

<https://doi.org/10.34142/23129387.2023.68.10>

UDC 159.9 + 612.821

ORCID 0000-0003-1179-8540

ORCID 0000-0003-2511-6803

Vira O. Kramchenkova^{1ABCDE}, Karyna I. Fomenko^{2ACD},

1 - Doctor of psychological sciences,

Professor of Psychology Department

E-mail: kramchenkova@ukr.net

2 - Doctor of psychological sciences,

Professor of Psychology Department

E-mail: karinafomenko1985@gmail.com

H.S. SkovorodaKharkiv National Pedagogical University, Ukraine

THE MODEL OF FAMILY FUNCTIONING SYSTEM IN THE SMOKING FAMILY

Relevance of research. *It is appropriate to develop a structural factor model of the family functioning system, taking into account both the presence of smokers in the family structure and the system of ideas about the impact of smoking on the implementation of family functions.*

The aim of the study *is to identify interrelations of parameters of family functioning and to reveal structural factor model of the family functioning system in the smoking family.*

Results *In order to identify the relationships between the parameters of family functioning in smoking family, 846 members of smokers' families were examined and it was determined that with conviction about negative impact of smoking on family functioning, psychological climate, openness and sincerity in attitudes, satisfaction with family functioning deteriorates, family attitudes worsen, conflict increases, accompanied with negative psycho-emotional states, rules and control in the family become more rigid, emotional expression is suppressed.*

The factor model of the family functioning system during smoking in the family was defined. It allows to highlight the role of ideas about the effect of smoking on family functioning and uncover the main systemic

problems of the family into tobacco addiction, namely: family discontent, discrepancy between real and perfect family homeostasis, family loyalty requirements, dysfunctionality in family control and management of the family system.

Conclusions It was found that in smoking families with conviction about negative impact of smoking on family functioning, psychological climate, openness and sincerity in attitudes, satisfaction with family functioning deteriorates, family attitudes worsen, conflict increases, accompanied with negative psycho-emotional states, rules and control in the family become more rigid, emotional expression is suppressed.

The factor model of the family functioning system in a smoking family has been defined. The basic components are "Dissatisfaction with family functioning", "Psychological discomfort in the family", "Family loyalty", "Manageability of the family system". The main system problems of the family in tobacco addiction were defined, namely: discontent in the family, inconsistency between real and ideal family homeostasis, requirements of family loyalty, dysfunctionality in family control and management of the family system. The developed model can be used with a purpose of psychological prevention and correction of tobacco addiction.

Keywords: *family functioning, tobacco addiction in the family, the effect of smoking on family functioning, family psychological climate.*

МОДЕЛЬ СИСТЕМИ СІМЕЙНОГО ФУНКЦІОНУВАННЯ ПРИ ТЮТЮНОПАЛІННІ В СІМ'Ї

Віра О. Крамченкова^{1AB CDE}, Карина І. Фоменко^{2ACD},

*1 – доктор психологічних наук, професор кафедри
психології*

E-mail: kramchenkova@ukr.net

*2 – доктор психологічних наук, професор кафедри
психології*

E-mail: karinafomenko1985@gmail.com

*Харківський національний педагогічний університет імені
Г.С. Сковороди, Україна*

Актуальність дослідження. Доцільною є розробка структурно-факторної моделі системи функціонування сім'ї з урахуванням наявності курців у структурі сім'ї, так і системи уявлень про вплив куріння на реалізацію сімейних функцій.

Мета дослідження – виявити взаємозв'язки параметрів сімейного функціонування та розкрити структурно-факторну модель системи сімейного функціонування в сім'ї курців.

Результати. З метою виявлення взаємозв'язків між параметрами сімейного функціонування при тютюнопалінні у сім'ї було досліджено 846 членів родини курців та визначено, за умов переконання про негативний вплив паління на сімейне функціонування знижується сприятливість сімейного психологічного клімату, загальна позитивність ставлення до своєї сім'ї, інтегральна задоволеність сімейним функціонуванням, зростає конфліктність у сім'ї, яка супроводжується переживанням негативних психоемоційних станів на тлі підвищення жорсткості правил та контролю в сім'ї, що приводить до пригнічення емоційної експресії, зниження відкритості та щирості у сімейних стосунках. Виявлена факторна структурна модель функціонування сімейної системи при тютюнопалінні в сім'ї, яка дозволяє висвітлити роль уявлень про вплив паління на сімейне функціонування та розкрити основні системні проблеми сім'ї при тютюнової адикції, а саме: незадоволеність в сім'ї, невідповідність реального та ідеального сімейного гомеостазу, вимоги сімейної лояльності, дисфункціональність у сімейному контролі та керуванні сімейною системою.

Ключові слова: сімейне функціонування, тютюнова адикція у сім'ї, вплив паління на сімейне функціонування, сімейний психологічний клімат.

Introduction. In modern society, smoking is the most common “legal” type of addictive behavior, because it causes unconditional harm to a smoker’s health and does not lead to personal destruction and social adaptation disorders (Tabachnikov, Ritkis & Vasiliev, 2013; Speranskaya. 2011). At the same time, the dominant point of view in modern family systemic psychology is the view on addictive personality disorder from the standpoint of family dysfunctionality (Moskalenko, 2015). Thus, family functioning is interconnected with the smoking of family members, at the same time acting as the cause and result of tobacco addiction. The most important aspect of the

formation of the specifics of family functioning is the system of ideas about the effect of smoking on the family, which mediates the perception and interpretation of the surrounding reality, as well as participates in the regulation of behavior. So, family functioning acts as a system of interaction and as an assessment of these interactions by the subject, as well as personality of family members.

In modern family psychology various universal explanatory models of family functioning are presented, in particular, the emotional model of family systems functioning by M. Bowen (Beyker & Varha, 2012), the circumplex model by D. Olson (Eidemiller, Dobryakov & Nikolskaya, 2006), six-parameter model of family relations by A. Varga (2001), the integrative model by A. Chernikov (2001), four-aspect model by A. Kholmogorova (2002), three-component model by I. Khamitova (2004), the multilevel model by N. Olifirovich with co-authors (2012) et al. At the same time, identification and characterization of the specific features of smoking family functioning, systematization and analysis of patterns, interrelations and mechanisms of family interaction acquires special relevance. Thus, the development of a structural factor model of the family functioning system, taking into account both the presence of smokers in the family structure and the system of ideas about the influence of smoking on the realization of family functions, is expedient.

The aim of the study is to identify interrelations of parameters of family functioning and to reveal structural factor model of the family functioning system in the smoking family.

Materials and methods.

The study involved 356 complete nuclear families, which include at least one smoker. The sample consisted of 846 respondents aged from 13 to 75 years. The study was carried out according to the methods: methods for studying the psychological climate of the family “Family Biofield” by V.V. Boyko (1996), scale of attitudes towards the family according to Sack’s Levy Sentence Completion Test in adaptation by G. Rumyantsev (Mironova, 2006), “The Effect of Smoking on Family Functioning” technique by V. Kramchenkova (2017), “Family Environmental Scale” technique

by R. Moos in adaptation of S. Kupriyanov (Liders, 2007) and the “Family-conditioned state” technique by E. Eidemiller (Eidemiller & Justicks, 2002). Statistical data processing was conducted using K. Pearson correlation analysis and factor analysis using principal component method with Varimax normalized rotation.

Results of research and discussion. Correlation analysis of data indicates about strong linkage of beliefs about the impact of smoking on the overall family functioning with the main parameters of the family system, on condition of presence of smoking in it (Table 1).

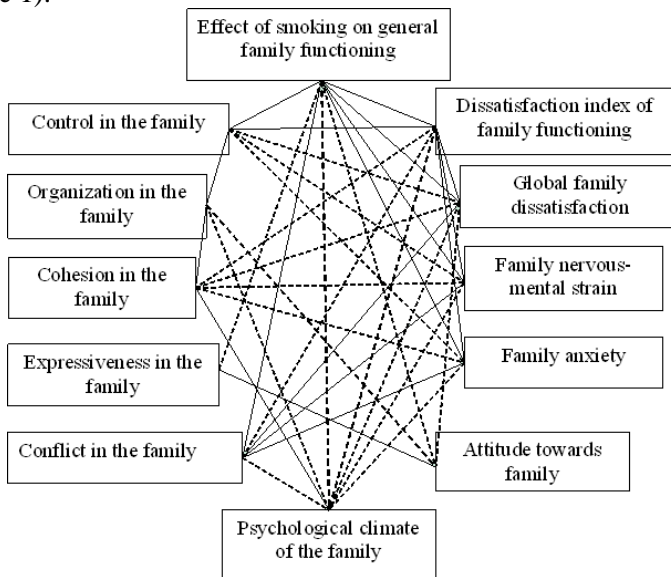


Table 1. Correlations of parameters of family functioning in smoking family.

Note: “+” - positive correlation “-” - negative correlation; only correlations at significance level of $p < 0,000001$ are shown.

The closest direct linkage has been established between beliefs about negative impact of smoking on a family and negative family-determined psycho-emotional states - family dissatisfaction (0,353, with $p < 0,000001$), nervous-mental strain (0,351, with $p < 0,000001$),

family anxiety (0,363, with $p < 0,000001$), effect of smoking on general family functioning (0,225, with $p < 0,000001$), level of conflict in the family (0,259, with $p < 0,000001$) and family control index (0,322, with $p < 0,000001$). The most significant inverse correlations were the linkages with the family's psychological climate (-0,375, with $p < 0,000001$), attitude towards family (-0,155, with $p < 0,00001$) and expressiveness in the family (-0,115, with $p < 0,001$).

Thus, in families with tobacco addiction, with the conviction of the negative impact of smoking on family functioning, the family psychological climate decreases, family attitudes and satisfaction with family functioning deteriorate. Assuming conviction about the negative effects of smoking in such families, conflict, negative emotional states, and severity of rules, control, and dominance in the family are increased. In addition, in families with tobacco addiction, with the conviction that smoking has a negative effect on family functioning, there is a reduction in emotional expression, a decrease in openness and sincerity in family relationships.

According to the results of the study, a correlation was established between the main indicators of family functioning in families with tobacco addiction. The psychological climate of the family is positively related to family cohesion (0,180, with $p < 0,000001$) and negatively related to the perceptions that violate the influence of smoking on the family (-0,375, with $p < 0,000001$), negative family-determined psycho-emotional states - family dissatisfaction (-0,636, with $p < 0,000001$), nervous-mental strain (-0,580, with $p < 0,000001$), family anxiety (-0,562, with $p < 0,000001$) with a level of dissatisfaction with family functioning (-0,553, with $p < 0,000001$) attitude towards family (-0,230, with $p < 0,000001$) and stiffness of the family control (-0,187, with $p < 0,000001$). Thus, the psychological atmosphere in a smoking family is caused by contradictions about the ideas about the effect of smoking on the family and is manifested in the corresponding emotional experiences.

The integral index of dissatisfaction with family functioning, reflecting the differences between actual and desired family homeostasis is more closely positively associated with experiencing

negative psycho-emotional states — family dissatisfaction (0,643, with $p < 0,000001$), and nervous-mental strain (0,603, with $p < 0,000001$), family anxiety (0,578, with $p < 0,000001$), less closely - with control in the family (0,15 with $p < 0,001$), ideas about the negative impact of smoking on the family (0,225 with $p < 0,000001$). Negative correlations of dissatisfaction with family functioning were found with the psychological climate of the family (-0,533, with $p < 0,000001$) and family cohesion (-0,103, with $p < 0,01$).

The indicator of family organization as a reflection of the importance of structuring family activity, certainty of family rules and responsibilities are positively associated with control (0,283, with $p < 0,000001$) and cohesion in the family (0,248, with $p < 0,000001$) negatively associated with family conflict (-0,288, with $p < 0,000001$).

The family control indicator, which characterizes the hierarchy of the family organization, the rigidity of family rules and the controlling behavior of family members, is positively associated with the organization in the family (0,283, with $p < 0,000001$), with the conviction of the negative impact of smoking on the family (0,322, with $p < 0,000001$), negative psycho-emotional states — family dissatisfaction (0,204, at $p < 0,000001$), nervous-mental strain (0,203, with $p < 0,000001$), family anxiety (0,230, with $p < 0,000001$) and integral indicator of dissatisfaction with family functioning (0,116, at $p < 0,001$). A negative correlation was also established between the control in the family and the family psychological climate (-0,187, with $p < 0,000001$).

The expressiveness indicator characterizing the degree of resolution of open expression of feelings and congruence of behavior positively correlates with attitude towards family (0,895, with $p < 0,000001$) and negatively with the notion of the destructiveness of the effect of smoking on general family functioning (-0,115, with $p < 0,001$). Thus, estimated and adjusting characteristics of family with a tobacco addiction depend on stereotypes of social desirability and motives of the self-presentation.

The indicator of family conflicts is positively correlated with the idea of the negative impact of smoking on the overall family

functioning (0,259, with $p < 0,000001$) and negative family-determined psycho-emotional states - family dissatisfaction (0,177, with $p < 0,000001$), nervous-mental strain (0,171, with $p < 0,000001$), family anxiety (0,167, with $p < 0,00001$). Negative correlations of this indicator have been established with the family's psychological climate (-0,230, with $p < 0,000001$), family organization (-0,288, with $p < 0,000001$) and family cohesion (-0,475, with $p < 0,000001$). Thus, in a smoker's family, the conviction about the negative impact of smoking on family functioning is accompanied by a decrease in family cohesion, a sense of family belonging, organization and structuredness of family activity, deterioration in psychological atmosphere, and experience of negative emotions.

The attitude towards family index, which describes the valence of the attitudes system, perception and expectations in the field of family relations is positively associated with expressiveness in family (0,895, with $p < 0,000001$) and negatively related to the level of negative impact of smoking on the family (with $p < 0,00001$), the emotional state of global family dissatisfaction (0,090, with $p < 0,01$).

In terms of global family dissatisfaction, direct correlation has been established with indicators of other negative family-determined psycho-emotional states - nervous-mental strain (0,803, with $p < 0,000001$) and family anxiety (0,764, with $p < 0,000001$), integral indicator of dissatisfaction with family functioning (0,643, with $p < 0,000001$), conviction about the negativity of the effect of smoking on the family (0,353, with $p < 0,000001$), the severity of family control (0,204, with $p < 0,000001$) and conflict in the family (0,177, with $p < 0,000001$). Negative correlations for this indicator were revealed with the psychological climate of the family (-0,636, with $p < 0,000001$), family cohesion (-0,148, with $p < 0,0001$), attitude towards family (-0,090, with $p < 0,01$).

Family-determined nervous-mental strain in a family with tobacco addiction, in addition to other negative psycho-emotional states - family dissatisfaction (0,803, with $p < 0,000001$) and family anxiety (0,808, with $p < 0,000001$), turns out to be positively associated with beliefs about violating the influence of smoking on the family (0,351, with $p < 0,000001$), family control stiffness (0,203,

with $p < 0.000001$), family conflict (0,181, with $p < 0.000001$) and general dissatisfaction with family functioning (0,603, with $p < 0.000001$). Negative correlation for the family-determined nervous-mental strain was found with the psychological climate of the family (-0,580, with $p < 0.000001$) and family cohesion (0,171, with $p < 0.000001$).

The indicator of family anxiety is also closely positively linked with global family dissatisfaction (0,764, with $p < 0.000001$) and nervous-mental strain (0,808, with $p < 0.000001$). In addition, family anxiety positively correlates with beliefs about the negative impact of smoking on the family (0,363, with $p < 0.000001$), integral indicator of dissatisfaction with family functioning (0,578, with $p < 0.000001$), control in the family (0,230, with $p < 0.000001$) and conflict in the family (0,167, with $p < 0.000001$). Negative correlations of family anxiety were found with psychological climate in the family (-0,562, with $p < 0.000001$) and family cohesion (-0,128, with $p < 0.001$).

The presence of multiple correlations between indicators of family functioning gives bases for carrying out the factor analysis for the purpose of more compact implementation of the family functioning model and analysis of latent variables describing the family system in smoking family.

The factorization of the characteristics of the smoking family functioning was conducted using the Varimax normalized method and presented in Table 1.

Total dispersion of the four-factor structure obtained is 87,7%, which is sufficient for acceptance and adequate interpretation of the obtained model. According to the results of factorization, four factors were formed.

The first factor combined family-determined negative psycho-emotional states — global family dissatisfaction (0,896), nervous-mental strain (0,887), family anxiety (0,859) and integral characteristics — dissatisfaction with family functioning as a result of the difference between actual and desired family homeostasis (0,811), psychological climate of the family (-0,736). This factor describes negative family experiences in the family and can be called

"Dissatisfaction with family functioning". The essence of the factor consists in the fact that the actualization of negative emotional states, differences between real and desirable family relationships lead to a persistent negative background and destabilization in the family, dissatisfaction with family life.

Table 1

Factor structure of family functioning in the family of smokers

Indicators	Factor 1	Factor 2	Factor 3	Factor 4
Effect of smoking on general family functioning				0,650
Psychological climate of the family	-0,736			
Dissatisfaction index of family functioning	0,811			
Organization in the family			0,597	0,459
Control in the family				0,824
Cohesion in the family			0,760	0,044
Expressiveness in the family		-0,968		
Attitude towards family		-0,971		
Conflict in the family			-0,837	
Global family dissatisfaction	0,896			
Family nervous-mental strain	0,887			
Family anxiety	0,859			
Expl.Var	3,661	1,922	1,734	1,465
Prp.Totl	0,305	0,160	0,145	0,122

Note: Only significant factor loadings are shown.

The second factor is formed by indicators of attitude towards family (-0,971) and expressiveness in the family (-0,968). Attitude towards family reflects the emotional value characteristic of family functioning which is associated with the modality of the experience of relationships, perception of family interaction and expectations in

the family. Expressiveness in the family describes the possibility of open actions and expression of feelings in family. Therefore, combination of these parameters of family functioning in a negative sense indicates psychological discomfort caused by a negative attitude towards family, suppression of emotions, concealment of experiences, significant events, actions. This factor can be conditionally called "*Psychological discomfort in the family*".

The third factor includes indicators of family cohesion (0,760), organization in the family (0,597), conflict in the family (-0,837). Combining a sense of belonging to a family, mutual concern, importance of family activity, severity of rules and family organization with low conflict, anger and aggression is a condition for maintaining absolute unity in the family. Given factor can be conditionally called "*Family loyalty*".

The fourth factor contains indicators of control in the family (0,824), the overall effect of smoking on family functioning (0,650) and family organization (0,459). This factor can be conditionally called the "*Manageability of the family system*", as it combines the hierarchy of the family organization, the excessive structure and rigidity of family rules and responsibilities, the importance of order, the structuring of activity and control with the conviction of the destructive effect of smoking on overall family functioning. Thus, in a structured, organized, and controlled family system, there are expressed beliefs about smoking as a violation factor in the family. The presence of this factor creates a situation in which tobacco addiction is either the result of the uncontrollability and ungovernability of the family system in families with a good attitude to smoking, or the result of destabilization and disorganization in the family, protest against the background of beliefs about the negative impact of smoking on the family.

Conclusions

It was found that in smoking families with conviction about negative impact of smoking on family functioning, psychological climate, openness and sincerity in attitudes, satisfaction with family functioning deteriorates, family attitudes worsen, conflict increases, accompanied with negative psycho-emotional states, rules and

control in the family become more rigid, emotional expression is suppressed.

The factor model of the family functioning system in a smoking family has been defined. The basic components are “Dissatisfaction with family functioning”, “Psychological discomfort in the family”, “Family loyalty”, “Manageability of the family system”. The main system problems of the family in tobacco addiction were defined, namely: discontent in the family, inconsistency between real and ideal family homeostasis, requirements of family loyalty, dysfunctionality in family control and management of the family system. The developed model can be used with a purpose of psychological prevention and correction of tobacco addiction.

References

Beyker K., Varha A.YA. (2012). *Teoriya semeynykh system Myurreya Bouéna: Osnovnye ponyatiya, metody y klynycheskaya praktyka* [Murray Bowen Family Systems Theory: Basic Concepts, Methods and Clinical Practice]. (In Russ.).

Boyko V.V. (1996). *Énerhiya émotsyy v obshchenyy: vzglyad na sebya y na druhykh* [Energy of emotions in communication: a glance at oneself and on others] M: Publishinghouse "Filin". (In Russ.).

Chernikov A.V. (2001). *Systemnaya semeynaya terapiya: Yntehratiyvnyaya model' dyahnostyky* [System Family Therapy: An Integrative Diagnostic Model] M.: Class, (In Russ.).

Eidemiller E.G. Dobryakov I.V., Nikolskaya I.M. (2006). *Semeynyy dyahnoz y semeynaya psykhoterapiya* [Family diagnosis and family psychotherapy] SPb.: Speech. (In Russ.).

Eidemiller E.G., Justicks V.V. (2002). *Psykholohyya y psykhoterapiya sem'y* [Psychology and psychotherapy of the family] St. Petersburg: Peter. (In Russ.).

Khamitova I.Yu. (2004). *Dyahnostyka sem'y. Ynstruktsyya po pryimenenyyu* [Family diagnostics. Instructions for use] *Zhurnal praktycheskoy psykholohyy y psykhoanaliza. Ezhekvartal'nyy nauchno-praktycheskyy zhurnal élektronnykh publikatsyy.* [Journal of Practical Psychology and Psychoanalysis. Quarterly Scientific and Practical Journal of Electronic Publications]. No. 4. [Electronic resource]. - Access mode: <http://psyjournal.ru/j3p/pap.php?id=20040406>. (In Russ.).

Kholmogorova A. B. (2002). Nauchnye osnovaniya y prakticheskiye zadachy semeynoy psykhoterapiy [Scientific bases and practical tasks of family psychotherapy] Moscow Psychotherapeutic Journal. No. 1. P. 93-119. (In Russ.).

Kramchenkova V.O. (2017) Metodyka psykhodiahnostyky vplyvu palinnya na simeyne funktsionuvannya [Methodology of psychodiagnostics of smoking in fluence on family functioning] Psykholohiya i osobystist' [Psychology and Personality], No. 1 (11). P. 94-108.(In Ukr.).

Liders A.G. (2007). Psykholohycheskoe obsledovanye sem'y [Psychological examination of the family],Moscow: PublishingCenter "Akademiya", (In Russ.).

Mironova E.E. (Ed). (2006). Sbornyk psykholohycheskykh testov. Chast' III [Collection of psychological tests. Part III]. Mn.: Women's Institute of ENVILA, (In Russ.).

Moskalenko V.D. (2015). Zavysymost': Semeynaya bolezni'. M.: [Dependence: Family Disease]. Moscow: Institute of Counseling and System Solutions, (In Russ.).

Olifirovich N.I., Velenta T.F., Zinkevich-Kuzemkina T.A. Terapiya semeynykh system [Therapy of family systems]. SPb: Speech, 2012. 576 pp. (In Russ.).

Speranskaya O.I. Tabachnaya zavysymost': perspektyvy yssledovannya, dyahnostyky, terapiy. [Tobacco dependence: prospects for research, diagnosis, therapy]. M .: GEOTAR-MEDIA, 2011. 160 p.(In Russ.).

Tabachnikov S.I., Ritkis I.S., Vasiliev A.Yu. (2013). Suchasni problem tyutyunopalynnya i nikotynovoy izalezhnosti ta yikh profilaktyka y likuvannya [Modern problems of smoking and nicotine dependence and the irprevention and treatment]. Naukovo-informatsiynyy visnyk ANVO Ukrainy. [Scientific and Information Bulletin of the Ukrainian Academy of Sciences of Ukraine]. 2013. No. 3 (86). P. 48-55. (In Ukr.).

Varga. Ya. (2001). Semeynaya systemnaya psykhoterapiya [Family system psychotherapy] SPb.: Speech, (In Russ.).

Оригінальний рукопис отриманий 13 березня 2023 року

Стаття прийнята до друку 21 березня 2023 року