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Psychometric properties of *the General Functioning Questionnaire* (GFQ-58) used for screening for symptoms of psychopathology and overall level of functioning

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Summary

Aim. Measuring severity of psychopathological symptoms using self-assessment questionnaires is important for clinical and scientific research. However, there is no widely-available Polish tool which measures both overall functioning and severity of a broad spectrum of psychopathological symptoms. This paper describes the designing of such a tool – the General *Functioning Questionnaire* (GFQ-58).

Methods. Three studies were conducted to verify the validity and reliability of the GFQ-58: (1) a study comparing 30 individuals diagnosed with schizophrenia and 30 with no psychiatric diagnosis; (2) a correlational study on 602 individuals exploring relationships between the GFQ-58 and tendency for rumination and quality of life; and (3) a study on 37 patients from a ward which treats neurotic and personality disorders, exploring the relationships between the GFQ-58 and tools for measuring severity of psychopathological symptoms, overall functioning and neurotic personality.

Results. The first study revealed large differences between individuals suffering from schizophrenia and healthy individuals in the overall score of the questionnaire ($p < 0.001$; $d = 1.30$) and some of its subscales. The second study showed strong relations between the GFQ-58 and both severity of rumination ($p < 0.001$; $\rho = 0.64$) and quality of life ($p < 0.001$; $\rho = – 0.81$). The third study identified relationships between the GFQ-58 and tools measuring various psychopathological symptoms, overall functioning and neurotic personality. These relationships were moderate or strong (all $p \leq 0.001$; $r = 0.43–0.86$). Reliability of the overall score was satisfactory in all studies (Cronbach's $\alpha = 0.89–0.92$).

Conclusions. The GFQ-58 has satisfactory validity and reliability. It can be used in both scientific and clinical research as a screening tool for measuring overall functioning and severity of psychopathological symptoms.

Key words: symptom checklist, psychopathology, self report

Introduction

Measuring the intensity of symptoms of psychopathology using self-report questionnaires is widespread both in research and clinical practice. Such tools are useful in clinical diagnostic examinations, epidemiological research, comparative research, as well as clinical and scientific research concerned with the effectiveness of psychotherapy and pharmacological interventions. Apart from the aforementioned goals, it is worth emphasizing the use of measurement of symptoms as a secondary, controlled-for variable. This is possible if the measurement tool is not time-consuming and consists of a relatively small number of items. Another important value of such measurement is the possibility of making cross-cultural and cross-linguistic comparisons of results (in the case of tools available in more than one language).

Several tools of this kind, which have Polish language versions, exist in the literature. Some of them are freely available and can be used by clinicians and researchers. This review only took into account checklist type questionnaires which contain several scales measuring the severity of various symptoms, including those corresponding to diagnostic entities from the ICD and DSM, as well as tools used to measure overall mental health condition. One of the most commonly used such tools is *the Symptom Checklist-90-R* (SCL-90-R) [1], which has two Polish translations [cf. 2] and a short Polish version, composed of 27 items [3]. Unfortunately, the legal situation of this tool is not clear and it is not available for general use. Another such tool is the SCL-27 plus [2], which can be obtained for free from the authors. It consists of 5 scales (depressive, vegetative, agoraphobia, social phobia, and pain symptoms) and a module screening for risk of suicide. The psychometric properties of the tool as a whole as well as separate subscales are good. Its factor structure indicates that it mainly allows the assessment of the severity of depressive and anxiety disorders.

Questionnaires of overall functioning and mental health with Polish versions are *Lambert's Outcome Questionnaire* [4, 5] and *Goldberg's General Health Questionnaire* [6–8]. The first one consists of 45 items and focuses on three domains: overall severity of symptoms, interpersonal relations and social functioning. Goldberg's questionnaire, in turn, contains three Polish language versions with different numbers of items. One of them [7] contains 30 items, and a study on the adaptation allowed the distinguishing of three factors: "anxiety and depression", "interpersonal relations" and "overall functioning"; unfortunately it was impossible to assign many of the items to factors. The version composed of 12 items [8] does not contain subscales, but rather one overall factor which can be understood as the overall condition of mental health of an individual. The version which consists of 28 items contains four subscales: "somatic symptoms", "anxiety and insomnia", "impaired functioning", and "depressive symptoms".

One ought to also mention tools for measuring the severity of neurotic symptoms which were originally developed in Polish, such as *the "O" questionnaire* [9] and its

shortened versions – S-II and S-III [10, 11]. The S-II questionnaire consists of 85 items and is used to measure the severity of various kinds of anxiety and emotional disorders, such as hypochondria, dysthymia and sleep disorders. The S-III questionnaire consists of 82 items and is used to measure the overall severity of neurosis symptoms and to make screening diagnoses of such disorders; no subscales have been distinguished in its construction.

In summary: Polish language tools for assessment of the severity of psychopathological symptoms may be unavailable for widespread use by researchers and clinicians or they may lack many types of psychopathological symptoms, instead focusing on the overall levels of functioning of an individual.

Aim

The above literature review indicates that there is a lack of a Polish language tool that could be used to assess levels of overall functioning and for screening diagnosis of the severity of various psychopathological symptoms which would be easily available to a wide group of researchers and practitioners. This article presents the process of developing such a tool – *the General Functioning Questionnaire* (GFQ-58) – and the results of studies verifying its psychometric properties. In the first study a group of individuals with schizophrenia was compared to a group of healthy individuals. Schizophrenia was chosen due the large number of comorbid disorders [12] including depressive disorders [13], poor somatic health [14], and poor everyday functioning [15]. The second study is a correlational study on a large, non-clinical sample, in which the relationships between the subscales of the questionnaire and brooding, a very important factor in the development of depressive and anxiety disorders [16], were explored as well as the relationships between the subscales of the questionnaire and quality of life (and its domains), which is negatively related with levels of psychopathological symptoms [17]. The third study is a study on a clinical sample of individuals with anxiety and personality disorders, exploring the relationships between the GFQ-58 questionnaire and its subscales and other tools for measurement of the severity of symptoms, overall functioning and personality disorders.

The General Functioning Questionnaire 119 (GFQ-119) – experimental version

The first stage of the development of the new tool was to define the domains of human functioning, which would serve as a basis for the creation of the scales of the tool. The starting point were the ideas of Alida van Bruggen [18], who based her studies on Social Production Function Theory [19]. She distinguished between two subdomains of life: (A) the private domain and (B) the public domain. Within each of these two subdomains she distinguished three areas of human activity where wellbeing is formed. For the private domain, the author proposed distinguishing between (A1) productive

activities in the private domain (e.g., housekeeping), (A2) personal relationships with other people and (A3) recreation and discretionary activities. In the public domain the author distinguished between: (B1) productive activities in the public domain (e.g., professional work, studying), (B2) activities associated with civil rights and obligations and (B3) non-institutionalized interactions (e.g., in the street). In the process of the development of the scales of the current tool, these six domains were taken into account, and thus six scales of the questionnaire were created.

The severity of psychopathological symptoms was also included in the questionnaire. Based on the ICD-10 [20] and the DSM-IV-TR [21] diagnostic criteria ten psychopathology domains have been distinguished: (1) cognitive impairments, (2) addictions, (3) positive psychotic symptoms, (4) depressive symptoms, (5) manic symptoms, (6) anxiety symptoms, (7) eating disorder symptoms, (8) sleep problems, (9) sexual problems, and (10) somatic symptoms.

The second stage of developing the presented tool was to generate questionnaire items divided into 6 domains of human functioning and 10 groups of symptoms. A total of 124 items were proposed. Then in the process of analysis of the items with regards to their content and the use of language, the final experimental version of the questionnaire consisted of 119 items.

There were 50 individuals in the sample studied with the experimental version of the GFQ. There were 37 women and 13 men in this group. Mean age was 28.4 years (SD = 8.9). Of these, 10 individuals had higher education, 28 were studying in a university and 2 had secondary education. The Research Ethics Committee of the Faculty of Psychology of the University of Warsaw approved the study. Based on the results of the first study, 58 items were selected, which were included in the final version of the GFQ-58. These items were chosen using a method where the items with the lowest positive impact on the value of Cronbach's α for each of the subscales separately are removed. Due to low validity, the "Activities associated with civil rights and obligations" subscale was entirely removed. Due to a significant relationship between the items, it was decided to combine questions from three domains: "productive activities in the private domain", "productive activities in the public domain" and "non-institutionalized interactions", into one new subscale, called "Poor functioning at work and at home".

The General Functioning Questionnaire (GFQ-58) – final version

The GFQ-58 is composed of 58 items (full questionnaire in the appendix). The participant must assess statements starting with "during the last 7 days…" on a 5-level scale, where 1 means "never", 2 – "rarely", 3 – "sometimes", 4 – "often", and 5 – "almost always". In order to calculate the overall score, questions 2, 7, 16, 19, 22, 36, 47, 51, 54 need to be recoded. This is done by subtracting x from 6, where x is the initial score. After doing this, all answers should be summed up and divided by

the number of answers in a given scale or in the questionnaire. The overall score that can be achieved in the questionnaire or on its subscales thus ranges between 1 and 5, where a higher score indicates a more negative assessment of overall functioning and greater severity of psychopathological symptoms.

The GFQ-58 contains the following 13 subscales (the letter "O" next to a question number means that it should be recoded) :

1. The "Poor functioning at work and at home" scale refers to the lack of ability to fulfill one's duties at home and at work, and lack of satisfaction with one's everyday functioning. Items 22-O, 36-O, 47-O, and 52.
2. The "Lack of entertainment" scale refers to the free time of the respondent – not engaging in any hobbies or other pleasurable activities, lack of contact with culture, and lack of enjoyment from the above listed activities. Items: 2-O, 7-O, 16-O, and 51-O.
3. The "Poor social relationships" scale refers to the sense of loneliness and isolation from social contacts, as well as the sense of being rejected and not accepted by other people. Items: 19-O, 32, 42, and 50.
4. The "Cognitive impairments" scale refers to issues with memory and concentration reported by the respondent. Items: 1, 20, 38.
5. The "Addictions" scale refers to alcohol consumption – negative symptoms of drinking and troubles with controlling alcohol consumption – as well as drug use. Items: 8, 12, 31, and 56.
6. The "Positive psychotic symptoms" scale regards positive psychotic symptoms – delusions and hallucinations. It contains items regarding: persecutory and grandiose delusions, thought insertion, thought broadcasting and mind reading, hearing voices, including those of a commanding character. Items: 9, 11, 23, 26, 39, and 43.
7. The "Depressive symptoms" scale refers to anhedonia, sadness, negative expectations from future events and suicidal ideation. Items: 13, 27, 33, 45, 54-O, and 57.
8. The "Manic symptoms" scale regards increased drive and psychomotor arousal, talkativeness and impulsive behaviors. Items: 24, 28, 29, 34, 40, and 55.
9. The "Anxiety symptoms" scale refers to basic symptoms of various anxiety disorders and nonspecific symptoms of experienced anxiety. Questions regarding specific anxiety disorders regard: obsession and compulsion, social anxiety, and anxiety towards a specific situation. General, nonspecific symptoms are worrying, experiencing anxiety and vegetative arousal. Items: 4, 18, 25, 35, 44, 48, 53, and 58.
10. The "Eating disorder symptoms" scale refers to the basic symptoms of eating disorders: binge eating and purging as well as obsessive thoughts about excessive body mass. Items: 21, 30, 41.
11. The "Sleep problems" scale refers to insomnia and difficulties with falling asleep, as well as maladjustment of the sleep-wake cycle to the requirements of the respondent's environment. Items: 5, 10, 14, and 37.

12. The "Sexual problems" scale refers to difficulties in experiencing pleasure from sexual activity as well as complete lack of sexual needs. Items: 3 and 46.
13. The "Somatic symptoms" scale refers to general problems with one's somatic health occurring without a clear reason, including malaise and pain symptoms, as well as somatic diseases. Results on this scale may also be associated with the severity of somatization – the tendency to perceive symptoms of emotional disorders as somatic. Items: 6, 15, 17, and 49.

Study 1 – comparison of individuals with schizophrenia and healthy individuals

Participants

A total of 60 individuals took part in the study: (1) 30 people diagnosed with schizophrenia and (2) 30 healthy individuals. Participants were recruited into groups by convenience sampling. All participants gave their informed consent to taking part in the study. Individuals with schizophrenia were aged between 25 and 69, mean age was 48.7 (SD = 11.57). This group included 19 men and 10 women (there is no information about the gender of one participant). Four of the participants in this group had higher education, 16 had secondary education, and six had primary education; information about the education of three individuals is missing. Participants from the clinical group were recruited from the participants of Community Self-help Centers. Individuals from the healthy group were selected to match the clinical group in such a way there were no significant differences in age, sex and education levels. The group of healthy individuals consisted of 20 men and 10 women. Age of the studied individuals ranged between 29 and 73, mean age was 50.7 years (SD = 10.64). Twenty six individuals had secondary education and the remaining four had higher education. These individuals declared not having ever been treated psychiatrically.

Tools

The GFQ-58 was used in the study. The reliability of the GFQ-58 was measured using Cronbach's α coefficient, and its predictive validity was expressed as the difference between the scores of individuals with schizophrenia and healthy individuals. Because the distribution was not normal, the significance of difference between the two groups was verified using the U-test. The size of differences between the groups was expressed using the Cohen's d coefficient.

Results

Cronbach's α coefficients of reliability of subscales ranged from 0.45 to 0.87, and it was equal to 0.92 for the entire questionnaire. Individuals with schizophrenia scored

significantly higher on the following scales: "Poor social relationships", "Cognitive impairments", "Positive psychotic symptoms", "Depressive symptoms", "Anxiety symptoms", as well as had higher overall scores. Scores range from moderate ($d = 0.57$) to very large ($d = 1.95$) effects size with a confidence of 90%. Detailed results are presented in Table 1.

Table 1. **Detailed results of study 1**

	Number of items	Cronbach's α	Healthy individuals	Individuals with schizophrenia	Mann-Whitney U	p	Cohen's d	Cohen's d 90% confidence interval
Functioning	4	0.56	2.65 (0.62)	2.93 (0.98)	374	0.35	0.34	-0.1–0.77
Entertainment	4	0.65	2.72 (0.70)	2.78 (1.01)	438	0.86	0.07	-0.36–0.49
Relationships	4	0.69	1.70 (0.58)	2.48 (0.85)	210	0.001	1.07	0.61–1.53
Cognitive impairments	3	0.76	1.97 (0.69)	2.81 (0.93)	197	<0.001	1.03	0.57–1.48
Addictions	4	0.80	1.28 (0.39)	1.32 (0.63)	393	0.48	0.08	-0.35–0.51
Positive psychotic symptoms	6	0.82	1.13 (0.24)	1.87 (0.84)	199	<0.001	1.20	0.74–1.66
Depressive symptoms	6	0.68	1.61 (0.34)	2.41 (0.69)	134.5	<0.001	1.47	0.99–1.95
Manic symptoms	6	0.58	1.94 (0.50)	2.12 (0.71)	367.5	0.30	0.29	-0.14–0.72
Anxiety symptoms	8	0.87	1.50 (0.45)	2.35 (0.88)	175	<0.001	1.22	0.75–1.68
Eating disorder symptoms	3	0.45	1.48 (0.61)	1.64 (0.76)	386	0.44	0.23	-0.20–0.66
Sleep problems	4	0.86	1.66 (0.47)	2.37 (1.16)	321	0.06	0.80	0.36–1.24
Sexual problems	2	0.50	1.83 (0.93)	2.36 (1.10)	311.5	0.06	0.52	0.09–0.96
Somatic symptoms	4	0.76	1.88 (0.61)	2.35 (0.99)	336.5	0.09	0.57	0.14–1.00
Overall score	58	0.92	1.73 (0.30)	2.28 (0.52)	173.5	<0.001	1.30	0.83–1.77

p – statistical significance

Study 2 – correlational study on a large, non-clinical sample

Participants

A total of 1,080 individuals took part in an online study conducted using the LimeSurvey platform. The link to the study was distributed via social media, where authors' friends were asked to share it, thus the recruitment method can be defined as a mix of convenience sampling and snowball sampling. 602 individuals completed the study. Only full results were analyzed.

The mean age in the sample was 31.92 (*SD* = 10.18, min. 18; max. 75). About 77% of the participants were women, 1.5% of participants did not state their gender. About 71% of participants reported having higher education, 25% reported having secondary education and the remaining participants had either primary or vocational education. 18.3% of participants lived in small cities (under 10,000 inhabitants), 18.4% in middle-sized cities (between 20,000 and 100,000 inhabitants), 63.3% in big cities (above 100,000 inhabitants). 18.8% of respondents reported using the services of a psychiatrist, psychologist or psychotherapist at the time of the study. This is in line with data from research concerned with the prevalence of mental health problems in the Polish population [22], and allows the sample to be regarded as non-clinical.

Tools

In addition to the GFQ-58, two additional tools were used to verify its construct validity. The first was *the Ruminative Responses Scale* [23], which measures, amongst other things, the intensity of rumination-style thinking – brooding. The Polish adaptation of this scale was used [24]. The second tool was the short World Health Organization Quality of Life Questionnaire (WHOQOL-BREF) [25]. In this questionnaire, quality of life is divided into four domains: psychological, physical, environmental, and relational one. The Polish adaptation of this tool was used in the current study [26]. The reliability of the GFQ-58 was measured using Cronbach's α coefficient, and its construct validity was shown by its associations with the brooding, psychological domain of quality of life as well as overall quality of life. Due to the non-normal distribution of results, the strength of these relationships was assessed using Spearman's rho rank correlations. Confirmatory factor analysis was performed in AMOS 25.

Results

The Cronbach's α coefficient ranged between 0.55 and 0.88 for the subscales, and was equal to 0.89 for the entire questionnaire. Subscales of the GFQ turned out to be correlated with brooding, with rho values ranging from rho = 0.18 to rho = 0.60, and rho = 0.64 for the overall score, all $p \leq 0.001$. Correlations with the psychological domain of the quality of life and the overall quality of life ranged from rho = – 10 and rho = – 0.81 for the subscales, and were rho = – 0.79 and rho = – 81 respectively for the overall score, all $p \leq 0.001$, apart from the relationship between the "Addictions" subscale with overall quality of life, where $p = 0.012$. Detailed results are presented in Table 2.

Additionally, confirmatory factor analysis was performed to test the single factor structure of the questionnaire. Its results were equivocal: $\chi^2 = 3{,}511.201$; CFI = 0.878; RMSEA = 0.046, where recommended values for fit indices are CFI ≥ 0.90 and RMSEA ≤ 0.05. A two factor confirmatory analysis was also performed, testing if there are two

factors: (1) social functioning factor and (2) severity of psychopathological symptoms factor. Performed analysis showed that data do not fit to the model $\chi^2 = 4{,}722.31$; CFI = 0.81; RMSEA = 0.058, despite the results being near the recommended ones.

Table 2. **Detailed results of study 2**

	Cronbach's α	RRS-brooding	WHOQOL-BREF	
			Psychological domain	Overall score
Functioning	0.67	0.44	-0.71	-0.71
Entertainment	0.78	0.39	-0.56	-0.56
Relationships	0.79	0.51	-0.73	-0.73
Cognitive impairments	0.83	0.46	-0.56	-0.56
Addictions	0.77	0.18	-0.14	-0.10*
Positive psychotic symptoms	0.66	0.27	-0.24	-0.27
Depressive symptoms	0.86	0.60	-0.81	-0.79
Manic symptoms	0.57	0.44	-0.39	-0.41
Anxiety symptoms	0.86	0.56	-0.66	-0.65
Eating disorder symptoms	0.55	0.38	-0.39	-0.36
Sleep problems	0.88	0.38	-0.46	-0.53
Sexual problems	0.66	0.31	-0.41	-0.44
Somatic symptoms	0.73	0.42	-0.52	-0.58
Overall score	0.89	0.64	-0.79	-0.81

Results presented in the last three columns are Spearman's rho, all results are significant at $p \leq 0.001$ except those marked with *, where $p = 0.012$

Study 3

Participants

37 individuals took part in the study. Subjects were recruited from among the patients of a day unit for treatment of neurotic and personality disorders. Participants were aged between 21 and 68, with a mean age of 39.88 (*SD* = 12.65) (3 individuals did not provide their age). The study group included 13 men and 24 women. 16 of the participants had higher education, 17 had secondary education and 2 had primary education. Two people did not indicate their education levels. 15 individuals were diagnosed with affective disorders (F32, F33, F34), 12 – with neurotic disorders (F41, F45, F48), 3 – with neurotic and personality disorders (F41/F60), 3 – with personality disorders (F60), 1 – with organic disorder (F06), 1 – with personality, eating and affective disorders (F60/F50/F32), and 1 – with disorder of conduct and emotion which started in childhood (F92).

Tools

Apart from the GFQ-58, other screening tools were used to measure the severity of psychopathological symptoms, personality disorders and overall functioning. The S-II questionnaire by Aleksandrowicz [10] was used to measure the severity of neurotic symptoms. A screening questionnaire GAD-7 [27] was used to measure the severity of anxiety symptoms and the PHQ-9 [28] was used to measure depressive symptoms. *The Pittsburgh Sleep Quality Index* (PSQI) [29] was used to measure quality of sleep. The Goldberg GHQ-28 [8] was used to measure the overall condition of mental health and the KON-2006 [30] was used to measure the severity of neurotic personality traits. Due to limited space, only overall scores on the listed measures will be presented (without the results on subscales[1]).

Reliability of the GFQ-58 was measured using Cronbach's α coefficient and its construct validity was shown using correlations with the questionnaires listed above. The strength of these relationships was expressed as the value of Pearson's *r* correlation coefficient.

Results

Cronbach's α coefficient ranged between 0.32 and 0.90 for subscales, and it was 0.91 for the entire questionnaire. The total score on the GFQ-58 turned out to be significantly correlated with total scores of all the employed questionnaires, ranging from $r = 0.43$ ($p \leq 0.01$) to $r = 0.86$ ($p \leq 0.001$). Results for particular subscales of the GFQ-58 and other detailed results are presented in Table 3.

Table 3. **Detailed results of study 3**

	Cronbach's α	S-II	GHQ-28	GAD-7	PHQ-9	PSQI	KON-2006
Functioning	0.32	0.32°	0.36*	0.02	0.46**	0.24	0.50**
Entertainment	0.82	0.17	0.20	0.08	0.56***	0.23	-0.04
Relationships	0.63	0.41*	0.45**	0.41**	0.53***	0.15	0.39*
Cognitive impairments	0.88	0.58***	0.45**	0.41*	0.66***	0.51***	0.27
Addictions	0.78	-0.18	0.06	-0.32°	-0.03	0.02	0.03
Positive psychotic symptoms	0.63	0.43**	0.08	0.51***	0.31°	0.15	0.24
Depressive symptoms	0.62	0.66***	0.39*	0.51***	0.73***	0.52***	0.36*
Manic symptoms	0.53	0.49**	0.31°	0.39*	0.23	0.40*	0.09
Anxiety symptoms	0.82	0.76***	0.47**	0.81***	0.60***	0.35*	0.34*

[1] Results on subscales will be made available by the authors on request.

table continued on the next page

Eating disorder symptoms	0.55	0.27	0.15	0.15	0.22	0.40*	0.26
Sleep problems	0.90	0.52***	0.45**	0.26	0.68***	0.80***	0.36*
Sexual problems	0.58	0.35*	0.30°	0.17	0.51***	0.51***	0.03
Somatic symptoms	0.69	0.73***	0.34*	0.55***	0.53***	0.24	0.23
Overall score	0.91	0.82***	0.55***	0.62***	0.86***	0.64***	0.43**

S-II – Symptom Checklist S-II; GHQ-28 – General Functioning Questionnaire; GAD-7 – Generalized Anxiety Disorder Scale; PHQ-9 – Patient Health Questionnaire; PSQI – Pittsburgh Sleep Quality Index; KON-2006 – Neurotic Personality Questionnaire. ° $p \leq 0.08$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

Discussion of results

Based on the results of the study conducted with the experimental version of the questionnaire, "Activities associated with civil rights and obligations" was removed, due to unsatisfactory reliability. On the other hand, due to significant correlations between "productive activities in the private domain", "productive activities in public domain" and "non-institutionalized interactions", items from these three domains have been combined. In place of these subscales, a single "Poor functioning at work and at home" scale was created. As a result of this study, the questionnaire was also shortened from 119 items to its final 58 items.

Results suggest that the GFQ-58 is characterized by high reliability ($\alpha = 0.89–0.92$). The Cronbach's α coefficient for separate subscales had the following ranges, depending on the study: (1) "Poor functioning at work and at home" $\alpha = 0.32–0.67$; (2) "Lack of entertainment" $\alpha = 0.65–0.82$; (3) "Poor social relationships" $\alpha = 0.63–0.79$; (4) "Cognitive impairments" $\alpha = 0.76–0.88$; (5) "Addictions" $\alpha = 0.77–0.80$; (6) "Positive psychotic symptoms" $\alpha = 0.63–0.82$; (7) "Depressive symptoms" $\alpha = 0.62–0.86$; (8) "Manic symptoms" $\alpha = 0.53–0.58$; (9) "Anxiety symptoms" $\alpha = 0.82–0.87$; (10) "Eating disorder symptoms" $\alpha = 0.45–0.55$; (11) "Sleep problems" $\alpha = 0.86–0.90$; (12) "Sexual problems" $\alpha = 0.50–0.66$; and (13) "Somatic symptoms" $\alpha = 0.69–0.76$. This indicates a satisfactory reliability of most of the subscales. The homogeneity of subscales regarding poor functioning, manic symptoms, eating disorder symptoms, and sexual problems raises concerns. The poor functioning scale was created by combining three subscales regarding different constructs. It may be homogeneous in its contents, but it should also be noted that this subscale had an extremely low Cronbach's α value in a study on individuals with high severity of emotional disorders during their stay in a psychiatric unit – the inconsistent way of answering presented by individuals in this group could be a symptom of functioning impairments they were experiencing at that moment. Items on the subscales regarding manic symptoms and eating disorder

symptoms may be not fully specific to a disorder of a given kind. The low reliability coefficient on the sexual problems subscale may be a result of it containing only two items. These four subscales should be modified in future versions of the tool, however, they have been left in this version of the questionnaire due to the possibility of qualitative interpretation of their results, as well as possible use by clinicians.

Analyses of the results of the study conducted with the final version of the GFQ-58 indicate that the tool is characterized by satisfactory construct validity. Study 1 indicated that results on the GFQ-58 and some of its subscales (poor social relations, cognitive impairments, and positive psychotic, depressive and anxiety symptoms) differentiate healthy individuals from those affected with schizophrenia in a state of remission with a large effect size –Cohen's *d* equal or larger than 1. This is in line with results of studies indicating higher severity of different kinds of psychopathological symptoms in people with schizophrenia [12–15]. The results of the second study, conducted with a large non-clinical sample, suggest that the GFQ-58 and all its subscales correlate with the intensity of brooding – a subtype of rumination, particularly associated with the severity of emotional disorders [16]. The overall GFQ-58 score and the scores of its subscales are also negatively correlated with the psychological domain and overall quality of life [cf. 17]. The relationship between the overall GFQ-58 score and the psychological domain of quality of life is particularly strong (rho = – 0.79), as is GFQ-58 correlation with overall quality of life (rho = – 0.81). The third study, on patients with personality and emotional disorders, revealed the relationships between the GFQ-58 and its subscales with different measurements of severity of psychopathological symptoms as well as severity of neurotic personality.

The presented studies on the GFQ-58 are not without limitations. The first step should be the better development of subscales regarding functioning, manic symptoms, eating disorders, and sexual disorders without significant increase in the number of items in the tool so that it does not lose either its screening character or the ease with which it can be used in research and clinical examination. Future studies should concentrate on verifying the reliability and validity of the tool in specific diagnostic groups (e.g., people with depression, in mania, or with eating disorders). Norms for the tool should also be developed. Furthermore, user of this questionnaire should interpret results of some subscales with caution. Especially those which are susceptible for distortions in self-description due to limited insight: "Manic symptoms", "Positive psychotic symptoms" and "Eating disorder symptoms". Diagnostic validity of these scales requires further studies.

Another limitation to presented results is ambiguity if results of the GFQ-58 aggregate to single factor describing general functioning. Performed analyzes did not bring unequivocal answer. Therefore, we recommend, especially in clinical settings, interpreting profiles of disorders severity in relation to respective subscales and caution in interpreting overall score of general functioning. This problem needs to be addressed in further studies.

Conclusions

1. The GFQ-58 is characterized by satisfactory construct validity and reliability.
2. Its subscales are also characterized by satisfactory construct validity and in most cases satisfactory reliability.
3. The questionnaire can be used both in scientific research and as a screening tool concerning overall functioning and the severity of psychopathological symptoms.
4. In the case of scientific research, clinicians should be aware of the limitations of particular subscales in individual screening examinations and should make a qualitative assessment of the obtained results.

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Annex

General Functioning Questionnaire (GFQ-58)

Rafał Styła

This questionnaire consists of 58 statements about how you felt **in the last 7 days** (including today). Evaluate from the perspective of today, by marking with a cross on a scale from 1 to 5, how often you experienced the situation described in each statement, where "1" means that the given situation has never occurred (*never*) and "5" means its maximum frequency (*almost always*).

	In the last 7 days…	1	2	3	4	5
		never	rarely	sometimes	often	almost always
1.	I had memory problems.					
2.	I enjoyed my free time activities.					
3.	I had difficulty in getting pleasure from sexual activity.					
4.	I felt a compulsion of certain behaviors (e.g., washing hands, doing housekeeping, checking, counting, repeating words in thought).					
5.	I suffered from insomnia.					
6.	I felt very bad.					
7.	I had contact with culture (in the form of going to the theater/cinema, reading a book, etc.).					
8.	I had a hangover.					
9.	I was convinced that someone seriously threatens my life.					
10.	My sleep rhythm was not adapted to the expectations of my surroundings (e.g., sitting long at night and difficulty getting up to work in the morning).					
11.	I had the feeling that someone was putting my thoughts into my head or taking my thoughts away.					
12.	I took drugs (cannabis, cocaine, LSD, legal highs, etc.)					
13.	Nothing pleased me.					
14.	I had trouble sleeping.					

15.	I was sick somatically (e.g., I had a cold, I had a sore throat).					
16.	I dealt with my hobby.					
17.	I felt sore.					
18.	I have had panic attacks.					
19.	I had evidence that there are many friendly people around me.					
20.	I was easily distracted.					
21.	I had bouts of gluttony.					
22.	I had the feeling that people from the area where I live (e.g., neighbors, people from the nearby store) are friendly.					
23.	I heard voices even though they had no real source.					
24.	I did irresponsible things (e.g., unrestrained shopping, unreasonable business investments).					
25.	I was worried.					
26.	I thought I was someone very important (e.g., God).					
27.	I cried.					
28.	I was much more active than usual.					
29.	I experienced racing thoughts.					
30.	I had obsessive thoughts that I was too fat.					
31.	I couldn't resist drinking alcohol.					
32.	I felt rejected by other people.					
33.	I was thinking about suicide.					
34.	I had an increased sex drive.					
35.	I experienced strong anxiety when I was among people.					
36.	I felt satisfaction with what I do in my life.					
37.	I couldn't sleep.					
38.	I couldn't concentrate.					
39.	I had the feeling that other people could read my mind.					
40.	I was talky.					
41.	I provoked vomiting.					
42.	I avoided contact with people.					
43.	I heard voices telling me to do something.					

44.	I had symptoms – for no clear medical reason – such as shortness of breath, choking sensation, dry mouth, dizziness.					
45.	I had low self-esteem.					
46.	I didn't feel any sexual needs.					
47.	I was doing well at work/school.					
48.	I felt fear of selected situations (e.g., flight, meeting an animal, storm, being away from home).					
49.	I had serious health problems.					
50.	I felt lonely.					
51.	I spent my free time on activities that gave me a lot of joy.					
52.	I was unable to complete all my daily household duties.					
53.	I felt anxiety.					
54.	I felt happy.					
55.	I was excited.					
56.	I got really drunk.					
57.	I was pessimistic about the future .					
58.	I had intrusive thoughts that I couldn't get rid of.					