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## SCIENTIFIC AND PRACTICAL APPROACHES TO FORM THE LIST OF SOCIAL-PSYCHOLOGICAL CHARACTERISTICS FOR PHARMACY SPECIALIST

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### Abstract

Nowadays according to employers, pharmacy specialist should be not only competent professional, but versed in the consumer psychology and result oriented, at the same time, i.e. concentrated on the pharmacy competitiveness increase and on maximal income and customer satisfaction.

**The aim** of the presented work was to investigate the social-psychological characteristics for pharmacy specialist essential in his or her professional activity, and to substantiate the list of these characteristics.

**Materials and methods.** Analytical, graphical and comparative methods, methods of descriptive and abstract modeling, system analysis and synthesis, taxonomy and cluster analysis were applied in the study.

**Results.** Social-psychological characteristics for pharmacy specialist methodologically should be selected and substantiated by the main stakeholders: employers, pharmacists, doctors, customers and graduation course students. The research algorithm to define the professionally important social-psychological characteristics for pharmacy specialist was suggested. The professionally important social-psychological characteristics regarding the requirements of employers from different countries to pharmacy specialists include sociability, responsibility, attentiveness, orderliness, and command-orientation. The main social-psychological characteristics for pharmacy specialists based on content analysis are attentiveness, sociability, indulgence, goodwill, responsibility, neatness, sensitivity, patience. Comparison of four research results for pharmacists, doctors, customers and graduation course students form specialty “Pharmacy” allowed to select and to substantiate the social-psychological characteristics for pharmacy specialist essential in his or her professional activity. They are goodwill, stress-stability, honesty, command-orientation, neatness, affability, decency, purposefulness, desire for learn and develop, grammatically correct language, non-conflictedness.

**Conclusion.** The approaches to define the professionally important social-psychological characteristics for pharmacy specialist were analyzed. The research of the professionally important social-psychological characteristics for pharmacy specialist was conducted with the main stakeholders: employer, pharmacist, doctor, and customer. The list of the professionally important social-psychological characteristics for pharmacy specialist was formed on the base of conducted research.

**Keywords:** social-psychological characteristics (SPCs), professional activity, pharmacy specialist.

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## 1. Introduction

Nowadays pharmacist's social-psychological portrait has changed due to European integration process, which affected economic conditions of pharmaceutical institutions and business competition approaches. Despite this, pharmacist's foreground qualities remain result-oriented, i. e. oriented to increase in sales of pharmaceutical products and, accordingly, gain of profit for pharmaceutical institution. According to employers, pharmacy specialist should be competent professional, versed in the consumer psychology and result oriented, at the same time, i. e. concentrated on the pharmacy competitiveness increase and on maximal income and customer satisfaction.

Questions regarding the study of specialist's personality characteristics are considered by both Ukrainian and foreign scientists. In these publications there are emphasized such aspects as social adaptation [1], interaction with colleagues and partners, the type of behavior in stressful situations, cognitive qualities, emotional development of specialist [2], the formation of complex of organizational, communication, management skills of future pharmacists [3]. However, these researches are devoted to analysis of certain aspects, and are not fully allowed to describe social and psychological characteristics of pharmacy specialist that needed to create a patient-centric space in the pharmacy [4, 5].

In addition, requirements for pharmacy specialist such as education level, experience, official duties, knowledge, skills and abilities are clearly defined today [6, 7]. However, the list of social-psychological characteristics for pharmacy specialist is not fully defined. SPCs analysis shows inconsistency of employers' opinions on this issue, which necessitates the development of methodological principles of SPCs selection system.

## 2. Aim of the research

The aim of the study is to investigate the social-psychological characteristics (SPCs) for pharmacy specialist essential in his or her professional activity, and to substantiate the list of these characteristics.

## 3. Materials and methods

Analytical, graphical and comparative methods, methods of descriptive and abstract modeling, system analysis and synthesis, taxonomy and cluster analysis are applied in the study.

To define SPCs of pharmacy specialists the expert survey using a specially designed questionnaire was conducted. Pharmacists, doctors (medics), graduation course students and customers of pharmaceutical institutions were surveyed. The obtained concordance coefficient ( $W=0.8015$ ,  $p<0.05$ ) indicates high consistency of expert opinions, so at probability of 95 % we can assert that the consistency of expert opinions is not accidental.

Research of the employer requirements for pharmacy specialist SPCs based on the content analysis of the leading Internet sites for employment [work.ua, rabota.ua, trud.ua, job.i.ua, hh.ua, job.ukr.net, Daijob.com, Jobs.lu, jobsearch.gov.au, jobsite.co.uk, Job Search Canada, denmark.dk] were carried out.

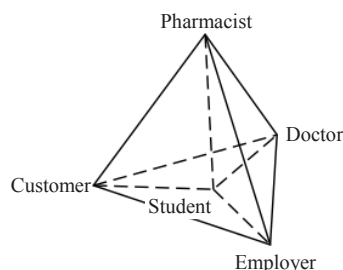
## 4. Result

Pharmacy specialist SPCs methodologically should be selected and substantiated by the main stakeholders: employer, pharmacist, doctor, customer (**Fig. 1**) [8, 9].

Selection and substantiation of SPCs should be conducted in five stages (**Fig. 2**).

At the first stage, research of employer requirements was carried out. Grouping of SPCs was based on two different clustering methods: joining (tree clustering) and K-means clustering

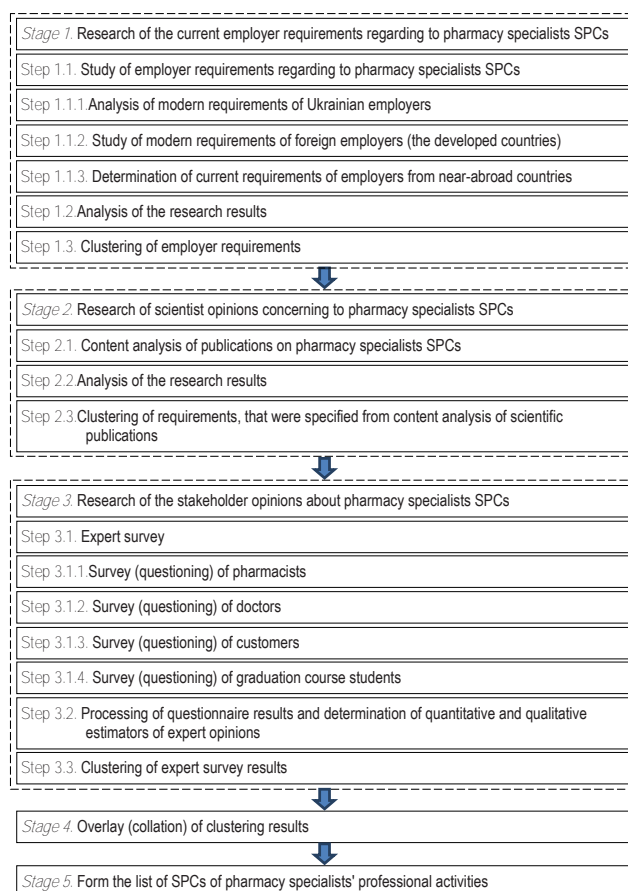
using SPSS Statistics 17.0 software to define the most essential characteristics was fulfilled after processing of ads about pharmacist vacancies. The grouping (based on tree clustering method) showed three classes: first cluster – professionally relevant SPCs (often claimed), second cluster – professionally necessary SPCs (demanded), third cluster – professionally desirable SPCs (seldom claimed). Then, overlay of clustering results was fulfilled to form the list of pharmacy specialists SPCs, which are required by employers.



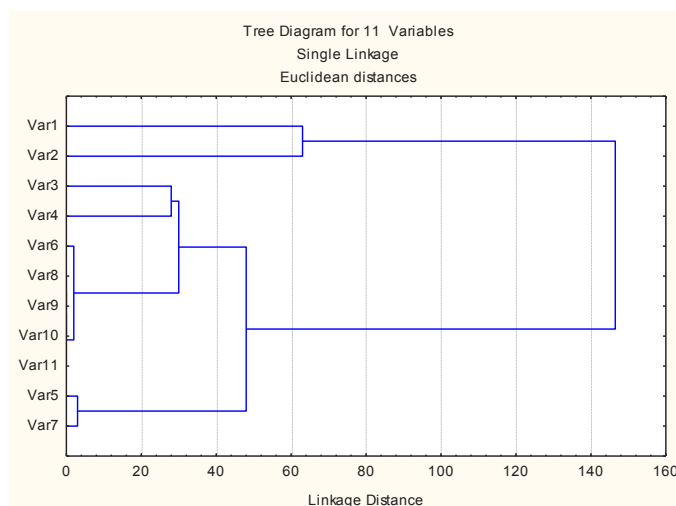
**Fig. 1.** The relationship between the main stakeholders in pharmacy

Clustering of professionally important pharmacy specialists SPCs regarding to the employer requirements after the overlay of clustering results are shown in **Fig. 3**. Obtained clustering corresponds to real scene of investigate phenomena (difference between clusters is statistically significant:  $F=24.105$ , critical value  $F_{crit}=10.66$ ,  $p=0.00$ ).

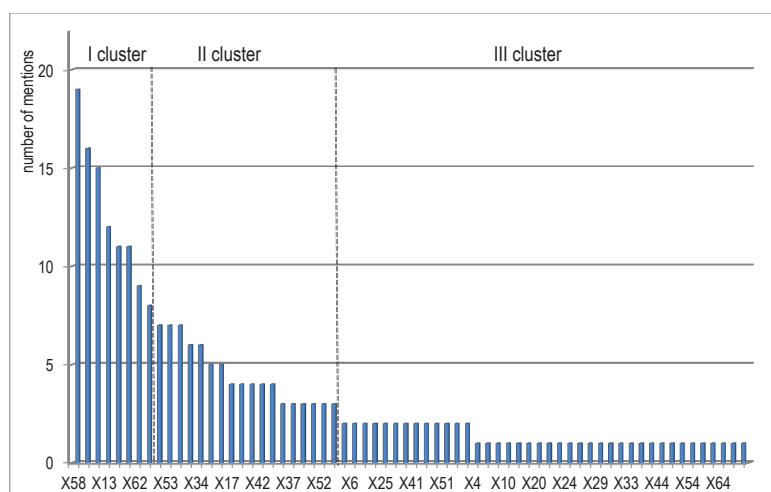
At the second stage of methodological substantiation of professionally important pharmacy specialists SPCs, content analysis of publications [10, 11] with scientist opinions on issues investigated was carried out (**Fig. 4**).



**Fig. 2.** Research stages to form the list of professionally important pharmacy specialist SPCs



**Fig. 3.** Results of SPCs clustering based on tree clustering method (Var1 – sociability; Var2 – responsibility; Var3 – attentiveness; Var4 – orderliness; Var5 – command-orientation; Var6 – purposefulness; Var7 – desire for learn and develop; Var8 – self-discipline; Var9 – goodwill; Var10 – customer-orientation; Var11 – initiative)



**Fig. 4.** Clustering results of scientist opinions about professionally important pharmacy specialists SPCs

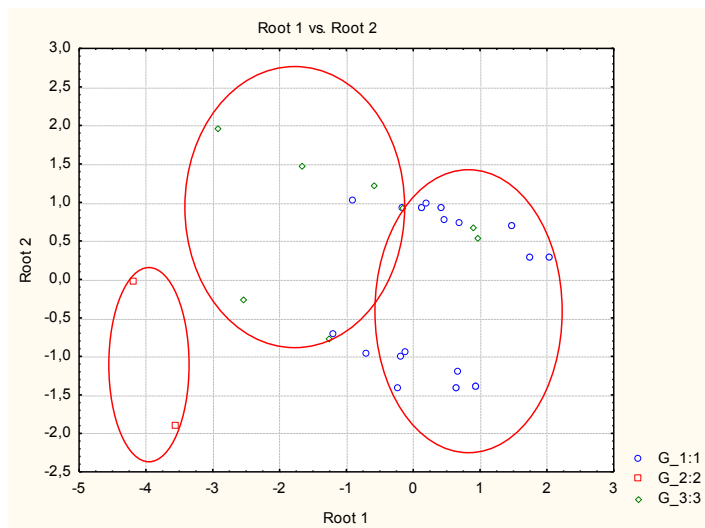
The next stage of the study was expert survey for pharmacists, doctors and customers (**Fig. 5**). Studying of opinions of graduation course students from specialty “Pharmacy” was also interesting. 352 pharmacy specialists with appropriate qualification and experience took part in expert survey. The obtained concordance coefficient ( $W=0.863$ ,  $p<0.05$ ) indicates high consistency of expert opinions.

The next step of the study was expert survey for doctors about professionally important SPCs (**Fig. 6**). 214 doctors took part in expert survey, and the obtained concordance coefficient ( $W=0.863$ ,  $p<0.05$ ) demonstrated high consistency of expert opinions.

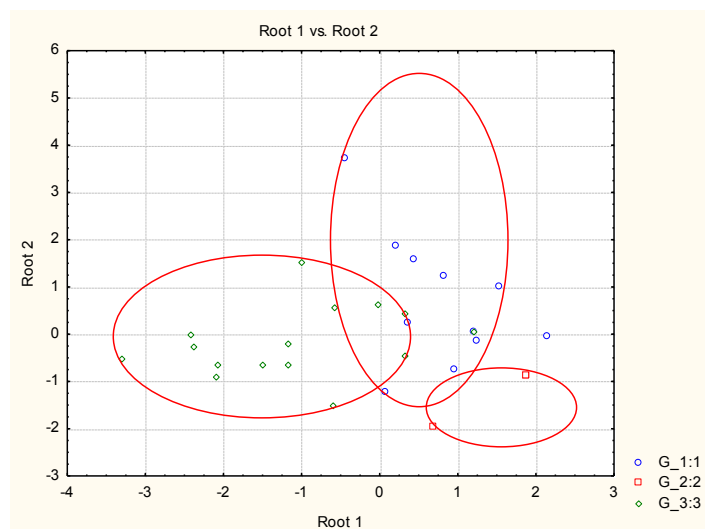
Obtained clustering corresponds to real scene of investigate phenomena (difference between clusters is statistically significant:  $F=3.96$ , critical value  $F_{crit}=2.06$ ,  $p=0.0006$ ).

The next step of the study was expert survey for graduation course students from specialty “Pharmacy”.

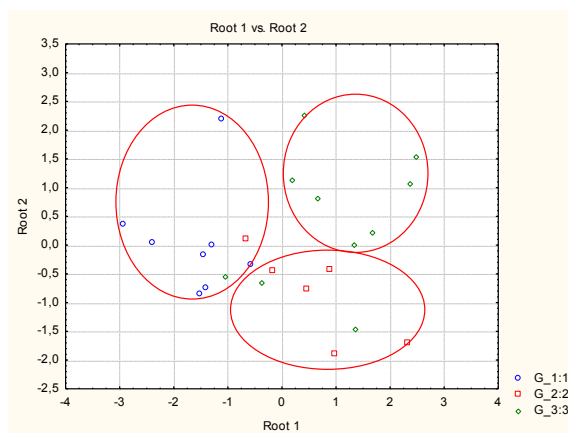
The last step of study was expert survey for customers of pharmaceutical institutions. 943 customers of pharmaceutical institutions took part in expert survey, and the obtained concordance coefficient ( $W=0.863$ ,  $p<0.05$ ) demonstrated high consistency of expert opinions (**Fig. 7**).



**Fig. 5.** Results of generalized clustering for professionally important SPCs by pharmacists' opinions (with K-means clustering method)



**Fig. 6.** Results of generalized clustering for professionally important SPCs by doctors' opinions (with K-means clustering method)



**Fig. 7.** Results of generalized clustering for professionally important SPCs by customers' opinions (with K-means clustering method)

## 5. Discussion

The professionally important SPCs regarding the requirements of employers from different countries to pharmacy specialists include sociability, responsibility, attentiveness, orderliness and command-orientation.

The first cluster of professionally important SPCs by scientists' opinions includes following characteristics: attentiveness (X58), sociability (X27), indulgence (X56), goodwill (X13), responsibility (X3), neatness (X1), sensitivity (X62), patience (X7). The second cluster contains such SPCs as politeness (X2), ability to study (X18), meticulousness (X19), being energetic (X35), empathy (X14), customer-orientation (X23), decency (X20), efficiency (X38), cleanliness (X41), punctuality (X42), self-control (X43), affability (X39), modesty (X46), stress-stability (X50), tact (X53), conscientiousness (X52), honesty (X61), charm (X63). SPCs included in the third cluster are: openness (X4), thinking flexibility (X8), acuteness of feelings and perceptions (X9), humaneness (X10), self-discipline (X12), emotional stability (X15), activity (X17), cheerfulness (X21), initiative (X22), command-orientation (X24), operation-ability (X30), orderliness (X31), organizational ability (X32), focus on achievement (X33), persuasiveness (X28), positive attitude (X36), cordiality (X44), seriousness (X45), tranquility (X48), tolerance (X54), precision (X55), assiduity (X60), responsiveness (X64), sincerity (X29), good memory (X26), observation (X34), concentration (X37), good manners (X5), stamina (X6), grammatically correct language (X11), emotional stability (X15), enthusiasm (X16), activity (X17), cheerfulness (X21), initiative (X22), quick-wittedness (X25), congruence (X40), compassion and sympathy (X47), diligence (X49), restraint (X51), commutability (X57), steadiness (X59).

Thus, the main pharmacy specialists SPCs were defined based on content analysis. They are attentiveness [12], sociability [13], indulgence [14], goodwill [15], responsibility [16], neatness, sensitivity, patience.

The first cluster of professionally important SPCs by pharmacists' opinions contains following characteristics: sociability, responsibility, attentiveness, politeness, goodwill to customer, command-orientation, neatness, affability, stress-stability, honesty, decency, purposefulness, desire for learn and develop, punctuality, grammatically correct language, efficiency, orderliness, activity, tact, good manners, self-discipline, positive attitude to work, desire for professional growth, cleanliness, persuasiveness, self-assertion, financial discipline.

The first cluster of professionally important SPCs by doctors' opinions contains following characteristics: goodwill, command-orientation, neatness, affability, stress-stability, honesty, decency, purposefulness, desire for learn and develop, grammatically correct language, non-conflict-ness. SPCs included in the second cluster are sociability, responsibility, attentiveness, politeness, positive attitude to work. The third cluster of professionally important SPCs by doctors' opinions contains punctuality, conscientiousness, efficiency, orderliness, activity, customer-orientation, initiative, tact, scrupulousness, love for people, good manners, self-discipline, sincerity, friendliness.

Professionally important SPCs by students' opinions were distributed among clusters:

- the first cluster – responsibility, honesty, positive attitude to work, stress-stability, compatibility, adherence to principles;
- the second cluster – level of social intellect, steadiness in crisis situations, self-control of behavior and emotions, value orientations, tolerance, creative activity;
- the third cluster – ability to preserve of attention, politeness, professional self-actualization, self-respect, interest in chemist's shop business, authority, level of social norms for communication, objectivity of self-rating, tact, initiative, conscientiousness.

Professionally important SPCs by customers' opinions were grouped as follows:

- the first cluster – sociability, goodwill to customer, command-orientation, neatness, affability, stress-stability, honesty, decency, purposefulness, desire for learn and develop, punctuality, grammatically correct language, efficiency, orderliness, customer-orientation, non-conflictedness, good manners, self-discipline;
- the second cluster – responsibility, attentiveness and politeness;
- the third cluster – conscientiousness, being energetic, active life position, initiative, tact, scrupulousness, love for people, good manners, sincerity, friendliness, positive attitude to work.

Overlay (collation) of clustering results for pharmacists, doctors, customers and graduation course students form specialty “Pharmacy” allowed to determine the such professionally important SPCs as goodwill, stress-stability, honesty, command-orientation, neatness, affability, decency, purposefulness, desire for learn and develop, grammatically correct language, non-conflictedness.

At the same time, the majority of scientists involved in the study of social-psychological characteristics for pharmacy specialist, stopped their researches, when they selected only one or two qualities, such as communicative abilities [17] or value orientations [18]. Such scientific’ opinions do not correspond the current world trends in pharmacy and medicine, and the requirements of good pharmacy practice [19, 20].

Summary of clustering results of all research guidelines for pharmacy specialists SPCs is shown in the **Table 1**.

**Table 1**

Pharmacy specialists SPCs based on the research

SPCs	Employers	Scientists	Experts
Sociability	+	+	
Responsibility	+	+	
Attentiveness	+	+	
Orderliness	+		
Command-orientation	+		+
Indulgence		+	
Goodwill		+	+
Neatness		+	+
Sensitivity		+	
Patience		+	
Stress-stability			+
Honesty			+
Affability			+
Decency			+
Purposefulness			+
Desire for learn and develop			+
Grammatically correct language			+
Non-conflictedness			+

Thus, the pharmacy specialists SPCs were defined based on the research. They are sociability, responsibility, attentiveness, command-orientation, goodwill to customer and neatness.

## 6. Conclusions

1. The approaches to define the professionally important social-psychological characteristics for pharmacy specialist were analyzed.
2. The research stages to select and substantiate the system of the professionally important social-psychological characteristics for pharmacy specialist were defined.
3. The research of the professionally important social-psychological characteristics for pharmacy specialist was conducted with the main stakeholders: employer, pharmacist, doctor, and customer.

4. Methodological foundation to form the list of social-psychological characteristics for pharmacy specialist essential in his or her professional activity was suggested.

5. The list of the professionally important social-psychological characteristics for pharmacy specialist was formed on the base of conducted research. This list include such characteristics as sociability, responsibility, attentiveness, command-orientation, goodwill to customer and neatness.

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