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The Nuclear Family Functioning Scale (NFFS): Polish adaptation of the American model and analysis of its psychometric properties

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Summary

Aims: The aim of the study was to develop and validate the Nuclear Family Functioning Scale (NFFS), a Polish version of the Family Genogram Interview (FGI). FGI is an instrument designed to measure emotional processes conceptualized by Bowen in his family systems theory.

Material and Methods: A total of 300 married women with at least one child aged 4 to 10 years completed a survey test battery composed of NFFS, GHQ-28, DAS, DSI-R and PAS.

Results: The results indicated that the NFFS has good psychometric properties. The four-factor structure of the NFFS, validated using first exploratory, then confirmatory factor analysis, was replicated. We confirmed its satisfactory internal consistency and construct validity.

Discussion: NFFS consists of 30 items examining emotional processes in a nuclear family. Statistical and theoretical analyses led to a four-factor model with the following scales: Symptoms in a Spouse, Marital Conflict, Focus on a Child and Emotional Cut-off.

Conclusions: Our findings confirm that the NFFS is a reliable and valid instrument that can be applied both in clinical practice and in research.

emotional processes / nuclear family / Bowen's theory / Family Genogram Interview / Nuclear Family Functioning Scale

INTRODUCTION

The necessity of taking into account the family context in the treatment of individual psychopathology is increasingly being confirmed in empirical studies [1,2]. According to the systemic approach to family therapy, the symptom of a disease should not be considered as an isolated phenomenon which relates to the patient only, but rather as part of the family system in which the patient functions [3,4]. Researchers point out that family functioning may be a factor in the development, duration and course of such disorders as schizophrenia [5], anorexia and bulim-

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ia nervosa [6,7], or personality disorders [8, 9]. These results justify the systemic therapy approach where a disease is seen as a family event and recognizing it as such is an opportunity for effective psychotherapy [3,4]. The person who has made a significant contribution to such understanding of mental disorders was Murray Bowen – considered by many as one of the fathers of family therapy [10].

Bowen sees psychopathology as a manifestation of imbalance of emotional forces in the patient's family relationships [11,12]. The ultimate goal of every family system is in fact maintaining homeostasis, which is the state of dynamic equilibrium between the trend to change and the tendency to preserve the status quo [10,13]. Such homeostasis ensures the stability of the family under changing external conditions and circumstances, while allowing the family to adapt to changes that are a natural element determining its functionality. The development of every family involves many crises, both regular (e.g. life cycle changes) and non-standard (such as a disease) that disturb the balance and require an implementation of appropriate regulatory mechanisms determining effective reorganization. When the system is exposed to stress, the family has several adaptive mechanisms at its disposal, referred to by Bowen as emotional processes [11,12]. However, if the stress is severe or prolonged in time it can lead to overload of those mechanisms. Then, pathological symptoms usually appear, which in fact may represent the exaggerated forms of mechanisms used previously to maintain equilibrium in the system. In this context, the disease can be treated as a by-product of a long series of compromises made within the system, which stabilized it as a whole at the expense of some of its parts [14]. It is also noteworthy that Bowen treated the family as an emotional system, whose functionality is ensured by a balance between two opposing life forces: the force of individuality (motivating to function independently) and the force of community (motivating to create a relationship of mutual dependence) [12]. The preferable equilibrium is specific to each relationship, whereas a deviation towards one tendency may be a source of anxiety for an individual. The feeling of insufficient involvement in a relationship with an accompanying sense of loneliness prompts the individual to rebuild emotional closeness, while the feeling of excessive engagement in a relationship and feeling of loss of one's own self triggers a tendency to accentuate one's individuality. The mechanisms which function to relieve the relational tension in the family and to restore the balance between autonomy and fusion described by Bowen include: marital conflict, emotional distance, spousal dysfunction and focus on a child [11,12].

First, relational tension can be relieved by marital conflict. Abuse of this mechanism is characteristic of discordant relationships, in which periods of negative interaction are interspersed with periods of equally intense, often passionate, intimacy. This apparently purely dysfunctional scheme can actually provide a solution to the dilemma between the spouses' need for closeness and the need for distance. On the one hand, conflicts provide for a very strong sense of emotional contact with the persons important to us, and continuous disputes and a sense of resentment accompanying them stimulate partners to a permanent commitment. On the other hand, anger and tension allow to maintain emotional detachment and preserve individuality without the feeling of guilt. The intensity of the relationship and a strong focus on each other serve in a way to protect the emotional bond.

The second mechanism – emotional cut-off – involves isolation from the person with whom the relationship has become too intense, which may take the form of either physical avoidance or various forms of internal withdrawal, such as criticism of that person. This mechanism may lead to the stabilization of relations by reducing anxiety associated with excessive closeness. It seems, however, that it can also appear as a result of a failure of previous attempts to establish intimacy and thus exacerbates the anxiety associated with insufficient closeness. As a result, the spouses' need to "be together" can be directed outwards by engaging in another compensatory relationship, or focusing on an object, such as a hobby, work or intimate relationships outside marriage.

While the first two adaptive mechanisms involve concentration of the spouses on problems in the dyad, the others are associated with the diversion from the fundamental problems of the relationship and channeling those into an-

other area. This area may be an illness in one spouse. Marital tension can in fact be reduced by one partner submitting to the expectations of the other and to the pressure of the community at the cost of sacrificing their individuality. If one of the partners gives up their needs in order to maintain harmony in the relationship to a greater extent than the other, chronic anxiety is growing, and relations between the partners are gradually brought to a rigid complementarity. As a result, one of the spouses may develop symptoms of a mental disorder, a somatic disease or inadequacy of social functioning. A disease can divert attention from the fundamental problems of the relationship, and in this context we can talk about specific benefits of the disease for the family system: it often improves family integration and the relationships between its members [3,13,15].

The last mechanism, which like the previous one involves maintaining the closeness and interdependence relationships by providing care to a loved one, is associated with focusing on the child. It is the only mechanism that involves the inclusion of a third person in the dyadic relationship, which not only allows to divert attention from the original relational problems of the couple, but also allows the circulation of tension in the family. Excessive concentration of one or both partners on the functioning of the child results in the child's excessive sensitivity to the imbalance in the family system. When the tension increases, it triggers a tendency to manifest as mental, physical or social symptoms in the child, which in return reinforce the overprotective attitudes of the parents [11,12].

The family system usually implements all of these strategies to cope with stress, which means that the various difficulties the family is facing may indeed be manifestations of the same process – striving for adaptation. When one strategy takes precedence over the others, it leads to problems for which families seek therapy, such as marital conflict, the spouse's illness or problems with the child [16]. Identification and assessment of the severity of the four mechanisms that a family employs open up the possibility to diagnose a dysfunctional family, and therefore to identify family systems threatened with pathology even before symptoms manifest.

The only tool known to us that enables recognition of emotional processes in the nuclear family is the Family Genogram Interview, developed by American scientists Lisa F. Platt and Elizabeth A. Skowron [17]. It is used to assess the severity of emotional processes both in the nuclear family and in the family of origin. Each part contains both open – and closed-ended questions, and consists of four subscales:

a) Symptoms in a Spouse – questions on physical health, mental health and social functioning of both spouses; it assesses the significance of observed symptoms for the marital relationship and daily functioning;
b) Marital Conflict – defined as arguments, disagreements and tension between the spouses that are impossible to resolve, intense and chronic in nature;
c) Emotional Cut-off – evaluation of both physical and emotional withdrawal in the marital relationship and the duration of such detachment;
d) Focus on a Child – looks at how important a child is in the nuclear family by asking questions about the presence of overprotective attitude in parents and excessive concentration of the marital relationship on issues related to children.

The authors envisage that all responses given by the interviewed subjects should be drafted onto a genogram [18].

The FGI was built in several stages. In the first instance, on the basis of the definitions of individual emotional processes and guidance on how to assess the presence and intensity in the family presented in the literature [11,12], an initial pool of items was developed. In addition, five experienced family therapists working in the mainstream of Bowen's family systems theory recorded their therapy sessions, during which they conducted the genogram interviews, and based on their transcriptions developed additional questions. The initial version of the tool was then tested in a pilot study and once the individual items have been revised, a 75-minute protocol for the evaluation of emotional processes in the family was developed. The next stage of the study involved 50 heterosexual, married women with at least one child aged 4–10 years. A 2-hour interview was conducted with each of

them, supplementing the FGI and the pool of additional tools, used later to assess the accuracy of the FGI. What is important, in order to evaluate the psychometric properties of the FGI, the authors of the original version used only closed-ended questions. They decided to incorporate individual emotional processes in either the nuclear family or the family of origin, never in both – more precisely, the symptoms in a spouse, marital conflict and focus on a child were taken into account with regard to the nuclear family, and emotional cut-off in relation to the family of origin. Due to the low reliability (Cronbach's α = 0.51), the 'Focus on a child in the nuclear family' subscale was removed from the final version of the FGI. The final version of the tool consists of three subscales with a total of 29 questions: 12 for the symptoms in a spouse, 6 for marital conflict and 11 for emotional cut-off. The tool has satisfactory internal consistency – Cronbach α above 0.8 for all subscales – and theoretical accuracy [17].

In Poland there is no tool available that would allow an assessment of emotional processes in the family, and that became the main premise behind undertaking the adaptation of the FGI scale. Admittedly, psychologists have at their disposal a variety of tools that focus on selected aspects of family functioning, such as marital relationship or parental attitudes to children (for example, Plopa [19]), but the consequence of such an approach can be that the view of problems faced by the patient is limited to more elementary relationships and excessive focus is placed on them during therapeutic work. The FGI scale offers a change in perspective from which the psychologist sees the patient's problems and allows a comprehensive assessment of the level of family functioning, treating different mechanisms of individual behavior as a manifestation of one and the same process – adaptation to stress. Moreover, the adaptation of FGI opens the possibility to diagnose a dysfunctional family even before symptoms emerge, which will fill a gap in this field in psychological research methodology resources.

METHOD

Participants and procedure

The study was carried out in a group of 300 married women with at least one child aged 4 to 10 years. The average age of respondents was 33.53 years (SD = 4.84, range: 21 – 47). Most women achieved university education (n = 181; 60.3%), or secondary education (n = 102; 34.3%). The duration of marriage was on average 8.95 years (SD = 3.96, range: 1 – 26). Almost half of the respondents had one child (n = 148; 49.7%), the rest had mostly two children (n = 138; 46.3%).

All women included in the study were from heterosexual nuclear families with both parents. For both the respondent and her spouse this was their first marital relationship and the children they had were born in the current relationship. The selection criteria for the studied sample were consistent with those applied by the authors of the original version of the FGI. They also had a theoretical justification, as Bowen's theory implies that the emotional process in the family is particularly evident among heterosexual couples after the wedding [12]. It also becomes more pronounced and intensified due to increased anxiety and stress emerging in the relations of families with young children [12]. For this reason, the study sample consisted of women who had at least one child aged 4 to 10 years; thus, referring to the classification of Carter and McGoldrick [20] they were in the "family with young children" cycle phase. All respondents completed a set of questionnaires, which consisted of NFFS and other tools as described below. The study was anonymous.

The whole sample was divided into two groups: the analysis was carried out in the first subsample (n = 155) and then validated in the second one (n = 145). No statistically significant differences were observed between the subsamples, with respect either to the respondents' age (t (298) = –0.116; p = 0.908), or marriage duration (t (295) = –0.563; p = 0.571). The subsamples did not differ in terms of the level of education (p = 0.474) and the number of children (p = 0.139[1]) either.

[1] As contingency tables for both variables contained the cells for which the expected number was lower than 5, the Fisher's exact test was used rather than the Chi-square test.

MEASURES

- The Family Genogram Interview (FGI)
  The Family Genogram Interview [17] was first translated into Polish. Just as in the original version, it was decided to use quantitative questions only. To take into account the most accurate and comprehensive way that all emotional processes present within a single generation, the emotional cut-off was measured not in the family of origin, but in the nuclear family. It was also decided to include the questions concerning focus on a child. The number of questions in each quantitative subscale was the same in the Polish version apart from the marital conflict subscale, where the original question: "Rate the type of disagreements you have: Short Term/Mild/Moderate/Somewhat difficult/Long Term" was split into two separate questions, one concerning the average duration of the conflict ("How long does a typical conflict between you and your spouse last?") and the second its intensity ("How would you define the intensity of a typical conflict between you and your spouse?"). Once these changes had been accepted by FGI authors, the translation process started. Due to the modifications in relation to the original version and omitting the qualitative covering genogram, the Polish version was given a new name: Nuclear Family Functioning Scale (NFFS).

First, three independent translators translated the original version into Polish. The three versions were compared and a working version of the tool was created. All questions concerning the translations were consulted with FGI's authors. The final version of NFFS consists of 30 questions rated on a 5-point scale (depending on the questions: 1 – almost never/very poor, 2 – rarely/poor, 3 – sometimes/average, 4 – frequently/good, 5 – very often/excellent).

- Goldberg General Health Questionnaire (GHQ-28)
  The Polish version of GHQ-28 [21] was used to verify the theoretical accuracy of the symptoms in a spouse subscale in NFFS. The tool consists of 28 statements describing various illnesses and the respondent is asked to assess the frequency of each during the past few weeks. Each item is scored on a 4-point scale, where 1 means no symptoms and 4 means experiencing them considerably more often than usual. In addition to the overall result providing an indicator of mental health, a result is also obtained in four scales: somatic symptoms; anxiety, insomnia; dysfunction; and symptoms of depression. The higher the overall score and the subscale scores, the worse the condition of the subject. Cronbach's α internal consistency factors for the individual scales ranged from 0.82 to 0.93 [21].
- Dyadic Adjustment Scale (DAS)
  The quality of marriage was assessed using the DAS scale developed by Spanier, adapted for Polish [22]. Two subscales of the questionnaire were used in the study: compliance, defined as the degree of mutual agreement between the spouses on issues that are important for the functioning of the relationship (assessed on a 6-point scale from "we always disagree" to "we always agree") and satisfaction, as a general feeling of satisfaction with the relationship and the need for maintaining it (assessed on a 5-point scale from "always" to "never"). The higher the scores, the higher the respondent's satisfaction with their marriage. The Polish version of the DAS showed satisfactory internal consistency: Cronbach's α at 0.89 for the entire questionnaire, 0.85 for compliance and 0.89 for satisfaction [22].
- Differentiation of Self Inventory Revised (DSI-R)
  The DSI-R questionnaire, Polish version [23], is used to assess the level of self-differentiation, understood as the ability to balance one's own emotional and intellectual functioning and to balance intimacy and autonomy in relationships with others. In this study,

we used the "emotional cut-off" subscale composed of 12 items, which the respondent evaluates on a 6-point scale from "completely false" to "completely true". The higher the score, the greater the fear of intimacy and commitment in relationships and the greater the behavioral manifestations of that anxiety. Internal consistency reliability of the Polish version of the DSI-R is satisfactory: Cronbach's α for the full scale at 0.92 and for the "emotional cut-off" subscale at 0.83 [23].

- Parental Attitudes Scale (PAS)
  As the external criterion of accuracy of the Focus on a Child subscale of the NFFS, the PAS version for mothers [24] was used. The study used the diagnostic items for overprotective parental attitudes. The interviewed person responds to each statement on a 5-point scale from "I am definitely like this and I behave so" to "I am definitely not like this and I do not behave so". Higher results indicate greater intensity of concern for the child. The satisfactory internal consistency of the overprotective subscale was confirmed (Cronbach's α = 0 .81).

RESULTS

Statistical analyses were performed using IBM SPSS Statistics 24 and IBM SPSS Amos 24. Due to the fact that the factorial structure of the original version of the tool had not been verified, an exploratory factor analysis was performed first, and then the factorial structure of the Polish version if NFFS was confirmed using confirmatory factor analysis. The next step was to estimate the psychometric properties of the scale, assess its reliability and theoretical accuracy, and calculate the discriminatory power of items and intercorrelations between the scales.

Exploratory factor analysis

The exploratory factor analysis was performed using the principal axis factoring extraction method and direct oblimin rotation, with a fixed number of factors. The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis (KMO = 0.86). Bartlett's test of sphericity (χ^2 (435) = 2661.48, $p < 0.001$) indicated that between-items correlations were sufficiently large for the analysis. Four extracted factors in combination explained 55.37% of the variance.

The structure of the distinguished factors largely reflected the original structure of the FGI. Analysis of factor loadings for each of the items shows that factor 1 was formed from a combination of 13 items, which in the original version of FGI formed two subscales directly related to the quality of the marriage relationship: FGI-Marital Conflict (18–24) and FGI-Emotional Cut-off (25–30). It is worth noting that factor loadings for the last five items in this subscale (26–30) were significantly higher than the others. Regarding the Symptoms in a Spouse subscale, six of the original nine items loaded onto factor 2, and thus the scale closely reflects the original Symptoms in a Spouse subscale. Items 7 to 9 diverged and loaded onto factor 4. Content analysis suggested that such results may be caused by the fact that the first items of the Symptoms in a Spouse subscale refer explicitly to the spouses' physical and mental health condition and social functioning (i.e. "How would you rate your physical health?"), and the last three to the impact of the encountered difficulties on daily functioning and the marital relationship (i.e. "How often do health problems impinge on your marital relationship?"). At that stage of the analysis, an analysis of two separate factors was permitted. The results of the analyses also indicate that factor 3 is composed of items originally derived from the Focus on a Child FGI scale. The only exception is item 14, for which the factor loading is very low and negative. Considering the very low communality index for this question, it was removed from the final version of the NFFS. Item 11 loaded both factor 1 and factor 3, but content analysis of the question that directly concerns the division of responsibilities for upbringing children led to the conclusion that it is to a greater extent consistent with the other indicated subscale and therefore we decided to include it in factor 3. Eventually, therefore, the results of explorato-

ry analysis support the 4-factor model with the following subscales: Marital Relationship (Emotional Cut-off and Marital Conflict)-MR, Symptoms in a Spouse – Occurrence (SS-O), Symptoms in a Spouse – Significance (SS-S) and Focus on a Child (FC). The rotated values of factor loadings for the particular items are presented in Table 1.

Table 1. NFFS – Exploratory Factor Analysis (rotation method: direct oblimin)

Item	Communality	Factors			
		1	2	3	4
1	0.59		0.74		
2	0.41		0.61		
3	0.67		0.79		
4	0.61		0.74		
5	0.61		0.77		
6	0.43		0.57		
7	0.55				–0.55
8	0.63				–0.74
9	0.53				–0.65
10	0.30			0.34	
11	0.40			0.24	
12	0.36			0.56	
13	0.55			0.63	
14	0.13				
15	0.35			0.43	
16	0.54			0.73	
17	0.39			0.67	
18	0.39	0.60			
19	0.41	0.62			
20	0.43	0.64			
21	0.39	0.48			
22	0.48	0.62			
23	0.49	0.57			
24	0.53	0.61			
25	0.39	0.48			
26	0.54	0.70			
27	0.58	0.74			
28	0.78	0.97			
29	0.77	0.91			
30	0.48	0.72			

Confirmatory factor analysis

The factorial structure of the NFFS was verified by means of confirmatory factor analysis (CFA) using the method of maximum likelihood. First, the model obtained as a result of exploratory factor analysis (Model 1) was tested. The obtained goodness of fit indexes are presented in Table 2. All the test items were significantly associated with particular subscales' scores. Model 1 was then compared with the 4-factorial model recommended by the authors of the original version (Model 2). Division of the marital relationship subscale into Marital Conflict and Emotional Cut-off and combining the two subscales concerning symptoms in spouses into one created a model for which the goodness of fit indexes were very similar to Model 1 (see Table 2). Therefore, to maintain the original structure of the tool that is more consistent with the underlying theoretical assumptions, Model 2 was adopted. The lowest values of factor loadings were obtained for two items from the Focus on a Child scale: 12 and 17 (the standardized ß coefficient values amounted to 0.35 and 0.32, respectively). However, due to the fact that both questions are important for the diagnosis of emotional processes in the family, because they allow the respondent to assess their partner's attitude to the child, we decided not to remove them from the final version of the scale. An additional premise of this decision was that both items were significantly associated with the overall result of the subscale and the removal of either of them failed to increase its reliability. Additionally, for items 7, 8 and 9 factor loadings amounted to 0.43 – 0.48. Considering the importance of these questions from the perspective of theoretical assumptions of the tool, as well as fulfilling the statistical criteria described for items 12 and 17, we decided to leave them in the final version of the scale. For all other items, the values of standardized ß coefficients exceeded the threshold of 0.50 and reached a maximum of 0.91. The last step was the introduction of a correlation of error residues between items 5 and 6, 16 and 17, 25 and 26, and 29 and 30 (Model 3), which were dictated by the essential convergence in the content, as also indicated by high rates of modification indexes. The final model, consisting of

29 items grouped into 4 subscales: Symptoms in a Spouse, Focus on a Child, Marital Conflict and Emotional Cut-off, reached a satisfactory level of model goodness of fit indexes [25,26]

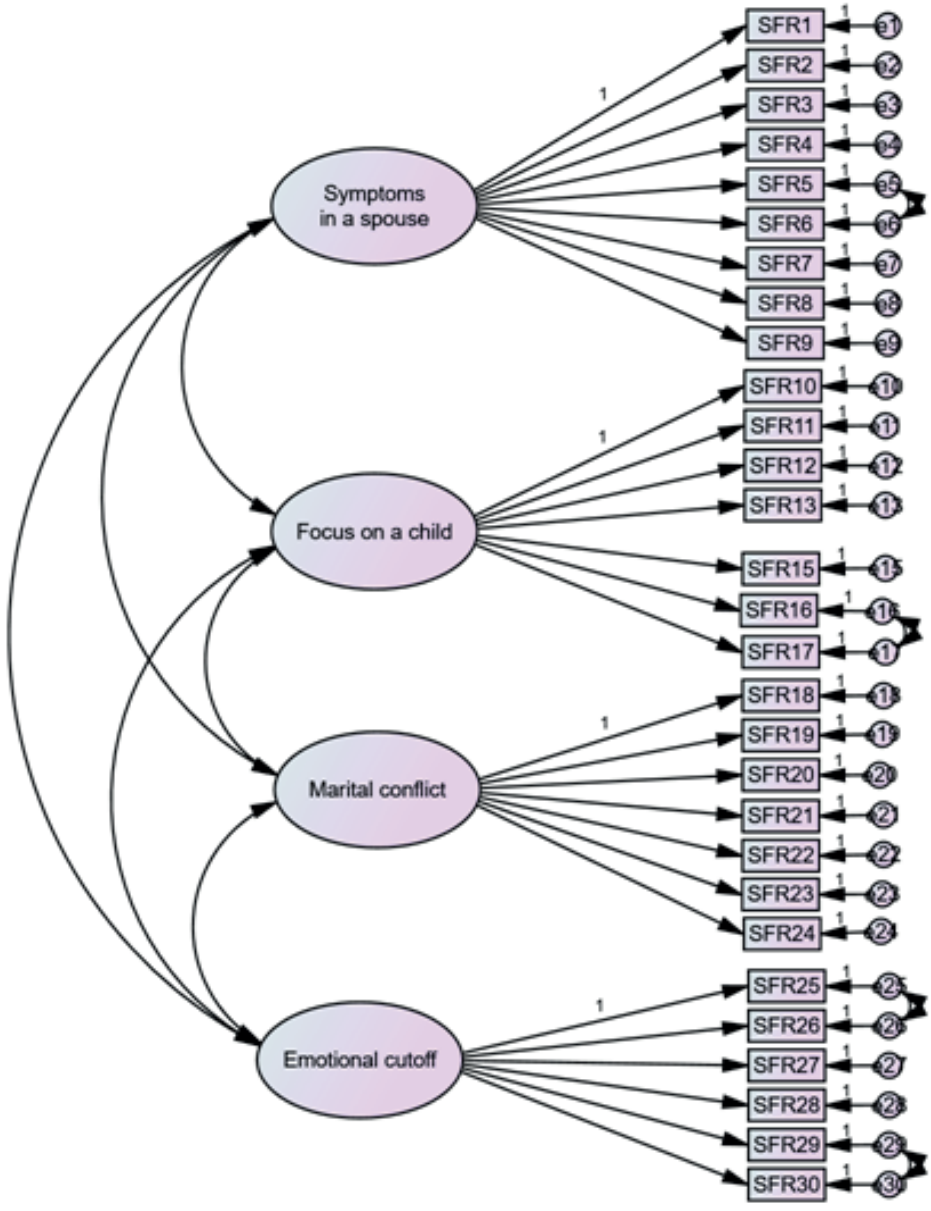

Figure 1. The final model.

Table 2. NFFS – Confirmatory Factor Analysis

Model	Chi2	df	Chi2/df	p	CFI	IFI	TLI	RMSEA	RMSEA 90%CI
1	750.96	371	2.02	<0.001	0.823	0.826	0.806	0.084	0.076–0.093
2	764.57	371	2.06	<0.001	0.816	0.819	0.799	0.086	0.077–0.094
3	641.42	367	1.75	<0.001	0.872	0.874	0.858	0.072	0.063–0.081

Notes: Model 1 – model obtained as a result of exploratory factor analysis; Model 2 – model recommended by FGI authors; Model 3 – model with a correlation of error residues between items 5 and 6, 16 and 17, 25 and 26, 29 and 30.

CFI – comparative fit index; IFI – incremental fit index; TLI, Tucker-Lewis index; RMSEA – root mean square error of approximation.

DESCRIPTIVE STATISTICS

Table 3 presents the basic descriptive statistics of NFFS. The average scores in all the subscales were close to the middle of the scale ($1.90 < M < 2.39$), with the lowest values related to emotional cut-off. Distribution normality assessment of each of the results showed that the values of skewness and kurtosis were slightly different from 0. High reliability of the tool was also confirmed – Cronbach α coefficient for the entire questionnaire is 0.93. Removal of any of the items did not improve the coefficient value for any scale.

Table 3. NFFS – Descriptive statistics

Subscale	M	SD	Min	Max	Skewness	Kurtosis	Cronbach's α
Symptoms in a Spouse	2.11	0.52	1	5	0.17	0.12	0.82
Focus on a Child	2.29	0.73	1	5	0.55	0.01	0.78
Marital Conflict	2.39	0.74	1	5	0.68	0.82	0.88
Emotional Cut-off	1.90	0.91	1	5	0.83	–0.01	0.91

M – mean; SD – standard deviation; Min – minimal value, Max – maximal value, Cronbach's α – internal consistency coefficient.

Construct validity

The validity of the tool was evaluated using Pearson's linear correlation coefficient (r) between the NFFS scales and the four tools: GHQ-28, DAS, DSI-R and PAS. The results are presented in Table 4. As expected, the NFFS Symptoms in a Spouse subscale positively correlated with all indicators of general health condition. Moreover, as expected, marital compliance and marital satisfaction measured by the DAS questionnaire correlated negatively with those NFFS subscales which directly assess the quality of marital relationship: marital conflict and emotional cut-off. A statistically significant correlation was observed between the two indicators of emotional cut-off: one measured by the DSI-R questionnaire and the other obtained using the NFFS. The results of statistical analyses demonstrated that the focus of spouses on a child increases the tendency to an overprotective attitude measured with the PAS questionnaire, although this interpretation should be undertaken with caution due to the low value of the correlation coefficient.

Table 4. Correlation matrix for study variables

	NFFS			
	Symptoms in a Spouse	Focus on a Child	Marital Conflict	Emotional Cut-off
GHQ – somatic symptoms	0.42**	0.19*	0.39*	0.30**
GHQ – anxiety, insomnia	0.53**	0.36**	0.54**	0.54**
GHQ – dysfunction	0.47**	0.29**	0.39**	0.40**
GHQ – symptoms of depression	0.47**	0.38**	0.53**	0.54**
DAS – compliance	-0.43**	-0.47**	-0.70**	-0.75**
DAS – satisfaction	-0.36**	-0.40**	-0.74**	-0.79**
DSI-R – emotional cut-off	0.34**	0.54**	0.43**	0.59**
SPR – overprotecting	0.21*	0.28**	0.18*	0.22**

*p<0.05; **p<0.01

Item discrimination and intercorrelations

Finally, the discriminatory power of each of the items was assessed using the correlation coefficient between a particular item and the scale to which it belongs. All items reached the minimum acceptable value of the coefficient ($r = 0.30$) [27]: Symptoms in a Spouse 0.43 – 0.59, Focus on a Child 0.39 – 0.64, Marital Conflict 0.59 – 0.72 and Emotional Cut-off 0.60 – 0.86. The intercorrelations between the NFFS scales were estimated using Pearson's linear correlation coefficient (Table 5). All correlations were statistically significant and indicate at least moderate strength of relationships between the particular mechanisms of emotional processes in the family. The strongest relationship was demonstrated between the Emotional Cut-off and Marital Conflict scales ($r = 0.745$, $p < 0.01$).

Table 5. Intercorrelations between NFFS scales

	NFFS			
	Symptoms in a Spouse	Focus on a Child	Marital Conflict	Emotional Cut-off
Symptoms in a spouse	1			
Focus on a child	0.41**	1		
Marital conflict	0.50**	0.50**	1	
Emotional cut-off	0.47**	0.50**	0.75**	1

**p<0.01

DISCUSSION

The study results indicate that NFFS is an accurate and reliable tool for measuring the severity of four emotional processes in the nuclear family. After translating the 30 items of the original American tool, FGI underwent exploratory and confirmatory analyses in the Polish population on the basis of replies from 300 participants. The exploratory factor analysis revealed a 4-factor model but with a different structure than in the original version. The Symptoms in a Spouse subscale was split into two smaller ones: Symptoms in a Spouse – Occurrence and Symptoms in a Spouse – Significance. Additionally, the Marital Conflict and Emotional Cut-off subscales were combined to create a single factor. Confirmatory factor analysis showed comparable goodness of fit indexes for the model obtained as a result of exploratory factor analysis and for the original model. To preserve the original structure of the FGI, which directly relates to Bowen's theoretical assumptions concerning the existence of four emotional processes, it was decided to accept the four-factor model recommended by FGI authors. It should be emphasized that such a decision has a strong theoretical justification. First, the questions from the first and second part of the Symptoms in a Spouse subscale are closely associated and mutually reinforcing. The first part concerns the respondents' assessment of their own mental, physical and somatic symptoms, and then those in their spouse, while the second part explores the significance of these symptoms for the everyday functioning of spouses and their marital relationship. Thus, the answers to the first set of questions provide the psychologist with information about the spouses' health, whereas from the second part we learn whether the occurring problems, regardless of their intensity, affect the functioning of the family. With this addition, the tool becomes more sensitive to distinguishing the pathological symptoms which do not have a regulatory function in the family from those that appear to restore homeostasis of the system and become a maladaptive way of coping with stress [11,12]. Secondly, there is a substantive justification for considering Marital Conflict and Emotional Cut-off as two distinct emotional processes. Despite the fact that both are related to the spouses focusing on problems in the

dyad, they have a completely different impact on relationship functioning. A marriage dominated by conflict is described by Bowen as follows: "their relationship is like an exhausting, draining and strangely invigorating roller coaster ride" [12, pp. 187]. Quarrels and arguments, in fact, give a sense of emotional contact and ensure a constant level of commitment of spouses. Thus, the purpose of this emotional process is to seek contact. Emotional cut-off is situated, however, on the other end of the continuum, since the aim of this mechanism is to avoid emotional contact and to give up the pursuit of closeness. A high intercorrelation between these subscales ($r = 0.75$, $p < 0.01$) indicates a possible circular dependence between these two mechanisms: an unfulfilled need for closeness can lead to emotional cut-off, which, by intensifying the anxiety associated with insufficient intimacy, leads to feedback reinforcement of conflict.

It should also be noted that NFFS has a certain advantage over the original FGI in the ability to identify all emotional processes within the nuclear family included in Bowen's theory. In the American tool, emotional cut-off was measured in relation to the family of origin, and additionally, because of the low reliability of the tool, the Focus on a Child subscale was removed. The Polish adaptation, by measuring all four ways of coping with tension, enables a more complete picture of how the family system is functioning. It allows for a comprehensive description of the mechanisms present in the family and leaves the researcher in no doubt as to the causes of a low score obtained by the respondent – in the case of an incomplete tool, such a result can indicate both adaptive and maladaptive stress coping, the latter utilizing other strategies, not included in the tool. The Focus on a Child subscale is valuable as it is the only emotional process involving a third party in the tension-relieving mechanism, thus extending the adapted tool to include an intergenerational perspective, so important from the point of view of Bowen's theory [11,12]. Perhaps the question of translation and some language changes that were introduced in order to increase the sensitivity of the tool to the manifestations of the Focus on a Child mechanism in the Polish population have determined the high reliability of this subscale (Cronbach's $\alpha = 0.78$) in the adapted tool. The cultural validity of this construct, however, should be subjected to further analysis.

Important, though moderate, correlation coefficients between the NFFS subscales and other instruments confirm a satisfactory accuracy of the tool while pointing out that the four mechanisms examined by NFFS are unique and not yet fully operationalized in other tools. Moderate correlation coefficients between the Symptoms in a Spouse subscale and all GHQ subscales confirm the tripartite structure of this construct, addressing mental, physical and social dysfunctions, and at the same time indicate that what it produces is more than a simple assessment of the person's health. It is also consistent with the theoretical assumptions of the tool that with the increase in marital conflict and emotional cut-off the agreement and satisfaction with the relationship measured by the DAS questionnaire decreases. As for the emotional cut-off, the score on the DSI-R subscale reflects the relationship not only with the spouse, but also with other significant people and hence probably a moderate strength of the correlation between the DSI-R and NFFS results. The lowest, though still significant, association between the overprotective attitude measured by PAS and focus on a child measured by NFFS is probably due to the fact that the NFFS subscale does not only concern the attitude of overprotective parents, but also the concentration of the dyad on the functioning of the child, thus taking into account the essence of the emotional process, which is channeling the dyadic tensions into the relationship with the child.

As a result of increasing interest in family interventions, there is a growing need for empirically proven, reliable and valid family assessment measures that can be used in both clinical and research settings. In this context, the NFFS is of particular importance, as it allows to diagnose family dysfunctions even before clinical symptoms appear. By identifying high intensity of one or more emotional processes, the therapist has a chance to undertake interventions aimed at reducing their aggravation and, consequently, to eliminate the risk of their intensification to the level of mental or physical illness. The chance to undertake effective psychotherapy is also increased by the fact that NFFS allows an overall assessment of the level of fam-

ily functioning in terms of family homeostasis. Focusing on selected aspects of the system may in fact lead to recurrent problems in the family, each time channeled in another area. Regarding various behavioral phenomena in the family as manifestations of the same process, which is striving for balance, the regulatory function of symptoms in the family is revealed and the therapist can focus on core relational problems at work with the patient.

LIMITATIONS

This study has limitations resulting mainly from its preliminary character. The most important is sample selection. The participants were females, married and in families with young children. Although there is a theoretical justification for such sample selection criteria, extending the sample to include other members of the family system, as well as persons who are in informal relationships and have children beyond 4–10 years of age, would be worth exploring in subsequent studies.

CONCLUSIONS

NFFS is the only tool available in Poland enabling to measure emotional processes in the nuclear family. The results of the presented analyses indicate satisfactory psychometric properties of the tool, which can be applied both in clinical practice and in research.

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