		Japan		Korea		Turkey		U.S.A		Venezuela		Pakistan	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
28	14	33	20	55	25	51	20	38	22	40	25	83	07	45	01	48	17	80
35	77	91	50	75	72	94	56	53	61	85	90	98	41	72	54	79	83	93
58	65	79	35	46	50	61	69	81	63	80	46	48	52	63	65	62	64	81
64	13	22	12	34	10	15	47	64	25	33	34	79	11	32	17	35	23	39
71	50	66	26	54	40	61	41	61	45	43	63	68	37	43	45	42	47	56
110	45	50	46	68	50	58	72	77	43	58	56	83	59	78	55	59	59	74
115	61	74	20	41	38	54	48	75	42	42	36	63	39	53	52	62	31	39
144	30	50	10	23	26	50	42	67	51	60	46	66	15	38	34	54	25	37
187	65	77	44	65	73	75	60	53	46	49	83	88	41	56	51	61	28	46
217	22	37	10	36	17	23	80	96	28	19	66	86	13	35	33	41	13	07
232	37	54	11	38	28	43	56	72	44	54	47	38	27	44	27	40	33	31
240	19	37	08	36	18	32	74	97	20	39	15	33	06	44	16	30	08	16
244	30	55	20	42	32	68	74	91	37	43	40	50	25	54	29	43	33	27
272	31	59	22	38	19	33	45	51	30	14	40	49	37	54	36	31	30	45
278	64	84	79	94	75	91	07	22	45	81	84	100	54	69	72	71	66	60
19	27	12	88	81	21	08	25	20	28	11	43	22	37	09	26	02	19	14
39	64	66	62	62	22	09	58	53	39	35	27	04	50	35	26	15	45	69
78	65	64	54	54	56	60	53	41	68	85	56	30	60	53	37	22	24	11
82	24	04	98	80	33	06	68	63	30	11	33	13	38	07	38	06	10	04
87	52	57	64	36	58	30	68	74	59	56	40	82	81	32	79	38	60	51
100	53	54	36	22	66	43	17	06	37	25	64	63	74	45	79	81	32	55*
114	29	31	78	72	58	55	59	50	28	19	49	21	42	24	42	25	35	40
123	51	54	62	58	60	47	79	58	54	53	73	81	38	39	45	43	59	41

(Continued)

(Table 2 Continued)

Item	France M	France F	Israel M	Israel F	Italy M	Italy F	Japan M	Japan F	Korea M	Korea F	Turkey M	Turkey F	U.S.A. M	U.S.A. F	Venezuela M	Venezuela F	Pakistan M	Pakistan F
129	78	60	57	52	73	67	90	96	52	51	52	32	51	19	60	50	50	61
143	61	62	70	56	57	54	36	32	30	17	71	50	41	29	82	79	49	76
171	27	20	93	85	30	14	61	53	61	71	51	26	21	12	42	28	92	72
199	34	28	74	56	44	34	84	76	41	20	62	71	35	12	24	07	69	69
210	56	34	72	50	49	30	66	73	56	31	65	26	61	25	60	27	64	18
214	39	31	83	74	31	18	61	69	38	06	17	08	42	14	26	13	12	09
249	51	05	73	41	59	09	12	07	53	36	42	55	64	10	58	10	47	26
256	71	53	32	19	62	57	47	40	68	76	82	92	62	58	91	86	89	54
274	28	09	74	62	18	07	34	11	50	37	27	21	15	10	34	20	44	33

'Other Items' (values shown in right-hand columns, as printed)

Item		
8		41
17	21	52 40
132	41	30
215	32	12
220	57	56
286	41	19
291	25	31
301	39	30
377	09	07

a	26	30		31	26	25	26		31	26	27	24
France	452	males	vs.	382	females							
Israel	200	males	vs.	200	females							
Italy	697	males	vs.	171	females							
Japan	300	males	vs.	300	females							
Korea	155	males	vs.	156	females							
Turkey	89	males	vs.	117	females							
U.S.A.	3000	males	vs.	3000	females							
Venezuela	151	males	vs.	175	females							
Pakistan	90	males	vs.	90	females							

Note 1: Item nos. typed **bold** are scored for "true" on the F/M scale. Items nos. typed unbold are scored for "false".

Note 2: 'Other items' are non-F/M scale items that were explored to enlarge F/M scale in Pakistan.

* Content of this item was adapted in Urdu version.

∅ Item numbers are for both the 480-item and 462-item forms of the CPI.

Note: *Data of the # countries reproduced with the courtesy of Professor Harrison G. Gough.*

could be taken up in further investigation of the scale in Pakistan. Inquiries of this kind would help in evaluating the validity and utility of the scale.

REFERENCES

Ahmad, I. (1986). Initial psychometric evaluation of Urdu version of California Psychological Inventory. *Pakistan Journal of Psychological Research, 1*(1-2), 3-16.

Gough, H. G. (1952). Identifying psychological femininity. *Educational and Psychological Measurement, 12,* 427-439.

Gough, H. G. (1957). *Manual for the California Psychological Inventory.* Palo Alto, CA: Consulting Psychologists Press.

Gough, H. G. (1966). A cross-cultural analysis of the CPI femininity scale. *Journal of Consulting Psychology, 30,* 136-141.

Gough, H. G. (1987). *The California Psychological Inventory: Administrator's guide.* Palo Alto, CA: Consulting Psychologists Press.

Gough, H. G. (1994). *CPI: Introduction to form 434.* Palo Alto, CA: Consulting Psychologists Press.

Gough, H. G., Chun, K., & Chung, Y. E. (1968). Validation of the CPI femininity scale in Korea. *Psychological Reports, 22,* 155-160.

Levin, J., & Karni, E. S. (1971). A comparative study of the CPI femininity scale. *Journal of Cross-cultural Psychology, 2,* 387-391.

Lavoegie, M. (1994). *Manuel de l'inventaire Psychologique de l Universite de Californie forme revisee.* Paris: Les Editions du Centre de Psychologie Appliquee.

Nishiyama, T. (1975). Validation of the CPI femininity scale in Japan. *Journal of Cross-cultural Psychology, 6,* 482-489.

Pitariu, H. (1981). Validation of the CPI femininity scale in Romania. *Journal of Cross-cultural Psychology, 12,* 111-117.

Seisdedos, N. (1992). *CPI - Inventario Psicologico de California.* Madrid: TEA Ediciones, S.A.

Siegelman, M. (1978). Psychological adjustment of homosexual and heterosexual men: A cross-national replication. *Archives of Sexual Behaviour, 7,* 1-11.

Torki, M. A. (1988). The CPI femininity scale in Kuwait and Egypt. *Journal of Personality Assessment, 52,* 247-253.

Wilson, M. L., & Greene, R. L. (1971). Personality characteristics of female homosexuals. *Psychological Reports, 28,* 407-412.