

ABILITY TO ADAPT AS ATC APTITUDE CRITERION

Olena Secheiko

National Aviation University (NAU), Aviation Psychology Department
Kyiv, Ukraine

The article zeroes in on the issue of ATC adaptiveness to professional activity in the given conditions. The framework of personal adaptation potential of ATC specialists is discussed. The results of ATC students' personal adaptation assessment are offered, and connections between the adaptability and character, emotion and behaviour of the students are highlighted.

Keywords: *adaptation, ability to adapt, personal adaptation potential, professional reliance, neural-psychic firmness, communicative abilities, moral standardization.*

Introduction

The issues of successful adaptation and activity of high risk professionals have always stipulated scientific and practical interest.

Ability to adapt, professional reliance, and emotional resilience are the most important markers of professional aptitude and psychological fitness for the fulfilment of professional tasks under stressful conditions. The insufficient development of adaptive abilities, inability to regulate his/her psychic and psychophysiological states may have serious negative effects on the specialist's activity as well as his/her mental and physical health. So, one of the main tasks of psychological maintenance of high-risk activity is to guarantee adaptability and reliability under stressful conditions.

Aviation personnel, ATC specialists in particular, are treated as high-risk professionals. ATC specialists' professional aptitude is viewed as a complex of professionally required qualities of interrelated psychophysiological, psychological and sociopsychological levels which form an iterative system and prove specialist's reliance. We believe that adaptive abilities are one of the key integral factors of the ATC specialist's professional aptitude.

Within the systematic approach, adaptability is viewed as a polysystemic quality of the individuality, the structure of which includes subsystems of individual, personal and subjective qualities which function socially and professionally effectively under traumatic stressful conditions or considerable psychophysical strain with minimal individual waste of adaptive recourses and mental and physical health maintenance [2].

High risk specialist's adaptation is the process which is realized due to his/her energetic, psychological and ethic mobilization in accordance with the professional requirements. Specialist's essential psychophysical qualities, his/her high working capacity, fortitude, stress tolerance, harmony of the innate and gained personal qualities are considered to be displays of high adaptiveness to the activity in the given conditions.

Effectiveness of specialist's adaptation is connected with such notions as "adaptability" and "adaptive ability". In general the correlation of adaptability and adaptive ability can be introduced in the following way: adaptability is the ability of a man to adapt, and adaptive abilities are those qualities that demonstrate this ability.

Adaptive abilities are defined by more or less stable resistant characteristics of individually typological and personal level which make possible to adapt successfully to different demands of the activity and are physiologically and psychologically revealed, modifying the individual's behaviour [3].

Hypothesis

In this article we have assumed that a specialist's potential to adapt is determined by an assemblage of interconnected characteristics with high prognostic value as to his/her professional aptitude.

To prove this hypothesis, we conducted the research the aim of which was to show structural peculiarities of adaptive abilities and their connection with ATC specialists' individually psychological characteristics.

Earlier we have submitted an empirical analysis as to the influence of the qualities of psychodynamic level on ATC students' professional skills development [4]. However, in the given work we have concentrated on identification of personal determinants of future ATC specialists' abilities to adapt.

Main body

Our research is based on O.G. Maklakov's conception of personal potential to adapt according to which personal adaptation potential consists of three components [1]:

1. Neural-psychic firmness, which reflects high stability and behavioural regulation, adequate self-assessment and accurate perception of the reality.
2. Communicative abilities needed to establish constructive social contacts.
3. Moral standardization, that is, the ability to truly assess his/her role in the group in accordance with the proprieties.

48 National Aviation University (Kyiv) students majoring in Air Navigation participated in the research.

O. Maklakov and C. Chermyanin's Adaptability questionnaire for multilevel personal survey was used to investigate future ATC specialists' personal adaptation potential for the activity in high-risk conditions. The results of the students' adaptation levels are shown in Table 1.

Table 1

Classification of ATC students' adaptation level markers (in %)

Adaptation Components	Adaptation Level		
	High	Mid	Low
Behavioural regulation	72	19	9
Communicative potential	36	46	28
Moral and ethic standardization	85	11	4
Personal adaptation potential	63	25	12

The results prove that 63% of students have high level of personal adaptability, 25% – mid level, 12% – low level. So, the general tendency is positive, and it demonstrates that most of the students have sufficient personal adaptation level and by means of this criterion meet the requirements for the chosen professional activity.

The students got the highest adaptation level according to such markers as behavioural regulation and moral and ethic standardization. It presupposes adequacy of self-assessment and reality perception, internation, positive motivation in the fulfilment of professional tasks and mindset on keeping the proprieties. Yet, the analysis of some adaptation components makes it possible to speak about the insufficient level of communicative potential among many students. It is the adaptation component that is of the lowest level and will most likely influence the general process of young specialists' teamwork adaptation.

Findings of ATC students' adaptation markers were related with some parameters of their individually psychological peculiarities, i.e., character accentuation (G. Shmishek's survey), personal anxiety level (Ch. Spielberger's methodology) and rigidity level (E. Ilyin's methodology). These are the parameters that might greatly influence personal adaptation potential in high-risk conditions and considerable psychophysical strain. The results of correlation analysis of the above-mentioned parameters are shown in Table 2.

Table 2.

Markers of characterological and emotional peculiarities of ATC students with different adaptation level (in %)

Adaptability Level	Accentuation		Anxiety			Rigidity		
	Present	Absent	H.I.	M.I.	L.I.	H.I.	M.I.	L.I.
PAP high level	14	86	4	82	14	1	10	89
PAP mid level	9	91	5	87	8	-	22	78
PAP low level	37	63	28	53	19	32	41	27

PAP – personal adaptation potential

H.I.- high level; M.I. – mid level; L.I.- low level

Given data make it possible to find out essential differences in individual psychological peculiarities of students with low adaptation level. They occur more often than those with mid or high adaptation levels characterized by the character accentuation (37%), high and low anxiety levels (47%) and high rigidity markers (32%). Students with high adaptation level are distinguished by mostly mid anxiety level (82%), low rigidity (89%) and absence of character accentuation (86%).

It's worth mentioning that the students who possess character accentuation are found in all three groups, but the differences between the groups are essential and concern not only diversity rate. In low adaptation level group such accentuation types are pointed out as emotive, anxious, pedantic, and demonstrative. The students of this group are likely to vividly display vulnerability, undue fatigability, intolerance to opposition, irritability in uncertain situations, increased conformism, and sensitiveness to failures.

Students with mid and high adaptation levels are mostly characterized by moderately marked hyperthymic, excited, and exalted character accentuation types. It affirms easy attitude towards life problems, initiativeness, and aptitude to judge maximalistically.

S. Hobbfol's SACS survey results for ATC students – strategies and models of coping behaviour – were analyzed to define the type of connection between personal adaptation potential and high-risk ATC students' behavioural strategy. The findings of some coping strategies are shown in Table 3.

Table 3

Markers of different adaptation level ATC students' coping behaviour strategies (in %)

Dominating Coping-strategies	Adaptability Level		
	PAP low level	PAP mid level	PAP high level
Assertive actions	2	15	69
Social contact entry	4	34	53
Social support search	11	21	32
Cautious actions	38	29	24
Impulsive actions	12	10	14
Evasion	34	12	3
Manipulation	42	36	38
Asocial actions	3	-	-
Aggressive actions	17	26	15

PAP – personal adaptation potential

The findings prove essential discrepancy in dominating coping-strategies of students with high and low personal adaptation potential markers. In highly adaptive group of students assertive behaviour (confident), social contact, and social support search prevail. So, their behaviour models are characterized by activity, prosociality, and flexibility. Low adaptive students are characterized by passive coping-strategies, they are: cautious actions, evasion, and manipulation. It's worth mentioning that some tendencies are common to all three groups of students, especially quite high markers of manipulation strategy and aggression use. Such results, to my mind, reflect the existence of negative setting at the problem solution in modern society. At the same time, there is almost full absence of asocial actions of students under high-risk conditions, indicating positive tendencies which prove high markers of moral and ethic component in the structure of ATC students' personal adaptability.

Conclusions

So, the main conclusions based on benchmark survey outcomes are as follows.

Personal adaptation potential in the given conditions is greatly dependent upon an assemblage of interconnected individual psychophysiological, psychological and sociopsychological characteristics with high prognostic value as to his/her professional aptitude. Personal adaptation potential is defined by the parameters of neural-psychic firmness and behavioural regulation, communicative competence and moral and ethic standardization.

The majority of ATC students are proved to have high and mid personal adaptability index. So, by this criterion they meet the requirements of the chosen profession. Students' highest adaptation level was gained by such markers as behavioural regulation and moral and ethic standardization. ATC students' communicative potential marker appeared to be quite low, so they are very likely to have some teamwork problems.

Connections between personal adaptation potential level and some characterological, emotional and behavioural peculiarities of ATC students are established. People with high adaptation level are characterized by mid level anxiety, high behavioural flexibility, absence of character accentuation among the majority of students and domination of active prosocial coping-strategies.

Students under study with insufficient adaptation level have mostly high and low level anxiety, behavioural rigidity, emotive, anxious, pedantic, and demonstrative type of character accentuations, domination of destructive coping-strategies. Consequently, the above-mentioned characterological, emotional and behavioural peculiarities can be viewed as parameters of negative influence on ATC students' personal adaptability.

Established interconnections between ATC students' adaptation potential and their individual psychological characteristics should be taken into account at the creation of new and the improvement of existing ATC specialists' professional training programmes, especially the development of their personal qualities which will provide a basis for the increase of their abilities to adapt.

References

1. Маклаков А.Г. Личностный адаптационный потенциал: его мобилизация и прогнозирование в экстремальных условиях // Психологический журнал, 2001. – Т.22. – №1. – с.16-24.
2. Мельникова Н.Н. Классификация стратегий адаптивного поведения // Теоретическая, экспериментальная и практическая психология: Сб. науч. трудов/ Под ред. Н.А. Батурина. – Челябинск: Изд-во ЮУрГУ, 2001. – Т. 3. – С. 13–23.
3. Смирнов Б.А., Долгополова Е.В. Психология деятельности в экстремальных ситуациях. — Харьков: «Гуманитарный центр», 2008. — 292 с.
4. Secheyko O.V. Psychological component in the professional section of ATM specialists // Proceedings the fourth world congress «Aviation in the 21st century «Safety in Aviation and Space Technologies», vol.2, P.71.34-71.37.