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OGRANIZATIONAL CULTURE AND SOCIO-PSYCHOLOGICAL AGE OF MEDICAL FEMALE PERSONNEL: MANAGEMENT OPPORTUNITIES

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Abstract

The results of an empirical study of socio-psychological age (SPA) of female doctors in clinics that successfully implemented the innovative development format and clinics experiencing difficulty in introducing innovations are presented. It is shown that the organizational culture (OC) of innovative clinics is characterized by adhocracy, and clan-hierarchical model dominates in problematic clinics, therefore, introduction of innovations is carried out by inconsistent administrative methods typical of this model. As a result, personnel experiences a high level of stress, making them feel tired, rejecting innovations, striving to maximize the clan component of OC to protect themselves against change stress. The results are an «older» SPA and a low level of labour involvement, which shows the correspondence of female personnel of problematic clinics characteristics to gender stereotypes. In innovative clinics, female personnel feel more healthy and young, shares, regardless of chronological age, innovative values traditionally associated with younger ages, is involved in the work process. It is shown that SPA of female personnel and level of readiness for innovation depend on the type of organizational culture. In the future, female doctors are oriented towards innovative way of development of their clinics, but with another management principles. Successful SPA management and innovation introduction involve administrative methods abandonment, organizational change stress prevention and promotion of innovative values as the basis of new OC.

Keywords: Innovation, female personnel, gender stereotypes, chronological age, socio-psychological age, management.

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1. Introduction

Approaching of new technological order changes the already complex modern labour market. New industry economy 4.0 requires employees who are personally involved in labour process, showing responsibility, initiative, developing themselves along with labour process, taking responsibility for continuous professional development, including sphere of new information technologies use (Fossen & Sorgner, 2019).

New trends in world economic development are reflected in strategic plans for innovative development of Russian economy. At the same time, Russia takes only 46th place in the global innovation ranking (Index, 2019). Under new conditions, complicated position of women in labour market is becoming more complicated. Gender stereotypes live in society, according to which women cannot be successful in many professions, they bring excessive emotionality, orientation to interpersonal relationships into organization's life, women are more conservative, not prone to changes, have lower labour productivity (Burkley et al., 2016; Castellano et al., 2019). Age stereotypes are no less strong, according to them, older employees resist organizational changes, are immune to the new, are prone to stress and tiredness, are more often sick (Obuhova et al., 2003; Posthuma, 2009; Zaniboni et al., 2019). All these characteristics are reminiscent of gender stereotypes, strengthen them in eyes of decision-makers, are in great conflict with qualities of employee that are in demand in innovative society.

2. Problem Statement

Healthcare is one of the most important areas of socio-economic development of any society. The infrastructure for digital medicine development is actively being created in Russia. Next step is the introduction of blockchain, AI, neural interfaces into medical field. At the same time, Skolkovo experts note a number of barriers that hinder digital medicine introduction. Among them are fragmentation and resistance of professional environment, distrust of patients, and lack of willingness to accept innovations (Gordeeva, 2018). Traditionally, many women work in healthcare, including the elderly. Naturally, questions arise about the role of gender factor restraining innovative development of the industry.

Today it is clear that chronological age loses its explanatory power while evaluating personnel. Researchers' attention is shifting towards psychological and SPA (Obuhova et al., 2003; Staudinger, 2015, Zakharova et al., 2018). The situation in healthcare sector makes research and development in management field challenging in terms of changing technological patterns, training new personnel, and correspondent doctors' professional and psychological readiness. Coexistence of innovative medical companies and those with difficult transition to innovative format allows a comparative analysis of female staff characteristics and organizational conditions.

3. Research Questions

1. Are there any differences in psychological characteristics related to socio-psychological age?

2. What organizational conditions are factors affecting the socio-psychological age of female staff of medical companies?

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4. Purpose of the Study

To reveal the relationship between SPA indicators of female medical personnel in companies with different involvement in innovative processes. Clinics, as empirical research basis, are selected by following criteria: similar period of existence, different involvement in innovative processes and OC's compliance with company's innovation level. Two clinics successfully overcame difficulties of transitioning to innovative-market development format (innovative clinics), the other two have many years of modernization difficulties (ordinary clinics). Ordinary clinics management poses the challenges of innovative development, but experiences significant resistance from staff.

5. Research Methods

Diagnostic method of OC and value of personnel organizational and cultural preferences (Cameron & Quinn, 2011), Kessler distress scale (Kessler et al., 2002), author's questionnaire that combines questions with direct scaling method. The questionnaire includes questions to identify the characteristics of staff SPA and its organizational psychophysiological determinant - introducing innovations stress (Caesens et al., 2017). Self-assessment of fatigue and health status as first aging signs (Magalhaes & Passos, 2018), as well as assessment of age-related self-awareness, were studied as indicators of SPA. At the time of study and for a five-year period, professional self-identifications were used as labour activity involvement indicators (Kuhn & McPartland,1954).

Respondents: 105 doctors of two ordinary municipal clinics and 105 doctors of two innovative clinics in the age range of 28 - 70 years. All respondents are women with at least three years of experience in company, which means full adaptation to organizational conditions.

6. Findings

Table 1 shows that in ordinary and innovative clinics there are statistically significant OC differences. Ordinary companies are characterized by clan-hierarchical OC with minimal innovative component; in innovative companies there is market-innovative OC with significant clan component, which is typical for Russian companies (Zakharova et al., 2017). Values to be strengthened according to the personnel assessment is another important indicator. The data prove that ordinary clinic staff wishes to strengthen OC clan component from 37 % to 45 %. Another important change is associated with a decrease in hierarchy from 29 % to 19 %. Innovative and market OC components are not of practical interest to staff. This is a result of the administrative methods use while changing the organization's path towards the innovative one. Well established OC clan component makes so that team strives for cohesion and mutual support, preserving existing relations, resisting administrative pressure.

Table 1. Features of the OC, characteristics of SPA and its effects in ordinary and innovative clinics

Clinics	Indicators															
	S/E of age	OC components								FLA	FOC	PWB	Stress	S/E SCS	Icur	Ipro
		C		A		M		H								
		Cur	PS	Cur	PS	Cur	PS	Cur	PS							
Ordinary	5.2	37	45	14	17	20	19	29	19	7.0	5.8	3.3	26.2	2.0	1.4	0.8
Innovative	-4.7	21	31	28	30	31	22	20	17	5.8	4.3	4.5	18.7	3.3	2.3	2.0
U	*	**	*	**	*	*	-	*	-	*	*	*	**	*	*	**

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Tables 1-3: S/E-self-esteem, AgeD-the difference between chronological age and self-esteem of age; C-clan, A-adhocracy, M-market, H-OC hierarchical components, Cur-the current state of PS-the preferred state; FLA-fatigue from labour activity; FOC-fatigue from organizational conditions; PWB-psychological well-being in the workforce; SCS-state of cardiovascular system; Icur-current, Ipro-prospective involvement in labour activity (in 5 years); statistical significance of differences by the criterion U-Mann-Whitney, *-$p \leq 0.05$; **-$p \leq 0.01$,- -no statistically significant differences

In innovative clinics, situation is fundamentally different. The team wants to maintain the existing innovation level, reducing internal competition level dictated by market component, and to increase role of relations, equating them with innovation. Noteworthy are two facts. The first is that women value clan component higher than men (Zakharova et al., 2018), and the second is that desired hierarchy level practically does not differ in companies of both types, so the level of 17 % -19 % is sufficient for successful innovative development. So, female staff in the market-innovative OC is fully committed to innovative values that contradicts the existing gender stereotypes.

The data show that doctors are more tired using traditional technologies, having statistically higher fatigue level from organizational conditions than in innovative clinics. This fatigue is caused by administrative pressure and more severe stress experienced by ordinary clinicians. On average, this level is 26.2 points which is high (Kessler et al., 2002). Natural consequence of high stress level is significantly worse state (by self-assessment) of cardiovascular system. As a result, ordinary clinics female doctors feel older than their chronological age by an average of more than five years, and female doctors of innovative clinics feel younger by an average of almost five years. Doctors of innovative clinics not only have better physical condition, but also feel much better in team than doctors in ordinary clinics. As a result, they are significantly more involved in labour activity, both at the time of study and for a five-year period, than is typical for ordinary clinics. The Tables 2 and 3 data reveals OC regulatory role in relation to SPA characteristics and labour involvement.

Table 2. Correlations between indicators of SPA, stress and involvement of female staff in ordinary clinics

Indicators		**1**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**15**	**16**	**17**
Age	1															
AgeD	3	**-.41**														
CCur	4	.08	.07													
CPS	5	.10	**.40**	.19												
ACur	6	.07	-.06	**-.53**	-.09											
APS	7	.04	**-.45**	-.25	**-.69**	**.31**										
MCur	8	-.10	-.01	**-.55**	-.26	**.31**	**.33**									
MPS	9	-.11	-.13	-.06	**-.71**	.07	**.30**	.19								
HCur	10	-.00	.01	-.26	.14	**-.34**	-.22	**-.43**	-.21							
HPS	11	.00	-.11	-.22	**-.32**	-.09	-.07	-.05	-.12	**.34**						
FLA	12	-.13	**.59**	.10	**.31**	-.12	**-.39**	-.14	-.15	.13	.04					
FOC	13	**-.27**	**.55**	.18	.16	-.22	-.25	**-.27**	-.23	.20	.20	**.57**				
Stress	15	-.16	**.33**	.11	**.44**	-.23	**-.40**	-.16	**-.31**	.19	-.06	**.33**	**.31**			
S/E SCS	16	-.13	-.05	-.11	**-.43**	.08	**.28**	.11	**.38**	-.08	.05	**-.28**	-.06	**-.37**		
Icur	17	-.08	-.10	-.11	**-.42**	.03	**.43**	.18	**.39**	-.02	-.11	-.22	-.20	-.19	**.30**	
Ipro	18	-.08	-.19	.02	**-.51**	-.15	**.29**	-.00	**.45**	.05	.00	-.21	-.23	-.23	**.34**	**.59**

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Tables 2 and 3 highlight statistical significant correlation coefficients.

Table 2 shows that transition of ordinary clinics to innovative format is constrained by existing OC and related management methods, but doctors realize the need for change. Constraints include organizational stress. Its growth causes increased fatigue (r = .33 and r = .31), deterioration in well-being (cardiovascular system) (r = .55) and a feeling of an older age than chronological one (r = .33), desire to strengthen OC clan component (r = .44). The effect of stress on cardiovascular system is known. Stress experienced by doctors is so strong that doctors' involvement at the time of study and in the future is associated with cardiovascular system conditions (r = .30 and r = .34).

At the same time, the growth of relevant and promising labour involvement is associated with the growth of the innovative and market component of OC (r = .43 and r = .29, (r.39 and r = .45, respectively). But this is a perspective. The real situation is different: the build-up of adhocratic and market components contradicts the clan component (r = -.53 and r = -.55), which doctors see as protection against the applied methods of introducing innovations. Both at present and in the future, labour involvement is constrained by the clan component of OC: (r = -.42) and (r = -.51). The growth of innovative and market components is constrained by the hierarchy of OC: (r = -.34 and r = -.43).

Table 3. Correlations between SPA indicators, stress, and female staff involvement in innovative clinics

Indicators		**1**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**15**	**16**	**17**
Age	1															
AgeD	3	-.09														
CCur	4	.04	**.35**													
CPS	5	.08	.22	**.44**												
ACur	6	.20	**-.33**	**-.37**	**-.32**											
APS	7	**.30**	-.16	**-.39**	**-.49**	**.56**										
MCur	8	**-.28**	-.11	**-.52**	**-.34**	.19	**.37**									
MPS	9	**-.65**	-.06	**-.24**	**-.43**	-.01	-.19	**.28**								
HCur	10	.01	.08	-.12	.18	**-.65**	**-.47**	**-.44**	.03							
HPS	11	**.31**	.19	**.27**	.02	**-.37**	**-.36**	**-.33**	**-.43**	**.31**						
FLA	12	**-.30**	.11	.04	.01	**-.26**	-.17	-.05	.18	**.24**	-.07					
FOC	13	-.12	.19	**.38**	**.27**	**-.27**	**-.23**	**-.23**	-.11	.08	.15	.10				
Stress	15	**-.32**	.18	**.34**	**.41**	**-.40**	**-.50**	**-.28**	.10	**.29**	.02	.22	.21			
S/E SCS	16	-.16	**-.33**	**-.25**	**-.24**	.21	**.25**	**.43**	.19	**-.25**	**-.25**	-.03	-.11	**-.28**		
Icur	17	.00	-.08	-.18	**-.29**	**.28**	**.28**	**.23**	.16	-.14	-.11	.01	.01	**-.29**	.11	
Ipro	18	-.14	-.20	**-.24**	-.14	**.25**	**.24**	**.28**	.18	-.20	**-.31**	.04	-.04	**-.37**	.13	**.48**

Innovative clinics (Table 3) successfully overcame problems of innovative development. Existing adhocratic and market OC components contribute to decreased stress level (r = -.40, r = -.28, respectively). This is what only ordinary clinics doctors guess and hope for. Doctors of innovative clinics rely on reducing stress level with increasing adhocratic OC in future (r = .50). High level of labour involvement of doctors in innovative clinics at the time of study and for the future is also supported by adhocratic and market OC: the correlation coefficients value ranges from r = .23-.28. The concern is possible increase in hierarchy in the future (r = -.31). They are not worried about cardiovascular health

problem as reducing employment factor. They associate increased involvement with decreased stress, which, on average, within normal range (Table 1), however, associated with current organizational conditions in their clan component (r = .34 and r = .41), which, plays a dual role. On the one hand, support of colleagues is important in all areas of professional activity, and on the other hand, dependence on existing relationships can negatively affect internal competition development and restrain desire to develop more intensively than less innovative colleagues.

7. Conclusion

OC of innovative clinics is characterized by dominant adhocratic and market characteristics with significant clan component presence. For female doctors of innovative clinics, a younger SPA age is typical than for their colleagues from ordinary clinics.

Female doctors of ordinary clinics work in conditions of a clan-hierarchical OC traditional for Russian companies. They exhibit characteristics of gender stereotypes, but link the future with innovative market changes, although they currently resist them.

Constraining factor of transition of ordinary clinics to innovative format is administrative methods of organizational change, characteristic of OC with pronounced hierarchy. These methods cause a high level of stress, which leads to deterioration in indicators of SPA, which negatively affects labour involvement of female doctors, rising desire to absolutize clan character of OC.

Successful transition to innovative model for ordinary clinics is associated with the management of female staff SPA. This is possible due to decrease in hierarchy of organizational conditions and related administrative management methods, stress prevention, promotion of innovative values as the basis of new labour structure.

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