Psychosomatic Medicine and General Practice

DOI: 10.26766/pmgp.v2i1.20

Freiburg Personality Inventory for assessment of the police officers

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Abstract

Background. Psychological and psychiatric work activity support of law enforcement officers is a basic component for the efficient functioning of the internal affairs institutions. Improvement of this work is impossible without increasing the effectiveness of the personnel psychological selection.

Methods. Research methods included "Freiburg Personality Inventory" (FPI) - Option «B» and «Minnesota Multiphasic Personality Inventory» – MMPI. The study group comprised of 158 respondents: 79,1 % (n=125) were men and 20,9% (n=33) - women. To analyze the results obtained, we used the methods of descriptive statistics, frequency analysis, and Kendell rank correlation.

Results. Particular attention should be paid to the fact, that it would be logical to expect the presence of correlations between FPI and MMPI scales, similar in their diagnostic orientation. But such correlations were found neither for the male or female gender (τ-b $\leq$0,17;p $\geq$0,06). This unexpected discovery, as well as the lack of systematic and gender-wide universality between the FPI and MMPI scores, are pointing to a rather serious content heterogeneity between these psychological tests.

Conclusion. The results of the analysis do not provide an opportunity to recommend the wide usage of FPI quistionnaire in practical activities for the professional selection of law enforcement officers.

Keywords: experimental psychological research, personality tests, neuropsychological stability, psychological selection, police, personality, MMPI, Freiburg, FPI

1 Background

Psycho-psychiatric professional activities assessment is an integral part for the efficient and vocational functioning of the Ukrainian law-enforcement system. It should be noted, that this system is under an impact of a long-term social crisis, the constant police officers rotation and intensive exposure to various psycho-traumatic factors. In this terms, the timely detection of persons with an increased level of neuropsychological instability, a tendency to aggressive, brutal behavior becomes not only a task for mental disorders prevention but also become an important social task – not to allow the authority possession for the persons who have psychological problems. It can cause much more harm than good.

Continuous improvement of psychodiagnostic work is aimed for enhancement of identification not only persons, suffering from mental and behavioral disorders, but also police officers with neuropsychiatric instability, tendency to aggression and other deviant forms of behavior. Such improvements are required by a numerous departmental documents, such as the "The program of mental disorders prevention in personnel division of the Internal Affairs of Ukraine", "The concept of development and improvement of medical-psychological rehabilitation in the system of the Ukrainian Ministry of Internal Affairs and a program of measures for its implementation", etc. Convincingly, it is impossible to carry out this work without expanding the range of experimental psychological techniques that could be used during police officers' psychological and psychiatric examinations in the departmental institutions.

Thus, the purpose of this study was to analyze the practicability of the Freiburg Personality Questionnaire (FPI) usage during a medical and psychological police officers examination, which undergo checkup by the Military Medical Commission or psychiatric examination in the departmental health care facilities of the Ministry of Internal Affairs. For this goal achievement, the following research activities have been performed:

- Conducted a gender-specific experimental psychological examination of internal affairs officers using the test (FPI).
- Carried out a gender-specific empirical and psychological police officers survey using the Minnesota Multifactor Personal Questionnaire (MMPI), which has been utilized for a long time in the Ministry of Internal Affairs system and has established itself as a highly efficient method for personality research.
- Drew a conclusion, based on the mathematical-statistical analysis of the obtained results, and formulated a conclusion regarding the FPI test validity in the system of the Ukranian Ministry of Internal Affairs.

2 Methods and materials

The diagnostic test, evaluated in the course of this study, was the Freiburg Personality Questionnaire (FPI) - option "B". It was developed in 1963 by the scientists from the Hamburg University, including I. Fahrenberg, H. Zarg, R. G. Gampel and adapted in St. Petersburg University by O.O. Krylov and T.I. Ronginskaya [1]. The questionnaire is intended to diagnose conditions and personality characteristics that are of particular importance for the process of social adaptation and behavioral regulation. The questionnaire allows to diagnose neurotic disorders in the:

- emotional domain (scale III – the level of depression as a measure of decreased mood, subscale VIII – the level of shyness as an indicator of the presence/absence of anxiety, stiffness, uncertainty, XI scale – the level of emotional lability as a measure of frequent mood fluctuations);
- cognitive domain (scale V – the level of sociability as a measure of social activity);
- behavioral domain (scale II – the level of spontaneous aggressiveness as a behavior characterized by impulsivity, a protective reaction to the others' actions and judgments; scale VII - the level of reactive aggressiveness as a behavior, characterized by an aggressive attitude towards the social environment and expressed desire for dominance; scale IV - level of irritability as an indicator of emotional response to others and/or situation);
- somato-vegetative domain (scale I - the level of neuroticism as an indicator of disruption of the neurotic circle, to a greater extent asthenic type, with vegetative and possible psychosomatic disorders);
- extraversion-introversion (scale X);
- male-female characteristics (scale XII);
- self-criticism (scale IX).

Cutoff FPI points are: 1 to 3 points – low, 4 to 6 points - medium, and 7 to 9 - high level. An important feature of the questionnaire is that the results of the IX scale, although important for assessing the overall validity of the responses, can still not be classified as indicators of the "authenticity-unreliability" classical scale.

Taking into account that the validity study for the FPI was carried out by its authors by comparison with other "personal" methods, including the MMPI questionnaire, the second psychological test used in this study was the Minnesota

Multi-Factor Personality Inventory (MMPI), which was developed in 1941 by Hathaway SR & McKinley JC. The latter scale after was repeatedly refined and adapted by FB Berezin, MP Miroshnikov, and RB Rozanets in 1976 [2]. Particularly important is the fact that MMPI has been successfully used for the last three decades as a compulsory psychodiagnostic methodology within the structure of military medical commissions of the Ukrainian Ministry of Internal Affairs.

The questionnaire includes a scale of hypochondria (1), depression (2), conversion (3), asocial psychopathy (4), masculinity-femininity (5), paranoidity (6), psychosis (7), schizoidness (8), hypomania (9) and social introversion (0). In addition, the questionnaire also contains three scales (L, F, K) that were introduced to assess survey's reliability, although they are also used in the general interpretation of the MMPI's profile. Unlike FPI, the results analysis is performed not by individual scales, but by the whole integral graphical profile.

Methods used for statistical analysis were descriptive statistics, frequency analysis, and Kendall's rank correlation [3].

The study group consisted of randomly selected from 158 employees of the Ukrainian Ministry of Internal Affairs police departments at the age from 18 to 51 years, 79.1% of which (125 persons) were males, and 20.9% (33 persons) were females. All respondents were positively characterized by their superiors; they have never used psychiatric help; there weren't any information about deviations episodes from the generally accepted norms of behavior.

Table 1: Distribution of male gender representatives by professional police category

Gender	Male		Female	
Category	N*	%	N*	%
Patrol service	24	19,2	12	36,4
District inspectors	17	13,6	-	-
Fighters of special forces	10	8	-	-
Non-service employers	22	17,6	7	21,2
Heads of internal affairs bodies	12	9,6	1	3,03
Experts-criminalists	4	3,2	-	-
Commissioners and their assistants	18	14,4	4	12,1
Workers of the Ministry of Internal Affairs of Ukraine	10	8	-	-
Interrogators	8	6,4	9	27,3

* N - here and thereafter is the absolute number of respondents.

3 Results

According to occupational characteristics, the male gender consisted of persons, represented the largest number of professional groups (Table 1): patrol service police officers, district inspectors, special forces fighters, and others. The female gender was composed of interrogators, employers of other non-operational services, commissioners, patrol police officers and senior management staff. Thus, the study group was representative of both the gender and professional aspects.

Regarding the contingent that passed the survey, unfortunately, it was not possible to obtain objective anamnestic data on some manifestations of neuro-psychological instability during the service or at home. Such data absence made it impossible to allocate a particular "high-risk groups" for police officers, and to justify specific ranges indicators of FPI scales that could be used in the future as a diagnostic markers.

According to the respondents' survey results, obtained with FPI, the following data were obtained. The mean scores on FPI scales indicate that both male and female gender representatives had low I, II, III, IV, VIII, and XI scores; medium VII and X scale scores; high V, VI, IX, and XII scale scores (Table 2).

Frequency analysis had fully confirmed described above results (Table 3).

Further analysis from FPI obtained data was carried out by calculating the Kendall coefficient τ-b (Table 4). These data were compared with those from the MMPI (these tests were performed simultaneously).

According to the analysis results, there was noted statistically significant negative correlation bonds (τ-b$\geq$-0,14; p$\leq$0,038) between following MMPI and FPI scales:

- hypochondria and openness;
- depression and openness/reactive aggressiveness;

Table 2: FPI survey results, descriptive statistics.

	Scales	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Male	Medium	1,4	3,6	1,7	2,9	7,1	6,9	5,1	2,3	6,6	5,8	2,4	6,9
	Mode	1	3	1	1	8	9	5	1	8	4	2	8
	Minimum	1	1	1	1	3	2	1	1	1	3	1	3
	Maximum	7	9	8	8	9	9	9	6	9	9	8	9
Female	Medium	1,2	3,5	1,4	2,5	6,8	6,8	4,7	1,7	5,7	5,3	2,1	6,7
	Mode	1	3	1	1	8	9	4	1	5	4	2	8
	Minimum	1	1	1	1	4	2	1	1	2	2	1	3
	Maximum	5	7	3	5	9	9	8	7	8	9	4	9

- conversion hysteria and depression/reactive aggressiveness;
- paranoidness and spontaneous aggression;
- openness and emotional lability;
- social introversion and friendship/openness.

The positive correlation (τ-b$\geq$0.139; p$\leq$0.037) was found between the hypomania MMPI and FPI openness scores, as well as between social introversion and shyness scores.

When calculating the τ-b Kendall coefficient (Table 5) for the FPI and MMPI questionnaires for female gender, there were also found significant correlations, although the structure of these relationships was significantly different from that for male gender representatives. The statistically significant negative correlation bonds (τ-b$\geq$-0,29; p$\leq$0,03) occurred between following MMPI and FPI scales, respectively:

- hypomania and femininity-masculinity;
- depression and spontaneous aggression;
- conversion hysteria and masculinity-femininity;
- psychasthenia and impulsive aggression;
- schizoid and masculinity-femininity;
- social introversion and irritability.

As in men's gender, women showed a significant positive correlation between the scores on the MMPI hypomania and FPI openness scales (τ-b = 0.461; p <0.001). But, unlike men, they had positive correlations between the hypochondria and shyness and between the social introversion and sociability scores (τ-b$\geq$0,26; p$\leq$0,05).

Undoubtedly, the primary value of these results, both from the MMPI and FPI scales, lies in comprehensive performance evaluation of these techniques, assessment of their ability to give a general description of the individual's personality. However, it should be emphasized, that it would be logical to expect the correlation between FPI neuroticism and MMPI neurotic triad scores; FPI aggressiveness/irritability and MMPI psychopathy scales; FPI depression and MMPI depression scores; FPI masculinity-feminine and similar MMPI scales; FPI openness and MMPI social introversion scores. But such correlations were found neither within male nor female gender (τ-b$\leq$0,17; p$\geq$0,06).

This rather unexpected fact, as well as the lack of systematicity and gender versatility between MMPI and FPI, indicates a rather seriously substantive heterogeneity between these psychological tests (possibly because their authors were in several different theoretical positions). According to these data, the effectiveness of their mutual usage is rather doubtful, and, especially, FPI use as the replacement for MMPI.

4 Conclusion

For summarizing the study results, it should be noted that although the FPI scale has been used extensively for an extended period for practical and scientific purposes both in Ukraine and abroad, thus passing the "time testing", it doesn't give such a large set of data for the person's psychological portrait formation as MMPI does.

Most importantly, unlike MMPI, there is no reliable protection from dissimulation, simulation or aggravation tendencies that often occur in patients who are interested in social consequences psychological examination. To this category of patients, of course, can be include police officers, who often are passing under psychological and psychiatric examinations for any reason.

Thus, although the assessment by FPI for objective reasons didn't include the calculation of the test's psychometric characteristics, the analysis made does not allow to reasonably recommend this methodology for the extensive usage in the practical activities of the departmental psychiatric institutions of the Ukrainian Ministry of Internal Affairs.

Competing interests

The author declare that no competing interests exist.

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Table 3: FPI survey results, frequency analysis.

Gender	Score	Scale	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Male	1	N	111	24	90	49	-	-	6	68	1	-	23	-
		%	89	19	72	39	-	-	4,8	54	0,8	-	18	-
	2	N	-	1	-	-	-	2	-	1	2	-	46	-
		%	-	0,8	-	-	-	1,6	-	0,8	1,6	-	37	-
	3	N	-	35	24	33	4	2	20	35	7	6	40	-
		%	-	28	19	26	3,2	1,6	16	28	5,6	4,8	32	-
	4	N	10	33	9	24	1	6	21	-	4	37	13	1
		%	8	26	7,2	19	0,8	4,8	17	-	3,2	30	10	0,8
	5	N	1	22	-	4	16	14	23	14	33	16	2	11
		%	0,8	18	-	3,2	13	11	18	11	26	13	1,6	8,8
	6	N	2	1	1	12	19	26	22	7	1	25	-	18
		%	1,6	0,8	0,8	9,6	15	21	18	5,6	0,8	20	-	14
	7	N	1	4	-	2	27	22	19	-	22	2	-	23
		%	0,8	3,2	-	1,6	22	18	15	-	18	1,6	-	18
	8	N	-	4	1	1	29	25	13	-	43	37	1	60
		%	-	3,2	0,8	0,8	23	20	10	-	34	30	0,8	48
	9	N	-	1	-	-	29	28	1	-	12	2	-	11
		%	-	0,8	-	-	23	22	0,8	-	9,6	1,6	-	8,8
Female	1	N	31	6	25	16	-	-	3	26	-	-	5	1
		%	94	18	76	48	-	-	9,1	79	-	-	15	3
	2	N	-	-	-	-	-	1	-	-	3	1	20	1
		%	-	-	-	-	-	3	-	-	9,1	3	61	3
	3	N	-	10	8	5	-	1	6	3	1	1	7	7
		%	-	30	24	15	-	3	18	9,1	3	3	21	21
	4	N	1	7	-	7	2	-	8	-	2	12	1	7
		%	3	21	-	21	6,1	-	24	-	6,1	36	3	21
	5	N	1	8	-	5	6	4	4	3	11	3	-	-
		%	3	24	-	15	18	12	12	9,1	33	9,1	-	-
	6	N	-	-	-	-	7	8	4	-	-	11	-	-
		%	-	-	-	-	21	24	12	-	-	33	-	-
	7	N	-	2	-	-	3	7	4	1	9	-	-	-
		%	-	6,1	-	-	9,1	21	12	3	27	-	-	-
	8	N	-	-	-	-	9	3	4	-	7	4	-	13
		%	-	-	-	-	27	9,1	12	-	21	12	-	39
	9	N	-	-	-	-	6	9	-	-	-	1	-	4
		%	-	-	-	-	18	27	-	-	-	3	-	12

Table 4: Results of Kendall coefficient τ-b calculation for the FPI and MMPI (male gender only).

Scale		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
L	τ-*b*	0,06	-0,14	0,065	0,024	0,06	-0,01	-0,07	0,081	-0,35	-0,09	0,02	-0,15
	p	0,46	0,03	0,386	0,734	0,33	0,77	0,271	0,264	3E-07	0,18	0,73	0,03
F	τ-*b*	0,02	0,03	0,142	0,077	0,01	-0,03	-0,08	0,093	-0,09	0,06	0,03	-0,12
	p	0,75	0,63	0,056	0,27	0,86	0,63	0,241	0,199	0,198	0,39	0,67	0,1
K	τ-*b*	-0,01	-0,05	0,051	-0,02	-0,05	0,01	-0,09	0,028	-0,1	0,03	0,03	-0,04
	p	0,84	0,43	0,489	0,818	0,5	0,8	0,193	0,701	0,158	0,64	0,68	0,53
1	τ-*b*	0,06	-0,03	0,016	0,043	0,04	-0,01	0,046	-0,04	-0,14	0,03	0,09	-0,09
	p	0,43	0,62	0,831	0,548	0,5	0,81	0,5	0,562	0,042	0,69	0,24	0,19
2	τ-*b*	0,06	-0,07	0,088	-0,07	-0,03	-0,07	-0,15	0,11	-0,22	-0,07	-0,02	-0,1
	p	0,45	0,3	0,234	0,31	0,67	0,29	0,024	0,125	0,002	0,33	0,78	0,17
3	τ-*b*	-0,13	-0,1	-0,171	-0,12	0,03	-0,04	-0,2	-0,09	-0,03	-0,08	0,01	-0,17
	p	0,07	0,11	0,02	0,073	0,66	0,48	0,004	0,222	0,652	0,26	0,88	0,02
4	τ-*b*	-0,04	-0,01	-0,082	0,001	-0,01	-0,04	0,042	0,073	-0,03	-0,02	-0,02	0,09
	p	0,59	0,98	0,275	0,989	0,9	0,55	0,534	0,318	0,648	0,82	0,73	0,22
5	τ-*b*	-0,07	0,03	0,021	0,002	0,04	-0,04	-0,1	0,089	-0,01	-0,01	0,04	-0,14
	p	0,36	0,6	0,773	0,982	0,52	0,49	0,122	0,212	0,884	0,93	0,58	0,06
6	τ-*b*	-0,06	-0,19	-0,119	-0,1	0,05	0,05	-0,07	-0,14	-0,14	-0,01	-0,15	-0,02
	p	0,44	0,005	0,108	0,149	0,45	0,44	0,285	0,049	0,038	0,87	0,03	0,81
7	τ-*b*	0,02	-0,01	-0,017	-0,03	0,04	-0,02	-0,11	0,021	-0,08	-0,02	-0,02	-0,03
	p	0,81	0,93	0,816	0,645	0,48	0,74	0,09	0,771	0,225	0,75	0,83	0,63
8	τ-*b*	-0,01	-0,08	-0,083	-0,07	0,05	0,01	-0,03	0,017	-0,1	-0,03	-0,02	-0,09
	p	0,89	0,21	0,26	0,342	0,44	0,87	0,607	0,818	0,132	0,65	0,81	0,21
9	τ-*b*	-0,04	-0,03	-0,087	0,098	0,12	-0,01	0,139	0,013	0,09	-0,04	0,07	0,12
	p	0,61	0,62	0,237	0,158	0,06	0,99	0,037	0,86	0,187	0,55	0,34	0,08
0	τ-*b*	0,06	0,05	-6E-04	0,047	-0,2	-0,14	-0,14	0,23	-0,1	-0,07	0,07	-0,17
	p	0,44	0,42	0,993	0,5	0,003	0,03	0,034	0,001	0,132	0,32	0,29	0,01

Table 5: Results of calculating the Kendall coefficient τ-b from the FPI and MMPI (female gender only).

Scale		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
L	τ-*b*	0,11	-0,3	-0,29	0,23	-0,04	0,04	0,15	-0,04	0,027	0,01	0,03	-0,01
	p	0,47	0,03	0,06	0,1	0,79	0,79	0,25	0,79	0,846	0,99	0,83	0,93
F	τ-*b*	-0,16	-0,01	-0,07	-0,15	0,12	0,12	-0,06	0,09	-0,32	-0,13	-0,02	-0,09
	p	0,3	0,92	0,67	0,29	0,37	0,4	0,65	0,55	0,022	0,37	0,87	0,54
K	τ-*b*	0,18	-0,06	0,06	0,08	-0,08	-0,15	-0,04	0,3	-0,19	-0,06	0,14	-0,37
	p	0,24	0,64	0,69	0,58	0,54	0,26	0,75	0,04	0,163	0,66	0,32	0,01
1	τ-*b*	0,13	-0,17	0,1	-0,09	0,03	-0,04	-0,14	0,31	-0,2	-0,06	0,03	-0,31
	p	0,36	0,2	0,49	0,54	0,85	0,79	0,29	0,03	0,133	0,66	0,84	0,03
2	τ-*b*	-0,04	-0,29	-0,18	-0,2	0,1	0,25	-0,11	-0,09	-0,22	-0,11	-0,2	-0,17
	p	0,76	0,03	0,22	0,15	0,44	0,07	0,41	0,54	0,113	0,43	0,17	0,22
3	τ-*b*	-0,03	-0,08	0,07	-0,2	0,08	-0,09	-0,18	0,17	-0,25	-0,09	0,23	-0,3
	p	0,82	0,57	0,66	0,16	0,53	0,48	0,17	0,25	0,066	0,51	0,11	0,03
4	τ-*b*	0,09	0,07	0,18	-0,12	-0,01	-0,05	-0,17	0,26	-0,05	0,01	0,2	-0,26
	p	0,54	0,58	0,24	0,37	0,99	0,74	0,2	0,08	0,734	0,96	0,17	0,06
5	τ-*b*	-0,25	0,06	0,04	-0,14	0,07	-0,19	-0,2	-0,07	0,046	0,06	0,05	-0,1
	p	0,1	0,66	0,8	0,32	0,59	0,15	0,14	0,63	0,735	0,66	0,71	0,44
6	τ-*b*	-0,12	0,23	0,07	-0,05	0,07	-0,2	0,02	0,08	0,169	0,11	0,21	-0,11
	p	0,42	0,09	0,66	0,7	0,62	0,15	0,89	0,57	0,223	0,42	0,14	0,44
7	τ-*b*	0,05	-0,34	0,05	-0,2	-0,01	0,07	-0,16	0,06	-0,11	-0,16	0,01	-0,26
	p	0,73	0,01	0,72	0,14	0,94	0,59	0,22	0,69	0,409	0,26	0,9	0,06
8	τ-*b*	-0,06	-0,15	0,11	-0,26	0,06	-0,05	-0,26	0,24	-0,24	-0,09	0,16	-0,32
	p	0,68	0,27	0,45	0,06	0,64	0,7	0,05	0,1	0,075	0,5	0,27	0,02
9	τ-*b*	0,03	0,14	-0,09	0,08	-0,04	0,11	0,13	-0,21	0,461	0,1	-0,07	0,23
	p	0,85	0,3	0,54	0,59	0,77	0,42	0,33	0,14	8E-04	0,48	0,6	0,09
0	τ-*b*	-0,2	-0,12	-0,22	-0,35	0,26	0,14	-0,07	-0,17	-0,22	-0,15	-0,05	0,05
	p	0,19	0,38	0,13	0,01	0,05	0,31	0,57	0,23	0,106	0,27	0,75	0,72