Psychological determinacy of communication styles of aviation industry students

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Abstract. The article presents the results of a theoretical and empirical study of the problem of style peculiarities of the human life activities, namely the styles of communication of student youth aviation industry as a specific form of human activity, the essence of which is the interaction of partners, subject-subject relations. The style of life activities is considered as a way of existence of a person characterized by originality; it covers the entire system of human being, its internal and external manifestations, and provides activity of a certainty in the characterization and predictability of behavior in a wide range of situations. The authors proceed from the assumption that enhancement of the subject's life activity requires taking into account the existing and expanding (or forming), in the given direction, style peculiarities of the activity in mutual connection to its personal qualities. The article reflects the basic theoretical foundations of the conducted research and the empirical data obtained on students' communication styles and their connection with the mental qualities of the personality. It is revealed that modern student youth is characterized by use in communication of a wide range of means, among which, according to various classifications, prevail styles such as: altruistic, cooperative, collegial, liberal, dialogical, compromise, which in their content indicate the orientation of the subject on partner, cooperation with him, finding a common solution, mutual respect, etc., demonstrating the ability to communicate. The data obtained also indicate the need for students to expand the arsenal of communication tools and use the ir capsule abilities in a variety of conditions and requirements of life activities. The study proved that there is a mutual connection between the communication styles with the mental (personality) qualities of students: personality qualities may lead to an inclination for a particular style of communication, and vice versa. The same testifies the possibility of their formation of certain styles on the basis of development (or creation) of corresponding personality qualities; extension of the same style peculiarities of interaction, the use by a person of specific styles in life will promote the development of personality's associated with this mental formations.

1. Introduction
A special subject of study of psychology are the forms of human activity (work activities, communication, behavior), which ensure its life activity. It is in them that the mental is generated, manifested, formed. It is in them that the formation of the personality, which regulates both the mental and its life activity, provides the highest level of adaptation to the current conditions of the natural and social environment. For the characterization of human behavior, its predictability in a wide range of situations, the formation of style peculiarities of life activities is of great importance. These features
provide both effective adaptation of the person to the conditions of the external and internal environment, and increase of the efficiency of its activities and communication. There is also a possibility of purposeful formation (Bandura 1982, 122-147; Khokhlina 2012, 2013, 2018; Zhang 2020, 150-152, etc.). The latter implies knowledge about the style peculiarities of the activity of subjects of a certain category, in particular, about communication styles of student youth and about the presence and nature of their connection with psychological qualities.

**Goal** - the theoretical study results coverage of the content of the psychological problem of style peculiarities of human life activities and empirical study of dominant communication styles and their connection with students' mental qualities.

**The hypothesis** of the empirical phase of the study is that the communication of modern youth is characterized by style peculiarities that are related to certain mental qualities of the subjects.

Theoretical foundations of the style peculiarities of the human life activities have been defined on the basis of the analysis of works of famous scientists as domestic (Didenko 2017, Ivanova 2015, Kozlova, Petrova 2018, Smirnov 2010, Tolochev 2013, Khokhlina 2012, 2013, 2019), foreign (Mauer 1982, Merlin 1982, Royce, Powell 1983, Zhang, Wang, Huang, Chan 2020) and others. We proceeded from the fact that the style peculiarities of the human life activities, as sustainable ways of its implementation, are formed at a certain stage of ontogenetic development as a result of interaction with objects of the surrounding world in the process of implementing various forms of activity. The style of life activities is a way of person's existing, which is characterized by originality; it covers the whole system of human being, its internal and external manifestations.

The style peculiarities of human life activities arise in the process of personality growth, its individualization. Formation of a person as a personality occurs first of all under social conditions, under conditions of its socialization - assimilation of social experience, in the process of which it transforms social experience into its own values and orientations, selectively integrates into its system of behavior those norms and patterns adopted in society (Lych 2019, Khokhlina 2019). But the acquisition by a person of relative independence, the formation of their own unique way of life and their own inner world, self-development based on the formation of self-awareness; integrity, arbitrariness, controllability of own mental functions (Bipp, Steinmayr, Spinath 2012) adequacy of activity, communication, behavior, appearance of style peculiarities of their realization are achievements of the process of individualization.

Individualization is characterized by the fact that the formation of personality begins to be ensured by self-determination, that is, the personality itself begins to organize, regulate personal life, own development. And only as a result of this personality can be regarded as a self-regulating systemic formation, consisting of socially significant mental qualities, which ensure the selectivity of relationships and regulation of human behavior as a behavior of subject of activity, including for themselves, their development (Khokhlina 2019). It is at this stage of personality growth that we can fully speak of the development of individuality, which indicates the individual uniqueness of the person, the psychophysical integrity of a person as an individual and personality, which covers different levels of organization - from biochemical to social and psychological.

Thus, the individuality represents the unique individual and personality qualities that are fused together and which create what is unique in the person. Individuality is an integrative uniqueness of a person; a product of the fusion of social and biological in the individual development of person.

The most basic prerequisites of becoming of person's style peculiarities of life activities, in the context of individuality becoming, are considered biological and social. The natural prerequisite for development are biological, individual qualities of a person - first of all, the formation of the brain (the neurobiological readiness required by different brain structures and the whole brain in general as a system), analyzers, health status, and skills. The natural prerequisite of mental development in a person causes the emergence of its peculiarities, ways and means; level and height of achievement. Thus, the biological basis of development is a certain basis for its individualization. But the leading conditions of mental development are the social conditions of growth of a person: family and close people, communication from micro to macro level, purposeful process of education and upbringing of
the child. It is in social conditions that the style peculiarities of human life activities become full of characteristics (Khokhlina 2019).

Theoretical research has shown that the classification of styles of life activities is carried out first of all in terms of attribution to types of activities—work activity (Lyashko 2013, Pomytkina 2017, Khokhlina 2013) and communication (Lych 2019, Tolochek 2013), which are differently biologically or socially determined. Thus, the styles of activities are more biological, and the styles of communication - social conditionality.

The problem of the style of activities (individual style of activity) in psychology is considered in the context of the problem of adaptation of a person with the natural, especially temperamental, peculiarities to activity. One of the ways of such adaptation is the formation of a person's individual style of activity.

Individual style of activity (ISA), based on the work of scientists, is defined as a system of characteristic features of human activity, due to the characteristics of personality, and above all typological. A feature of ISA is its dependence on the individual's natural data, that is, features of the nervous system. In a narrower sense, ISA is seen as a stable system of ways of activity that ensures its best performance by a person and characterizes it in typical conditions (Zhang, Wang, Huang, Chan 2020). In other words, ISA is an individually peculiar system of psychological means that a person consciously or spontaneously resorts to in order to best balance of his or her typologically conditioned individuality with subjective, external conditions of activity (Lyashko, Khokhlina 2013).

It is important to note that ISA is viewed in the context of its positive importance for the effective performance of its activities; a style that adversely affects performance (quality, speed, productivity, psycho-physical efforts) is a pseudostyle that needs elimination. Formation of ISA in human is based on mechanisms of compensation and correction. The essence of using the compensation mechanism is that with help of ISA, the person eliminates the "weak" sides of the development and activity, and maximizes the use of the positive sides; thus, the activity is performed in a "convenient" way, and the person feels a state of comfort.

Studies have shown that ISA is subject to correction and formation. Thus, for ISA, the formation should focus on cultivating those features that contribute to the success of the activity. They include features that were initially such, and those that have been formed by a person's awareness of their benefits. These are also the features that initially hindered the success of the activity, but in the process of awareness were corrected and turned into favorable ones (Smirnov 2010, 63-65). The results of our study prove that the conditions for the formation of ISA are:

1) step by step formation - mastering the standard mode of activity based on the formation of automatisms by solving problems in the standard way and solving problems in rigidly regulated ways ⇒ gaining experience to independently choose a method of activity ⇒ awareness of the benefits of the standard method of activity in terms of time spent and psycho-physiological efforts;

2) control over the performance of activities in various ways to eliminate irrational (pseudostyle);

3) formation of a positive attitude to the activity under the conditions of: a) its effectiveness, b) neutralization of suggestive assessments of their own characteristics, c) formation of confidence in their abilities, d) demonstration of advantages and disadvantages in work, e) creation of a favorable emotional background in the critical analysis of activity etc. But when it comes to correction of ISA, it does not mean that all people with different temperaments are imposed the same ways of doing activities. It is about eliminating the extremes that have a negative impact on the activity, the formation of ways of performing actions within the optimum limits (according to the Gauss curve), which provide effective activity: in some cases, the peculiarities of the activity are limited, in others - "tightened" to a certain level, diversified (Khokhlina 2013).

Considering the conditionality of a person's style peculiarities by a social factor, being related to such a form of activity as communication, there is information about the style of communication (individual style of communication) (Panchenko, Reznik, Schulga 2008). It is noted that communication style is considered as a kind of activity style, while maintaining its main characteristics. But researchers believe that it should be considered as an independent phenomenon
that has its own specificity, in comparison to styles of activity; that it is a complex multilevel system of various elements of communication activity, which is determined by all levels of individuality. Scientists define the style of communication as a coherent system of operations through which interpersonal relationships are created. It is important to distinguish between styles related to interpersonal communication and role (professional) communication (Gorbenko 2012).

Literary sources also address the issue of determining stylistic features of communication. Thus, despite recognizing the connection of communication styles with all levels of individuality, from biological to socio-psychological, it should be noted that research in this area has focused mainly on the study of such determinants as value-meaning relationships of personality (Bandura 1982; Royce, Powell 1983; Panchenko, Reznik, Shulga 2008, etc.) and self-assembly of personality (Mosak, Shulman 2015, Khokhliina 2019, etc.).

The connection of communication styles with other mental qualities of a person is still in sufficient study. The issue of the style peculiarities of communication of student youth remains insufficiently studied as well. This has identified the need for a series of specially organized empirical studies, the results of which are summarized and presented below.

At the empirical stage of the research conducted under our guidance, various styles of communication of students National aviation University and their psychological qualities (both systematically, according to the structural components of personality and partially) were subject to study. The research work covered 283 full-time students transport technologies (by air) studying and aircraft maintenance. It should be noted that the study examined the styles of interpersonal communication of students, which can be specified in the context of the need to solve various tasks; communication was considered as a special form of human activity, which has subject-subjective nature, and its essence is the interaction of partners.

2. Methods
To study the style peculiarities of communication, we used a method of testing using standardized psychological methodologies: "Diagnostics of interpersonal relationships" (Liri), "Determination of style of interpersonal interaction" (Maksymov, Lobeiko), "Orientation of personality in communication" (Bratchenko), "Determining the style of behavior in a conflict situation" (Tomás), "Tendency to a certain style of leadership" (Ilin), "Diagnostics of communicative setting" (Boiko), "Diagnostics of psychological protection strategies in communication" (Boiko), "Method of studying the temperament" (Aizenk), "Temperament structure test questionnaire" (Streliau), "Determination of the prevailing type of temperament" (Ivashkin), "Diagnostics of types of accentuation of character traits and temperament" (Shmishek), "Diagnostics of personality orientation" (Bass), "Attitude to self" (Stolin, Panteliev), "Motivation of educational activity" (Aleksieieva), "Diagnostics of motivational structure of personality" (Milman), "Test of meaningful life orientations" (Leontiev) and others.

Procedures for qualitative and quantitative analysis were used to process the empirical data. To identify the presence and nature of the relationship between the studied phenomena, the manifestation of which cannot be expressed in numerical equivalent, a nominal alternative scale was used - data comparison tables were constructed in which the level of communication between the studied phenomena was measured by % of coincidence of the manifestations of the phenomena in accordance with the values of \( \rho \) (Spearman's rank correlation coefficient). Coefficients of Chuprov K and Pearson C of interconnections were also used.

3. Results
The obtained data on communication styles of students are presented in Table 1. In order to enable the comparison of data obtained by different methods, their comparative analysis and generalization, in the table they are given in relative values - %.

The tabulated data make it possible to construct a hierarchy of communication styles of the subjects identified by each of the methods that formed the basis of the analysis.
The results obtained generally indicate that modern student youth, while solving problems in various communication situations, are characterized by a rather wide range of style features. At the same time, as the data show, the dominant styles used by the subjects stand out among the other styles; some are used slightly, or may be absent in the subject's arsenal.

Thus, as a result of a survey of students by the methodic of "Diagnostics of interpersonal relationships" (Liri) revealed that they prefer to use mostly altruistic and collaborative (friendly) styles (23% and 20% respectively). Among them were authoritarian (16%) and humble-shy (14%). Other styles (addictive, aggressive, selfish, and suspicious) accounted for a small proportion of those studied (from 8 to 6%).

Studying styles of interpersonal interaction (according to the Maximov, Lobeiko methodic) showed a predominance of collegial (36%) and liberal (34%) styles, while business (16%) and directive (14%) styles were less used.

| №  | Method                                         | №  | Communication styles | %   |
|----|------------------------------------------------|----|----------------------|-----|
| 1  | Diagnostics of interpersonal relationships (Liri) | 1  | Authoritarian        | 16  |
|    |                                               | 2  | Independent-dominant (selfish) | 6   |
|    |                                               | 3  | Aggressive           | 7   |
|    |                                               | 4  | Incredulously skeptical (suspicious) | 6   |
|    |                                               | 5  | Humble-shy           | 14  |
|    |                                               | 6  | Dependent            | 8   |
|    |                                               | 7  | Collaborative (friendly) | 20  |
|    |                                               | 8  | Altruistic           | 23  |
| 2  | Definition of style of interpersonal interaction (Maximov, Lyubchenko) | 1  | Collegial           | 36  |
|    |                                               | 2  | Directive            | 14  |
|    |                                               | 3  | Liberal              | 34  |
|    |                                               | 4  | Business             | 16  |
| 3  | Personality orientation in communication (Bratchenko) | 1  | Dialogic           | 40  |
|    |                                               | 2  | Authoritarian        | 36  |
|    |                                               | 3  | Manipulative         | 4   |
|    |                                               | 4  | Comfortable          | 4   |
|    |                                               | 5  | Alterocentric        | 8   |
|    |                                               | 6  | Indifferent          | 8   |
| 4  | Definition of conflict behavior style (Thomas) | 1  | Rivalry             | 29  |
|    |                                               | 2  | Cooperation          | 16  |
|    |                                               | 3  | Compromise           | 21  |
|    |                                               | 4  | Avoidance            | 18  |
|    |                                               | 5  | Adaptation           | 16  |
| 5  | Tendency to a certain style of leadership (Ilyin) | 1  | Authoritarian        | 12.8|
|    |                                               | 2  | Democratic           | 21.3|
|    |                                               | 3  | Liberal              | 0   |
|    |                                               | 4  | Authoritarian-democratic | 46.8|
|    |                                               | 5  | Liberal Democratic   | 0   |
|    |                                               | 6  | Mixed                | 19.1|

Table 1. Distribution of communication styles among students.

The application of the method "Personality orientation in communication" (Bratchenko) showed dominance in the hierarchy of communication styles of students of dialogical (40%) and authoritarian (36%). The same styles, as indifferent, alterocentric, manipulative, comfortable, are represented in it to a small extent (from 8 to 4%).

Determining the style of behavior in a conflict situation by the method of Thomas showed, in comparison with the above data, the lack of distinctive dominance among students of one styles over the other. Thus, in choosing styles of communication by students in conflict situations slightly
prevalent are styles such as rivalry (29%) and compromise (21%). Other styles (avoidance, collaboration, adaptation) are almost evenly represented in the other subjects (18-16%).

The study of students' propensity for a particular style of leadership (by method of Ilyin) revealed that almost half of them were predisposed to an authoritarian-democratic style (46.8%); whereas only 21.3% and 12.8% of students prefer "pure" styles, namely democratic and authoritarian; they have no tendency to use liberal style.

In order to clarify the presence and nature of communication styles of students with their mental qualities, which were hypothetically considered as possible determinants of style peculiarities of communication, the subjects studied self-esteem, personality orientation, its motivational sphere, vital values, level of academic success, accentuation of character, temperamental features. Most of these phenomena were selected according to the structure of personality by Kovalev, to which he refers self-consciousness, personality orientation, abilities, character, temperament.

Students' data on communication styles and data obtained on their mental qualities were subject to correlation analysis. We present the most significant results of comparing data on communication styles and mental qualities of students.

The results of the correlation analysis showed that there is a connection with certain communication styles and mental qualities:

1) With temperamental qualities:
   - (by the Strelyau method) the presence of high and expressive levels of connection of students' temperamental characteristics, namely their types of higher nervous activity (HNA), with all communication styles except incredulously-skeptical, humble-shy and dependent (according to Leary method). These data suggest that individuals with a strong nervous system may use different ways of interacting in different communication situations; in the adaptive capabilities such features of their nervous system are manifested;
   - having a high level of connection of nervous system mobility with humble-shy and dependent communication styles. There is no clear connection between other features of the nervous system and communication styles;
   - (By Eysenck's method) the presence of expressive level of connection between the choleric temperament type with authoritarian and mixed leadership styles, the phlegmatic type of temperament with the mixed style (by Ilyin's method);
   - expressive level of connection between both extraversion and introversion with such psychological protection strategies in communication as peacefulness and avoidance (by Boyko's method).

2) With self-awareness (according to the method of "Attitude to self" (Stolin, Panteleyev):
   - having a high level of connection of integral positive attitude to self with all styles of communication (according to Liri method).

3) With personality orientation:
   - (according to the method of "Diagnostics of personality orientation" (Bass) the presence of a high or expressive level of communication with the focus on oneself with all styles; a clear level of communication with the focus on others and authoritarian style (by the method of Ilyin);
   - (according to the method of the "Test of Meaningful Orientations" (Leontiev) the presence of a high level of correlation of the value of kindness with the style of avoidance; the value of security with the style of cooperation (according to the method of Thomas);
   - (according to the method "Diagnostics of the motivational structure of personality" (Millman),the presence of high level of connection of motivational tendency "social status" with a directive style; expressive level of connection of motivational tendency "social usefulness" with collegial style; motivational tendency "creative activity" with business style and non-interference (according to the Maximov, Lobeika method); the presence of a clear level of connection of motivational tendency "social utility" with style of avoidance; "creative activity" - with styles of rivalry and compromise (by the method of Thomas);
- (according to the method of "Motivation of educational activity" (Alexeieva), the presence of high or expressive level of connection of utilitarian motives with all styles of communication, except suspicious; motives of social prestige with all styles of communication, except aggressive and suspicious; social motives with authoritarian, selfish, aggressive styles; scientific-cognitive and professional-practical motives with authoritarian, selfish, aggressive, friendly styles; high level of communication of the motive of fear of punishments with suspicious communication style; expressive level of connection of self-education motives with authoritarian, dependent, friendly, altruistic communication styles; communicative motives - with dependent, friendly, altruistic communication styles (Liri method).

4) With abilities:
- (by the method of studying the documentation - educational achievements): the presence of expressive connection of high level of academic achievements with an aggressive style of communication; high and expressive connection of medium-level communication with all styles except suspicious and altruistic (Liri method).

5) With character:
- (by the method of "Diagnostics of types of accentuation of character traits and temperament by Leonhard" (Shmishek): the presence of high and expressive level of connection of hypertensive accentuation with most styles except selfish, suspicious and submissive; exalted accentuation with suspicious and humble and aggressive styles; cyclothy - with selfish and humble style; expressive connection of emotional accentuation - with a dependent style of communication (according to Liri method).

Thus, as a result of the empirical study, data were obtained regarding the style peculiarities of communication of modern student youth. They show that there is a very diverse range of communication styles in the student arsenal that ensures effective interaction and relevance to the various situations and tasks facing partners.

At the same time, students' communication tools revealed the presence of priority, dominant styles. They became altruistic, collaborative (according to Liri); collegial, liberal (by Maximov and Lobeiko); dialogical (by Bratchenko); compromise (by Thomas). In addition, students prefer to use such styles as authoritarian (by Bratchenko) and rivalry (by Thomas), as well as authoritarian-democratic (by Ilyin).

Based on the content of the dominant styles identified, we can think that communication of modern students is characterized mainly by the orientation of partners, mutual respect, trust, cooperation, joint search for a solution that would satisfy the interests of both parties in the interaction. They try to be flexible, kind, "to be good", whatever the circumstances. In this case, the subject of communication can take responsibility for the case, yielding their interests, assisting the partner, giving the opportunity to make decisions to the partner. It should be noted that such results of students' priorities in the choice of style peculiarities of communication reflected the nature of professional training of future specialists in the field of psychology and law, who will work in the system "person-person".

The formation of such features of life activities is directed by the modern higher education system, which involves the formation of social skills (soft-skills) for students, in particular the application of knowledge of psychology in practical activity, the ability to communicate, coordinate their actions with others, etc. Despite the identified priorities, presented others, contrary to their content, communication styles of students - authoritarian, rivalry, which are aimed primarily at satisfying their own interests, neglecting the interests of partners, showing disrespect for them, for their opinion, their proposals, open struggle for their interests.

Studying the mental qualities of students belonging to different components of personality, in connection with the style peculiarities of communication allowed us to obtain data on their interdependence of varying degrees and nature: qualities of self-consciousness, personality orientation, abilities, character, temperament have a different level of connection with particular communication styles. It is revealed that the more the psychic quality in its formation is socially conditioned, the greater the range of possible styles of communication it defines, and vice versa.
4. Discussion
Thus, the data obtained confirm the theoretical statement that the style of activity is determined to a greater extent by biological factors and the style of communication by social. According to the results of the study, an expressive differentiation of certain styles of communication according to the features of the nervous system is not observed, in contrast to the clear differentiation of the temperamental qualities of the individual style of activity - preparatory or executive. The data obtained indicate that the subject has a possibility of forming or expanding a range of communication styles in the process of specially organized social influences in comparison with the formation and correction of individual style of activity.

5. Conclusions
As a result of the research, it is empirically proven that modern student youth technical university is characterized by the use in their communication of a wide range of tools that make it possible to achieve effective interaction and its relevance to various situations and tasks facing partners. At the same time, they are dominated by such styles as: altruistic, cooperative, collegial, liberal, dialogical, compromises, which in their content are aimed at another person, cooperation with him or her, finding a common solution, mutual respect, etc., which indicates ability to communicate.

The data obtained are the basis for building a psychological (personality) profile of communication styles and determining the directions of increasing its effectiveness among students.

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