

THE FAMILY APGAR INDEX: STUDY ON RELATIONSHIP BETWEEN FAMILY FUNCTION, SOCIAL SUPPORT, GLOBAL STRESS AND MENTAL HEALTH PERCEPTION IN WOMEN

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Abstract. The aim of the study was to evaluate how far women are satisfied with their family function to compare the obtained results with the perception of a global stress (S. Cohen PSS) by the women under study and their mental health (D. Goldberg GHQ-28).

The study was aided by the Family APGAR Index (designed by G. Smilkstein) used for the first time in Poland.

A group of women ($n = 98$; mean age = 38) with different levels of education and subdivided into four occupational categories was selected for the study. About 75% of women were married and 80% of them had children.

The results obtained differ significantly as far as general assessment and individual indicators are concerned. In 16% of women, the results suggest a serious dysfunction of their families. There are distinct differences between individual occupational groups. The general assessment of family function was significantly correlated with the estimate of the global stress (-31), with the total estimate (-26), as well as with the individual indicators of mental health – especially anxiety and sleeplessness (-33) and depression (-29). Women's satisfaction from the function of their families has, therefore, proved to be a significant factor contributing to lower level of the global stress and constituting a barrier against the occurrence of mental health disturbances.

The review of the literature shows that mental health is an area where deterioration is most likely to occur. Mental health sociology indicates that distress and depression symptoms are twice as frequent in women than in men. The difference is found to be independent of culture, place of habitation (rural-urban) or age. The results of studies on the effect of employment and profession of women are not so explicit (6). Nevertheless, it is reasonable to suppose that women are subject to greater burdens and tensions because of their occupational

duties combined with those resulting from their family life and family function. The occupational duties of women, unfortunately, are not associated with uniform distribution of family duties and responsibilities. In all categories of Polish families, housekeeping is a traditional duty of women. Men are only inclined to "help" their employed mothers or wives in housekeeping and upbringing of children (10). Under those circumstances the emotional feelings, i.e. enjoying a caring or loving relationship, which is very unlikely to be achieved elsewhere beyond the family, gain in importance. (Everybody feels a need to have someone close to love and to be loved and understood). When the family does not function properly, the family life becomes a source of particularly strong tension and stress for women. On the contrary, the satisfaction of an individual's family life can reduce tensions and stresses attributable to other sources, as well as establish some kind of a barrier protecting against adverse effects of stresses at work or in life (11). In the Polish social and economic situation, reflected as well in living conditions, interactions of those factors may prove to be rather complicated.

OBJECTIVES AND METHODS

The objective of our study was to evaluate how far the studied women are satisfied with the function of their families and to assess how far does it correlate with their perception of global stress and mental health¹.

The Family APGAR Questionnaire designed by G. Smilkstein (7, 8) was used to measure a subject's satisfaction from family function. The method was used in Poland for the first time (after written consent had been obtained from the author). The questionnaire (in its second version, Work APGAR) makes it possible to estimate social support received from work associates.

The five item questionnaire was developed on the premise that a family member's perception of family function and social support in family life could be assessed by a member's report of satisfaction with five parameters of family functions: adaptation, partnership, growth, affection, and resolve. The instrument allows three possible responses (2, 1, 0) to each of the five items in the questionnaire. Responses to the items are added, and thus scores may range from 0 to 10 (low to high satisfaction with family function and emotional support in family life).

To estimate the global stress, the PSS Questionnaire designed by S. Cohen et al. was used (2).

Mental health assessment was carried out by means of the S. Goldberg GHQ-28 (3, 4).

All the questionnaires were filled out by women themselves. Questionnaires were distributed, during a meeting, by investigators who explained the purpose of the study and how the questionnaires should be filled out. The questionnaires were collected individually and the responses were surveyed immediately in order to assist in completing missing items and/or clarifying doubts.

CHARACTERISTICS OF THE STUDIED POPULATION

The studied population consisted of 98 women with different level of education belonging to four occupational groups: physicians and head nurses employed

¹ The investigations were performed in 1991 as I part of I.O.M. 6.9. work item: "Perception of stress by occupational women – medical and social aspects". Coord.: Zofia Makowska. DSc.



at industrial health care units (both groups from over all the territory of Poland); spinners (spinning machine operators) employed at one of the textile plants in Lodz; and employees of the financial and accounting department of an enterprise in Lodz (referred to as accountants).

The average age of the studied population was about 38 and varied in individual groups from 35 for physicians and spinners to 43 for accountants (Table 1A). The average duration of employment was almost 18 years, but varied widely from 9 years for the physicians to 24 years for the accountants. The average monthly income per one family member also differed in individual groups. The highest was in the group of accountants and the lowest in the group of spinners; the average monthly salary was at the time about 1 700 thousand zlotys).

The level of education was of course related with the occupation (Table 1B). More than a half of the studied population had secondary (general and vocational) education, nearly 25% primary and vocational (spinners only), and 17% academic education (physicians and a few accountants).

Nearly 75% of studied women were married, and almost 80% had children. The variation within individual groups was wide (Table 1C). As regards marital status the physician group was most homogeneous; 93% of them were married, 78.6% had one or two children. In the group of accountants only 56% were married, and in the group of spinners more than 21% were not yet married, nearly 36% had no children, and about 11% had three or more children.

The majority of respondents were performing household duties, such as bringing up children, daily shopping and house cleaning, unaided by other members of their families. There were only slight differences between the individual professional groups in performing individual tasks. For example among physicians and nurses only women were most frequently responsible for care of their children, among accountants and spinners for daily shopping, and among spinners and physicians for house cleaning. The help of other family members was most often limited, especially in the families of accountants, to the care of children, and in the families of physicians and nurses – mainly to daily shopping, and in the families of nurses – only to house cleaning and tidying. Therefore, spinners and accountants seem to be most loaded with housekeeping duties.

Almost half of the married spinners and one third of the married accountants had experienced serious family conflicts. Alcohol abuse, refusal of providing money for the family, incompatibility of temper and difficult, egoistic nature of the husband belonged to main complains.

The parental attitudes reported by women also differed depending on the occupational category. The attitudes of "lack of time" and "overtrusting" the children were reported most frequently by accountants and spinners. None of the two attitudes were reported by the physicians, and the first one was not reported by nurses. The attitude of "excessive worry about children" was least frequently reported by accountants. The group of "overprotective" mothers included women of all occupational categories. However, the majority of women represented correct upbringing attitude to their children.

The parental attitudes were undoubtedly associated with the women's reaction to their children's behaviour. Half the spinners and accountants were upset by improper behaviour of their children, and they reacted by shouting or harsh remarks. The physicians, were most gentle to their children; they reacted to

Table 1. Social and demographic characteristics of the professional categories under study

	Physicians n = 14		Accountants n = 16		Spinners n = 28		Nurses n = 40		Total n = 98	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Age	34.7	(5.4)	42.8	(5.8)	34.9	(9.4)	40.0	(4.1)	38.2	(7.1)
Average length of employment	8.9	(6.0)	24.3	(6.5)	15.4	(7.7)	19.8	(4.5)	17.7	(7.6)
Average monthly earnings per family member (thousand zlotys)	939.3	(243.5)	1427.0	(713.5)	823.2	(304.7)	1151.4	(554.7)	1072.3	(529.2)

	Total:	
	%	n
primary and basic vocational	24.5	24
secondary general and vocational	53.0	52
post-secondary	5.1	5
academic	17.3	17

	Physicians		Accountants		Spinners		Nurses		Total	
	%	n	%	n	%	n	%	n	%	n
Marital status	unmarried	—	18.8	3	21.4	6	15.0	6	15.3	15
	married	92.9	13	56.3	9	71.4	20	77.5	31	74.5
	divorced	7.1	1	12.5	2	3.6	1	7.5	3	7.1
	widow	—	—	12.5	2	3.6	1	—	—	3.1
No. of children	no children	—	25.0	4	35.7	10	15.0	6	20.4	20
	one	21.4	3	31.3	5	25.0	7	40.0	16	31.6
	two	78.6	11	43.8	7	28.6	8	37.5	15	41.8
three and more	—	—	—	—	10.7	3	7.5	3	6.1	6

their improper behaviour by calm remarks or starting an instructive talk. The latter method was also most frequent among the nurses.

There were also some problems with children. The problems affected, however, only those women who had children at school age. Everyday problems with their children were experienced most frequently by accountants and spinners. Such problems were not reported by nurses. Problems related with education of their children were reported by every fourth accountant (among those who had children); no such problems were reported by physicians. In addition, only accountants also reported some major upbringing problems. This might be due to various reasons; it should be noted, however, that women in this occupational category and their children belonged to the oldest age group, and fewest of them enjoyed a complete family.

It can be generally stated that nurses and physicians had least problems with their children. They were characterized by most proper parental attitudes towards their children and by the best way of reacting to improper behaviour of their children. The women belonging to those occupational groups had also fewest conflicts with their husbands, although most frequently they alone took care of their children and were least frequently helped in other housekeeping duties.

RESULTS

The results were analysed, taking into account the variation of the controlled variables with respect to the studied occupational groups and the interrelations between the results relevant to the analysed variables.

Table 2. Family function – Family APGAR Test (percentage)

APGAR scale	Professional categories	Physicians n = 14	Accountants n = 16	Spinners n = 28	Nurses n = 40	Total n	%
I. 0–3		14.3	18.8	32.1	5.0	16	16.3
II. 4–6		14.3	62.5	53.6	55.0	49	50.0
III. 7–8							
no 9 and 10 point		71.4	18.8	14.3	40.0	33	33.7

Test $\chi^2 = 22.46$ $p \leq 0.001$

Table 2 shows the distribution of scores obtained by the women in the Family APGAR Questionnaire. The highest score (9, 10 points) was not found, although about 34% of the whole population under study was in the high-score interval, i.e. every third woman obtained results which indicate that she was satisfied with the function of her family and which can be classified as good. The highest percentage of good results was found among physicians (more than 71%) and nurses (40%), and the lowest in the group of spinners (14%). About 16% of the studied population with the lowest (0–3) score cannot be said to be satisfied with the function of their families. Such low results indicated a serious family dysfunction and almost complete lack of support in their family life. This category included about 32% spinners and 19% of accountants, and only 5% of nurses. However, the 4–6 score obtained by the

Table 3. A comparison of mean assessments and standard deviation of the Family APGAR Test

Professional categories Components	Physicians n = 14		Accountants n = 16		Spinners n = 28		Nurses n = 40		Total n = 98	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Adaptation	1.71	(.611)	1.44	(.629)	1.14	(.705)	1.62	(.540)	1.47	(.645)
Partnership	1.57	(.756)	1.06	(.574)	0.93	(.663)	1.45	(.639)	1.26	(.693)
Growth	1.57	(.646)	1.25	(.447)	1.11	(.737)	1.55	(.552)	1.38	(.634)
Affection	1.35	(.745)	1.25	(.577)	1.14	(.651)	1.38	(.490)	1.29	(.592)
Resolve	1.07	(.616)	1.13	(.719)	1.36	(.622)	1.25	(.630)	1.23	(.639)
Total	6.21	(2.455)	5.00	(1.673)	4.32	(2.195)	6.00	(1.725)	5.39	(2.094)

* p ≤ 0.05

majority of women (except physicians) indicated certain family dysfunction, and limited emotional support.

The differences of the results are statistically significant, which is indicated by the Chi-square test.

The comparison of the average estimates of the Family APGAR components is presented in Table 3. The lowest mean in all components (resolve) was in the group of spinners and accountants. The results obtained by nurses and physicians were very similar and significantly higher. This was most evident in the total average of scores, where the difference between spinners and physicians was almost 2 scores (4.32 vs. 6.21). Multivariation analysis of variance — MANOVA (F) was used to assess the statistical significance of differences. The differences were found to be insignificant only for two last components of the family function, i.e. affection and resolve. The values of F were highest in the partnership and in the total estimate, the level of difference significance was the same ($p \leq 0.05$). The total assessment of individual components was low and close to each other (for three of these — resolve, partnership and affection — they did not exceed a score of 1.3). The total average of the Family APGAR is relatively low, only slightly exceeding the half of the obtainable score (5.39).

Total estimates of the function of families of women under study are significantly correlated (Pearson's r) with the global stress estimates (Cohen PSS), as well as with the total assessment and the individual mental health indicators (according to GHQ-28 by D. Goldberg) — with the only exception of the "dysfunction" component, i.e. the occurrence of social dysfunction — Table 4. These are negative correlations, which means that higher scores obtained in the Family APGAR Test correspond to lower stress level and lower, that is better results of health condition assessment. This relationship exercises highly significant and strong effect on the anxiety and sleeplessness, and almost identical in regard to depression, somatic and the total assessment of the health condition. Therefore, the women's satisfaction from the family function and the emotional support are essential factors affecting the level of global stress and they provide a protective barrier against mental health disturbances.

Table 4. Coefficients of correlation between APGAR Test and global stress and health condition assessment

Independent variables	Dependent variables	Global stress	Assessment of health condition				
			Somatic symptoms	Anxiety, sleeplessness	Dysfunction	Depression Total	
Family APGAR		-.31 xxx	-.28 xx	-.33 xxx	-.09	-.29 xx	-.26 xx
Work APGAR		-.23 xx	-.06	-.11	-.12	-.17 x	-.05
Σ APGAR (family + work)		-.34 xxx	-.19 x	-.25 xx	-.14	-.27 xx	-.17 x

xxx — $p \leq 0.001$

xx — $p \leq 0.01$

x — $p \leq 0.05$

DISCUSSION

It is worth noting that the satisfaction from the family function and family support show stronger and more significant correlation with the global stress level and mental health than the support received at work (Work APGAR Test), however, that support was larger in its dimension and scope (Table 4) (the distributions and the mean values of the Work APGAR have not been quoted here, as they are outside the scope of this work). On the other hand, the sum of scores obtained in the Family APGAR and Work APGAR Questionnaires produced only a slightly stronger effect on the level of global stress ($r = -0.34$) than the effect of the satisfaction from the family function alone, and evidently weaker and less significant effect on the health condition assessments. Therefore, the correlation between individual perception of family function, and stress and mental health is evident; a conclusion reached earlier by G. Smilkstein (9). His results were at the identical level of significance: -0.45 for the global stress and 0.11 for the general assessment of health. Our results are also consistent with the data on "anxiety" (one of the mental health aspects) obtained by H.J. Kurata (1988) and quoted by the author of the Family APGAR Test. He states that people reporting high anxiety complain about significantly lower satisfaction from the function of their families; good family function has a positive effect on health of an individual (9).

Comparing the results obtained in the population of Taiwanese students (1), however, it should be stated that the mean results of individual components of the Family APGAR Test differ from the estimates reported by the women in present study. Some of the mean values reported by the Polish women are lower than the lowest estimates reported by the Chinese authors: 0.93 "partnership" in the spinners, 1.07 "resolve" in the physicians and 1.4 "affection" in the spinners (Table 3). The mean scores for the whole studied population of women are in some instances even lower than the low-scores of the students, e.g. "resolve" – 1.23 and total mean – 5.39 (vs. 1.40 and 5.71 , respectively). The remaining ones, on the other hand, were higher in the Polish women, e.g. "adaptability" – 1.47 vs. 1.25 , or "growth" – 1.38 vs. 1.25 .

The comparison of the percentage of people classified to the three specified score intervals (0–3, 4–6, 7–10), which indicate the state of family function, in the discussed Polish studies (Table 1) and in the several groups presented by G. Smilkstein (9) speaks against female population. The lowest-score interval included several percent of the studied population (10.4% for the Taiwanese students), while the highest-score interval (7–10) included from 58% to 85% of the population covered by our investigations. In our case, there were only about 34% total in that interval, and in some occupational groups only several percent (it should be noted here that no 9 or 10 scores occurred). It is quite probable that the presented results point to a crisis of Polish families, especially in some social and occupational groups. The existence of the interrelation between family function and the perceived global stress and mental health estimates is, therefore, even more significant. The significance of the satisfaction from family function is similar and positive in both cases, i.e. reduced level of the stress and better assessment of the mental health (both the total assessment of health as well as the majority of its indicators except of dysfunction).



It should be also stressed that the results obtained by women in the Family APGAR are consistent with the reported facts which characterize the family function (see characteristics of the studied women). In those occupational categories in which a serious family dysfunction was revealed by means of the Family APGAR Questionnaire (i.e. accountants and spinners), women complained about conflicts with their husbands, or were already divorced, and reported specific situations indicating rather poor family function what in turn had also a detrimental effect on their children. On the contrary, those respondents who had no conflicts with their husbands or troubles with upbringing of their children (especially in the group of physicians) were included into the highest interval of the family APGAR scale, which points to the best function of their families. The used Questionnaire has, therefore, proved to be a suitable tool for estimating of the state of family function also under Polish conditions, and the studied women had no difficulties with completing the questionnaire regardless of their education and occupational category.

CONCLUSIONS

1. The analysis of the considered aspects of living in the families of studied women points to the occurrence of certain disorders in family function, which were different in individual occupational categories (although slightly associated with the social, occupational and economic status of women).
2. Family function and the emotional support received from the family show a statistically significant relationship with the level of the global stress, and also with the assessment (total and in the majority of its individual indicators) of the mental health. The importance of the individual's satisfaction from own family function is similar and positive in both cases — it contributes to lower stress level and better assessment of health condition.
3. The APGAR Questionnaire is a suitable, sensitive and easy-in-use instrument for measuring and estimating individual's satisfaction from the family function as well as from the social emotional support received by people of different social status.

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