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Interrelationships of Characteristics of Perception and Interpretation of Paintings with Specific Traits of Personality Life-Meaning Sphere

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Abstract

Our research aimed to identify interrelationships between characteristics of personality life-meaning sphere and individual specificity of the perception and interpretation of works of fine art. To assess the latter, the "Strategies for free descriptions of pictures" technique was used, developed by Leontyev and Belonogova (Belonogova in Dissertation. Ph.D. psychol. Sciences: 19.00.01, 2003). To assess parameters of the life-meaning sphere we used the Meaning of Life Orientations (ML) test, a Russian adaptation of the PIL test, (Leontyev in Test of life-meaning orientations (SZhO), 1992), and the Existence Scale (Längle et al., in *European Psychotherapy*, 4(1), 135–151, 2003; Mainina in Orgler to a Russian-speaking sample: thesis, 2007, Adaptation of the Existence Scale by A. Langle, K. Orgler to a Russian-speaking sample: thesis). Results of the study revealed statistically significant correlations between a number of indicators of the personality life-meaning sphere and two of the ten assessed strategies for free descriptions of pictures. The results obtained suggest two trends in the way how a work of art is perceived, related to the state of the life-meaning sphere of personality. A "problematic" state of the life-meaning sphere, correlated with the associative strategy for free descriptions, manifests in using the observed picture as a steppingstone, pushing off from which a person dwells on issues relevant to his/her life situation and world view, so that the painting is just a tool for pushing off to surf the unbounded. In the other case, which manifests in close correlations of the indicators of the Existence Scale to the Stylistic description strategy, the subject focuses on the picture, its place, and specific meaning in culture, following cultural norms and traditions, not associations generated by his subjective experience.

Subsequently, using the cluster analysis method, we identified groups of subjects similar in the general pattern of characteristics of the life-meaning sphere of personality and analyzed the specificity of interpretations of works of art by representatives of each of the six clusters, considering their descriptions of paintings through the lens of the general pattern of characteristics of the life-meaning sphere of personality, revealed by cluster analysis.

Keywords Perception of paintings · Interpretation of paintings · Free descriptions of pictures · Life-meaning sphere · Existential fulfillment · Purpose in life

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It has been repeatedly noted in the literature that perception, comprehension, and interpretation of works of fine art like paintings are mediated, conditioned, and even ruled by personality traits (Bundgaard, 2015; Furnham & Chamorro-Premuzic, 2004; Kopatich et al., 2023; Pourhosein et al, 2017; Swami & Furnham, 2014). Art perception is of particular interest for cultural psychology, because paintings, like other forms and genres related to fine art, are created with the main if not the only purpose—to serve as a sign, representing an interpretation of an object by the artist, which is created in order to initiate the process of meaning making in the observer. In a certain sense, looking at a painting is an instrument for semiosis used by the observer for personality self-construction: "the active Subject creates one's Self through semiotic mediation which allows one to *present* the self-observation to oneself" (Valsiner, 2021, p. 294). Thus, the very choice of paintings we stop to look at, and the way we perceive and interpret them are determined by the personality, and in turn, through the contact with art, personality changes.

The field of psychology of art is boundless, and we are not proposing any definition of Art in this paper, neither we attempt to any generalizations on such a scale. Not dwelling on the essence of Art and its boundless aspects, within the framework of this paper we limit the subject area to interrelationships between personality traits measured by standardized questionnaires, and characteristics of perception and interpretation of works of visual art.

Research into the interrelationships between personality traits and art perception has a long history, experimental studies beginning not later than in 1930es (Burt, 1933). Most of this research focused on visual art, so that in the course of experimental procedures subjects looked at paintings (see for review (Furnham & Chamorro-Premuzic, 2004; Swami & Furnham, 2014, 2020)). Since then, there have been differences in the aspects of psychological processes evoked by art and related to that, which were investigated. Mainly the researchers focused on aesthetic preferences and artistic judgment, which is considered a measure of ability and thus related to intelligence and also to knowledge and competencies (see for review (Furnham & Chamorro-Premuzic, 2004; Swami & Furnham, 2014, 2020)). The latter ability was not addressed in our study. We were interested in the way how paintings are used by the observer as an instrument for semiosis, for constructive activity on the one's own life-meaning sphere, thus, for self-regulation and self-construction. More closely related is apparently the aesthetic preference. A large number of personality traits have been linked to aesthetic preference (see reviews Furnham & Chamorro-Premuzic, 2004; Swami & Furnham, 2014, 2020). However, most studies of the links between personality traits and characteristics of perception and interpretation of pictures address the Big Five personality traits, primarily Openness to Experience (Afhami & Mohammadi-Zarghan, 2018; Atari & Yaghoubirad, 2016; Chamorro-Premuzic & Furnham, 2004; Chamorro-Premuzic et al, 2009). We assume that the interrelationships of characteristics of perception and interpretation of paintings with the personality life-meaning sphere also exist and can be traced, which our study aimed to reveal.

Methods

In the course of Maria Kovalenko's Master project, we set out to obtain evidence of the presence of correlations between personality life-meaning orientations, assessed by traditional psychometric methods, and characteristics of the perception and interpretation of paintings.

For characteristics of life-meaning orientations, we used the Existence Scale (Existenzskala, EI) test by A. Langle and K. Orgler (Längle et al., 2003; Mainina, 2007) and the

Life-Meaning test (LM) by D.A. Leontiev, a Russian adaptation of the PIL test (Leontyev, 1992), developed on the basis of the Viktor Frankl's theory of the Search for meaning (Frankl, 1959). The LM test assesses the "source" of the meaning of life, which can be found either in the future (goals), or in the present (process), or in the past (result), as well as allows to assess the locus of control of the personality.

To obtain characteristics of perception and interpretation of paintings, we used the test "Strategies for free descriptions of pictures," developed by D.A. Leontiev, first proposed and used in Belonogova's Phd dissertation project (Belonogova, 2003), which Leontiev supervised. The "Strategies for free descriptions" test implies a set of paintings (20–25 pieces) presented to the subject one by one, online. The time for viewing each subject determines him/herself. He/she is allowed to go back to ones already watched. After viewing the pictures, without returning to viewing, the subject is asked to choose four of them and describe those in a free form. It is proposed to describe the pictures in written form, as if the subject was writing a letter to a friend—mentioning something whatever attracted his/her attention, what he/she liked or disliked, remembered, etc.—freely in form and content. In her dissertation, Belonogova (2003) identified ten free description strategies, which were used to classify descriptions of paintings according to criteria indicated in Table 1.

In the test of the "Strategies for free descriptions of pictures" the choice of paintings for description was not specified, since the authors of the methodology assumed that the strategies of descriptions do not depend on the material. Therefore, we were free in our choice and tried to include in the selection of paintings some most diverse in style, subject, and time of creation of works from among the paintings that are known as classical examples of fine art. Our selection included the following:

Auguste Renoir "Bain à la Grenouillère" (1869)
Caravaggio "The Fortune Teller" (1594)
Diego Velazquez "The Adoration of the Magi" (1619)

Table 1 Criteria to assign the free description strategies

Free description strategy	Criteria to assign
Wordly	Describes the painting as a piece of life reality, as a situation unfolding in time; talking about the experiences, thoughts, and feelings of the personages
Pictorial	Describes the painting from the position of the viewer, a canvas, a picture in a frame
Painter's	Words and judgments that indicate ideas about the painter's intention, state of mind, and life
Cultural	Words and judgments characterizing the picture in cultural context, mentioning other works of the same author or other painters
Impressive	Words and sentences describing how the picture affects the observer
Associative	Associations caused by the picture, reasoning on general issues, and other themes, not directly related to the painting
Emotional	Words and judgments that convey the sensations and feelings of the depicted scene; containing an emotional assessment of the depicted
Art criticism (Stylistic)	Words and judgments on the artistic techniques, analysis of the artistic style
Summarizing	A generalized description of the picture, interpreting the general meaning, the general idea of the work of art
Metaphoric	Using metaphors and symbolic comparisons in the description

Diego Velazquez "The Old Woman Frying Eggs" (1618)
Edgar Degas "Absinthe" (1876)
Edouard Manet "Bar at the Folies Bergère" (1882)
Edouard Manet "Olympia" (1863)
Edouard Manet "The Railway" (1873)
Eugene Delacroix "Women of Algiers" (1834)
Franz Hals "Gypsy Girl" (1628)
Frida Kahlo "Two Fridas" (1939)
Jan van Eyck "Madonna and Child" (The Virgin of Chancellor Rolin) (1778)
Mikhail Vrubel "Flight of Faust and Mephistopheles" (1886)
Mikhail Vrubel "Girl in front of a Persian carpet" (1886)
Mikhail Vrubel "Seated Demon" (1890)
Paul Gauguin "Where do we come from? Who are we? Where are we going?" (1897)
Pieter Bruegel (the elder) "The fall of the rebellious angels" (1562)
Pieter Bruegel (the elder) "The Peasant and the Destroyer of Nests" (1568)
Rembrandt "Portrait of an Old Man in Red" (1654)
Salvador Dali "The Dream" (1937)
Valentin Serov "Children" (1899)
Valentin Serov "Iphigenia in Tauris" (1893)

Psychometric analysis for the scales used is presented in the following articles: "Strategies for free descriptions of art" (Belonogova, 2003); Existence Scale (Längle et al., 2003; Mainina, 2007), the Life-Meaning test (Leontyev, 1992).

Forty-four people took part in our study, 21 aged 22–30 years; 23 aged 31–48 years; 31 females and 13 males. There were no statistically significant differences between age groups and between men and women for any one of the tested parameters. No other tests for the effects of age and gender were performed. We received 173 descriptions of paintings.

Each of the subjects arbitrarily chose 4 pictures from the 22 presented, wrote their descriptions, and was subsequently assigned with certain scores in relation to the 10 description strategies. For each description, the subject could be assigned to a number of strategies (actually, it turned out to be one or two strategies), by expert judgment. Four experts, psychologists with experience in text analysis, participated in the processing. In case of disagreement, the opinion of the majority was taken into account. There were no major differences in estimates.

Critical discourse analysis (Van Dijk, 2001) was also used to analyze the descriptions for further analysis.

Statistical methods of Pearson's pair correlation analysis and cluster analysis (IBM SPSS Statistics 23) were used.

Results

The choice of paintings by our subjects was significantly uneven. Some paintings were selected very often, among which Serov's "Children" (22 choices) and Vrubel's "Girl in front of a Persian Carpet" (19 choices) are in the lead, and some paintings were chosen by only one subject, such as "Where We Come From? Who are we? Where are we going?" by Paul Gauguin and "The Fortune Teller" by Caravaggio.
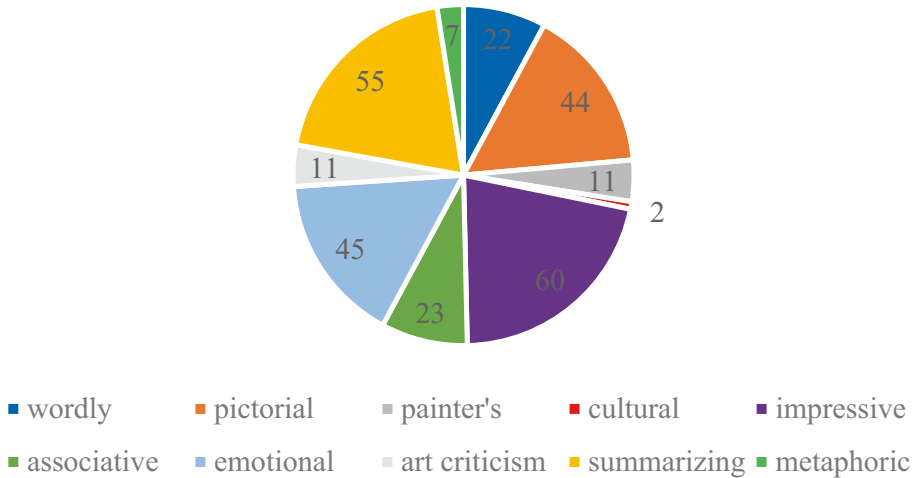
Free description strategies

Fig. 1 The distribution of the free description strategies in our sample

The results of the free descriptions test show that the occurrence of description strategies in our sample is significantly different. Among strategies, impressive, summarizing, emotional, and pictorial strategies dominate. Figure 1 shows the distribution of the types of strategies in our sample.

The results show that each subject uses a certain palette of interconnected strategies (Fig. 2). The frequencies of using the emotional and impressive strategies were statistically significantly associated, while each of these strategies was also statistically significantly associated by a negative correlation with the summarizing strategy. We interpreted these correlations as an indicator of the opposite tendencies either to the dominance of the affective component of the picture interpretation (emotional and impressive strategies) or the cognitive

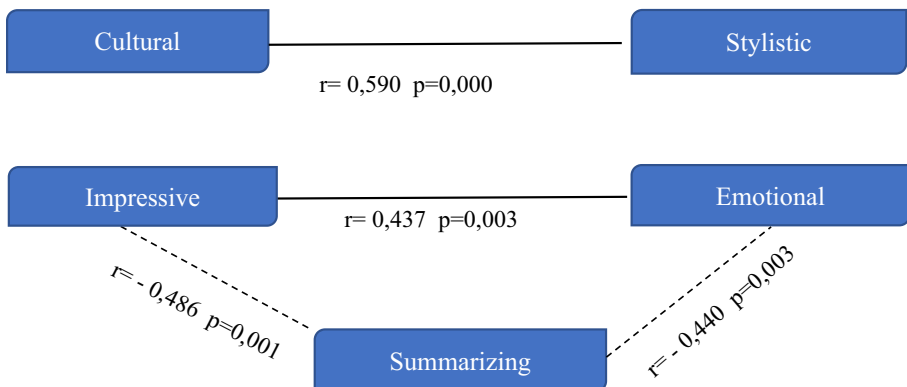**Fig. 2** Correlation constellation of the free description strategies

Table 2 Correlations of indicators of the tests of the life-meaning sphere and strategies of free descriptions

Strategies	Locus of control-life	SD (self-distance)	F (freedom)	V (responsibility)	E-factor (existentiality)	ES-total score
Associative	−.323*	.139	−.112	−.077	−.126	−.071
Stylistic	.295	.352*	.341*	.299*	.428**	.328*

Correlation significant *(*p < 0.05)*/correlation significant (**p < 0.01)

component (summarizing strategy). The cultural and Stylistic strategies are expectedly significantly correlated, since both require a certain cultural background of the subjects.

The results of the LM and ESK tests showed distribution close to the normal, the average values of the indicators of the scales dominate in the sample.

An important result of our study, as we believe, is that it revealed statistically significant correlations between the characteristics of the life-meaning sphere and tendencies to use certain strategies for free descriptions of paintings, despite the fact that we had serious doubts that such a fairly rigid apparatus as correlation analysis could show here a reliable result.

As an indicator of the tendency to use a particular strategy by the subject's, we used the share of this strategy (the percentage) in the total number of strategies assigned to the subject. This share could range from 0, if this strategy was not used at all, to 100%, if only this strategy was used. In our sample, there were actually indicators ranging from 0 to 50%. A correlation analysis of the scales of ESK and LM and the indicators of preference for one or another strategy by the subjects was carried out. Correlation analysis revealed a number of statistically significant correlations of associative and Stylistic strategies of the free strategies with the indicators of the Existence Scale and the indicator "Locus of control-life" of the test LM, presented in Table 2.

Thus, results revealed statistically significant correlations of the strategies for free descriptions of paintings which our subjects used with the psychometric indicators of the life-meaning sphere of personality. It should be marked that the use of associative strategy has negative correlations, albeit not statistically significant, with all other indicators of ESK and LM. This suggests that in general the use of this strategy indicates some problems in the life-meaning sphere.

The use of Stylistic strategy (words and judgments on the artistic techniques, analysis of the artistic style) positively correlates with the scales of the ESK: SD (self-distancing), namely the perception of the world's objects as they are (Längle et al., 2003); F (freedom)—he/she has to be aware of the choice and the consequences (ibid); scale V (responsibility) consists of carrying out the plans and decisions, which completes the existential act (ibid); E-factor (existentiality): the decision for something and its realization represent the classical existential field, hence the last two steps are combined in the E-factor (ibid). The ES is meant to assess the person's competence for existence (the degree of "existential" self-realization) and the latent construct of basic attitudes to life (ibid).

The next step in our research was to move from the analysis of links between individual strategies of free descriptions and individual parameters of the life-meaning sphere to the links between holistic patterns of characteristics of the life-meaning sphere and characteristics of paintings interpretation.

To do this, we divided our subjects into groups according to the similarity of the general pattern of characteristics of the life-meaning sphere identified by ESK and LM scales through cluster analysis and compare the strategies for free descriptions of painting in these resulting groups. The resulting dendrogram of clusters is shown below in Fig. 3.
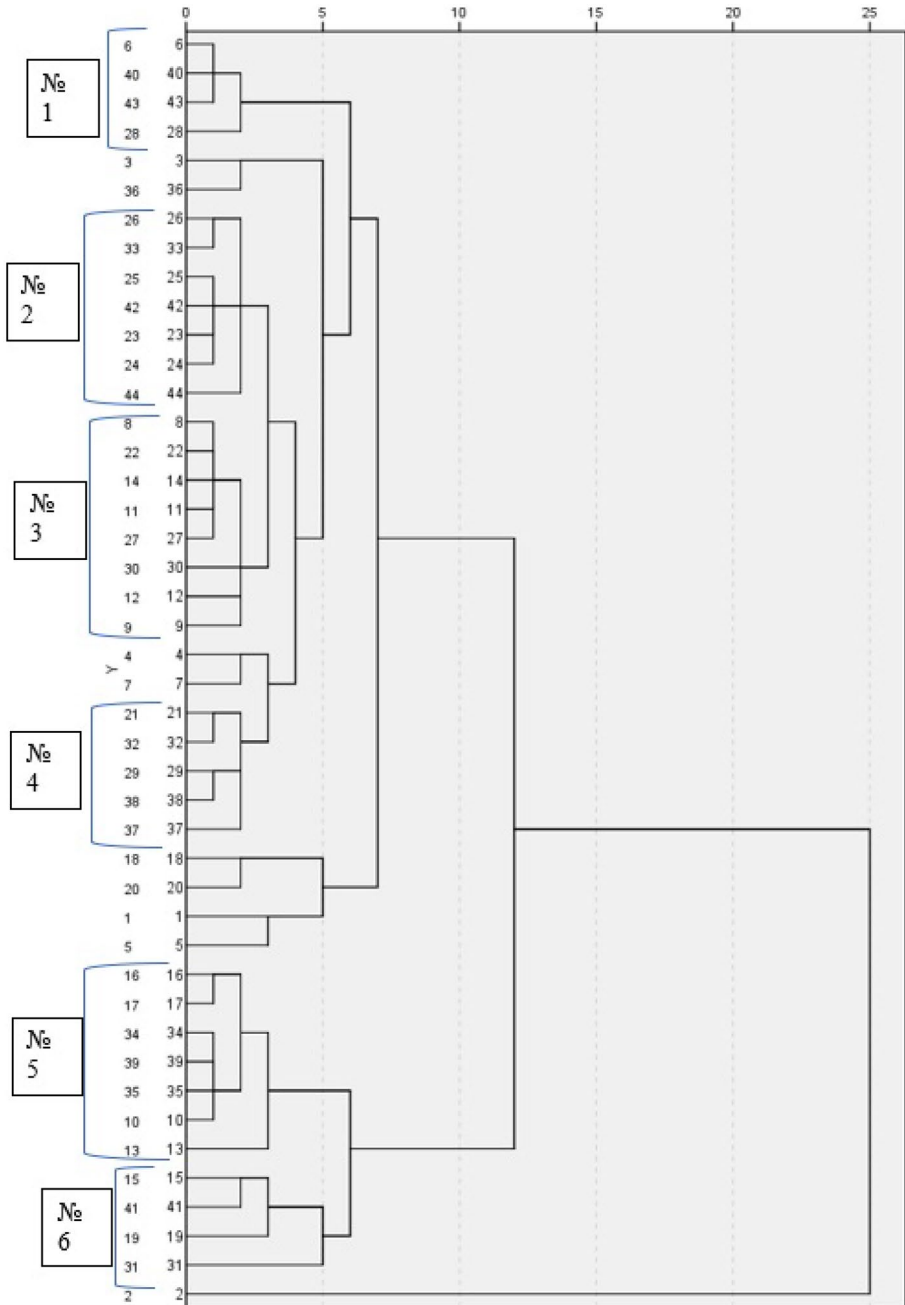
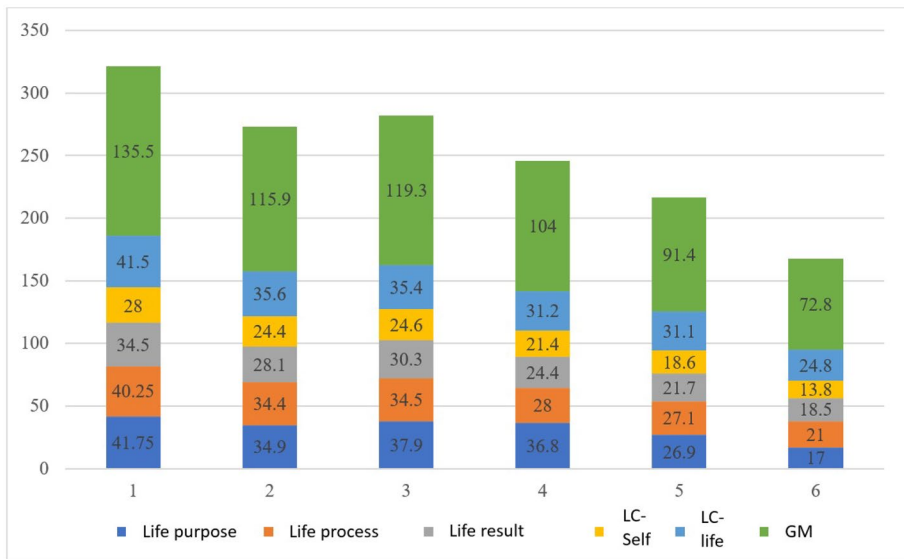**Fig. 3** Results of cluster analysis

Fig. 4 Average values of the scales of the LM test in clusters

Figure 4 presents a diagram of the average values of the scales of the LM for all clusters, Fig. 5—average values of the scales of the EKS.

One can see significant differences between the clusters according to LM scale. Particularly noteworthy is the clear difference from the other clusters of the clusters #1 and #6. The representatives of the cluster No. 1 have the highest indicators for all scales, while those of the cluster No. 6 are the lowest. At the same time, there are no significant differences between clusters according to EKS, including the lack of significant differences between clusters #1 and #6.

Figure 6 shows the percentage of choices of the strategies of descriptions for each cluster.

The diagram clearly shows the differences between the clusters, which manifest themselves both in the variety of free description strategies used and in the preferences of strategies of one type or another. Above, in the section of correlation analysis, statistically reliable data on correlations between the indicators of the characteristics of the life-meaning sphere and the strategies of free descriptions have already been presented. The results of cluster analysis allow us to assess some more trends that can be traced in the texts of the descriptions of paintings.

For illustrations, we will use, first of all, descriptions of the most frequently chosen pictures: "Children" by Serov[1] (Table 3) and "Girl against the background of the Persian carpet" by Vrubel[2] (Table 4) to demonstrate specificity of clusters in interpretations of the same material.

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[1] https://www.virtualrm.spb.ru/ru/node/4132

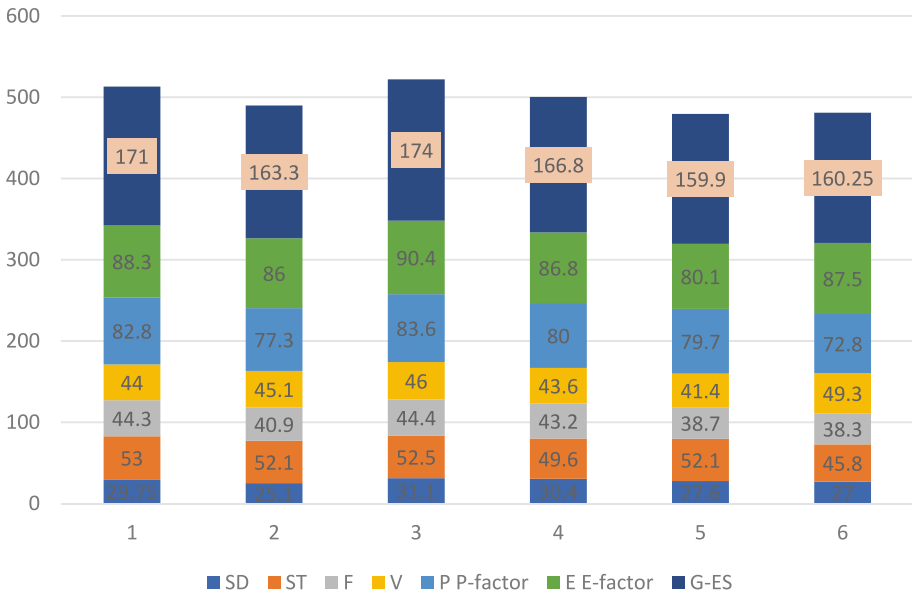[2] https://mirovoeiskusstvo.ru/?p=637

Fig. 5 Average values of the scales of the EKS in clusters

We would like to note that the two pictures are very different in relation to how they impressed our subjects. The picture "Children" seems to produce more or less kindred impression, the impression the other one produces, is dramatically diverse in emotion.

We focus on the analysis:

- Firstly, the differences in the strategies of free descriptions and the texts of free descriptions between the clusters that differ most in relation to the characteristics of life-meaning sphere (namely, between cluster #1 and cluster #6)
- Secondly, compare the characteristics of the life-meaning sphere of the clusters that are most different from each other in terms of the parameters of painting descriptions. As such, we consider a group that includes clusters #1 and #2, where the cognitive components of interpretations prevail, and cluster #3, where emotional assessments prevail.

Firstly, we were interested in tracing the differences in the descriptions of paintings between members of the clusters #1 and #6, which show the greatest differences in the general pattern of characteristics of the life-meaning sphere. The diagram on Fig. 6 clearly shows that there are differences between the clusters in the free description strategies used. Cluster #6 shows a greater diversity of strategies. The summarizing, impressive, and pictorial strategies that dominate in cluster #1 do not show that much here. In cluster #6, associative, metaphorical, and life strategies are added, which suggests a more complex pattern of experiencing and interpreting a work of art, perhaps more a tendency to reflection. Perhaps this was a result of the "problematic" character of the life-meaning sphere of the representatives of cluster #6 of all the clusters. While the scales of the life-meaning sphere of the representatives of cluster #1 speak of a general optimistic pulsebeat. The general indicator of "life-meaning" is high in this cluster, all the scales indicate that these respondents
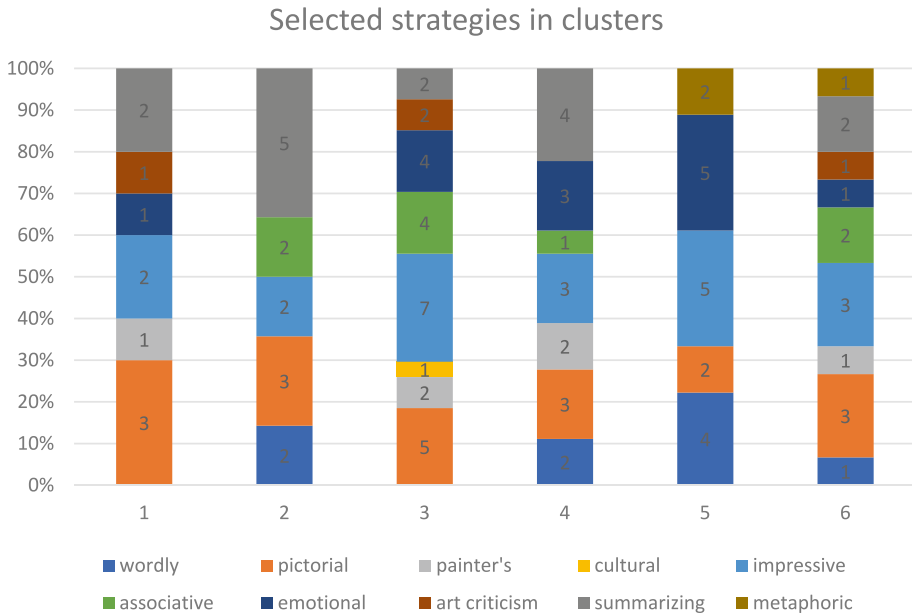
Selected strategies in clusters

Fig. 6 The choice of strategies for the clusters

set goals in their lives in the future, which give life meaningfulness, direction, and time perspective. Judging by the high scores on the "performance assessment of the segment of life passed" scale, the feeling of how productive and meaningful the lived part of life was, it was high. The presence of high scores on the scale "locus of control-life" also characterizes the participants by the belief that a person has control over his/her life, freely makes decisions, and implements them. At the same time, in relation to the "Existence Scale" test, representatives of this cluster do not have high scores. Basically, the indicators in the group are average. Noteworthy in this group are low scores on the self-transcendence scale and the personality-factor. All cluster members have an indicator below the threshold between low and medium. This combination of scales suggests that the subjects in this group, alongside with a general high meaningfulness of life, show a tendency to emotional flattening and scarcity in relations with the world and people. Life is poor in feelings, mostly businesslike and functional. We can conclude that in their relations with the world the cognitive component dominates over the affective one.

Such a combination of parameters of the life-meaning sphere, in our opinion, shows in the descriptions of the paintings. In this cluster, there is a frequent use of pictorial and summarizing strategies of descriptions, which can be seen in the descriptions of the paintings "Children" (Table 3) and "Girl against the backdrop of a Persian carpet" (Table 4).

In the descriptions of other paintings, which representatives of cluster #1 chose, the pictorial strategy often reveals in focusing on the details of the picture, noting the techniques and artistic means that the painter used: "The light, the haze, masterfully conveyed by the artist, the feeling of movement of the heroines enliven the image"; "The artist was able to convey the atmosphere of a summer sunset, a light sea breeze"; "Velasquez is known for his mastery of light and shadow, this work is an example of his skills"; "With great skill, the artist conveys the textures of fabrics, the draperies of clothes, the landscape in the

Table 3 Descriptions of the picture "Children" by Serov

Cluster #1

It's like going for a walk with your dad and enjoying watching the waves. It's good that they spend time together

The painting depicts boys, Serov's sons, watching the bay and ships on the summer terrace. The artist managed to sensitively convey the atmosphere of a summer sunset and a light sea breeze. The thoughtful, dreamy boys seemed to freeze for a second in front of the artist. Lightness and a sense of movement can be seen in their pose. The children's eyes, gaze, and expressions on their faces are delightfully depicted. The work is filled with the artist's love and tenderness

Cluster #2

The picture was painted by Valentin Serov. In the foreground are two boys looking into the distance on the seashore. One of them turned to face the viewer, he has a very piercing look in his large eyes. Both boys have brown hair, and their clothes are ocean colors (blue, white, black). In the distance we see a fairly calm sea and a bunch of thick clouds that cover the entire sky. It looks like it's going to rain soon, although there are some glimpses of sunshine here and there. This picture truly brought me aesthetic pleasure, its palette is very pleasing to the eye, you feel like a photographer taking pictures of local children on the seashore. The soul is calm, the freedom and power of the sea is felt

Cluster #3

The picture is full of light, it exudes lightness, calm and freshness, it evokes a feeling of carefree…

This painting has a special effect. It is light, "fresh," white and blue colors predominate. In the background you can see the sea, blue, which is very interesting to the eye. Two boys are standing, one is looking into the distance, and the other is looking at the artist,- right at you. And are you trying to read what these eyes are hiding: surprise, interest, sadness? This picture produces a pleasant impression,—you yourself imagine that freshness, as if you were there and inhaling the smell of the sea. Nostalgia…

It's cold, windy, the boys are at sea, either waiting for the boat that their father went after, or watching the movement of the sea, while the adults left them alone with nature. The image of the sea is harsh and cold, without beginning or end—Association with myself, loving the sea, its smell and energy. With my elder sons, with the English Channel…

Cluster #4

In the picture, children stand and look at the sea, or, more precisely, one boy looks at the water, the second at us. The wind is blowing, everything is very light and pleasant. The feeling of childhood and great space—the future, lightness, warmth. Very pleasant feeling

The picture shows two curly-haired boys, they are most likely brothers, who came running from the embankment to look at the boats at sea. The boys wear identical white shirts and blue pants. They are interested in looking at the boats, perhaps their father is a fisherman, and they are looking forward to meet him. I feel like children dream of sea voyages and new discoveries

distance"; "I chose this painting because I like how Van Eyck painted the clothes of all the characters in 3D, in detail and beautifully."

The summarizing strategy reveals itself in the descriptions: "In this painting, the old man looks as if he is thinking about the past. It seems to me that he is in some kind of chagrin or tension because of his clenched hands"; "The face of the waitress shows fatigue from serving customers."

In the cluster #6, respondents have the lowest scores for both ESK and LM. The general indicators are low for all respondents in this cluster and nearly all the scales are low, with some scores at the threshold to medium. ESK personality-factor and self-transcendence scale are also significantly low. Low Es total score shows unfulfilled existencia.

However, the descriptions of the paintings, partly presented in the Table 3 and 4 do not allow us to offer unambiguous interpretations in accordance with the profile of the sphere of meaning in life, demonstrating no clear differences from the descriptions of subjects from cluster #1 and other clusters.

Comparing the characteristics of the life-meaning sphere of the clusters that are most different from each other in terms of the parameters of painting descriptions, we turn to

Table 3 (continued)

Cluster #5

Children were brought to the sea. Two wonderful boys of the same age are standing on a wooden bridge and looking at the sea for the first time. It's already too cold, they will swim tomorrow. Two boys are standing, the wind develops dark curls. They have their whole life ahead of them, what are they thinking about…

The painting shows two boys looking at the water. The older one looks into the distance, and the younger one turns to the audience and looks with a thoughtful gaze

The boys are dressed identically and look alike. But the artist managed to show the difference in their states: the serious concentration of the elder and the dreamy thoughtfulness of the younger, the mood of the children

The painting depicts two small boys, they are 4–5 years old, they are twins, they are dressed in white shirts and blue pants, and seem to have black boots on their feet. They have thick dark curly hair. They stand on a wooden pier, after which there is sand, and then the sea (maybe something else aquatic). One boy looks at the sea, resting his head on his hands, which in turn lie on a wooden railing. The second boy is shown from the front. He has large blue eyes, childishly kind, naive or slightly surprised. I associate this picture with lightness, orientation towards the future, the ability to make choices, openness to new experiences and something unknown. At the same time, there is a slight concern for the boys and sadness, since they will most likely no longer be so sweet, kind and naive, but will change as they grow up. Looking at the picture, I also want to become a small, curly, beautiful child who can serenely wander around the wooden pier and listen to the sound of the sea

Two curly-haired boys, 7–8 years old. Blue ocean. Children = beauty and inspiration. The feeling that you are returning to the most wonderful time

"Children" gives the impression of tenderness, gentleness, and hope. What is most memorable is the look of the little boy, full of naivety and slight fear

Serov "children." Children look at the sea, as if they are peering into their future: what awaits them ahead? New discoveries, pleasant meetings, a horizon of possibilities ahead of them

Cluster #6

Two boys are standing on the seashore, they can feel the cold air and the sound of the waves. The picture gives you peace, you want to be in that atmosphere

The picture that stuck in my mind is "Children." Two boys are leaning against the wooden railing and looking out to the sea. The boys are wearing dark blue shorts and white shirts. It seemed to me that they were brothers, since their hair was the same black with small curls. One of the boys turned to face us. From the beginning I was attracted by the blue color in this painting. The same calm that I felt in my previous work, which allowed me to be in touch with what was happening to the same extent. I even thought that I was in this place: the same sea, beach and railings. I just stood next to them and enjoyed the freedom that the sea and wind give

Two boys stand on the pier, the gaze of one is directed into the distance in dreams of sailing, the second looks incredulously at the man behind the scenes; This picture gives off a feeling of childish spontaneity and faith in a serene future, which adults are deprived of

A picture that sank into the soul—Children by Serov. Two twins, although we see the second child only from the back, their relationship is indicated by the same hairstyles and clothes. One of them fixed his gaze, apparently, on something interesting, and the second turned to face us. They are both wearing light shirts and dark blue trousers. The outlines of the surrounding reality, like the children themselves, are written in an unrealistic manner—like in a cartoon and even, if you fantasize, resemble the style of anime

the differences between the group of clusters that includes clusters #1 and #2, where the cognitive components of images prevail, and the cluster #3, where emotional assessments prevail. According to the ESK and LM, the profile of life-meaning sphere characteristics of the cluster #2 members is the closest to the profile of the members of the cluster #1. In this cluster, the respondents have average and high scores according to the LM test. The total score of the meaningfulness of life (GM) for all respondents is at an average level.

Relating to the "Existencia Scale" the total score Es is low for all respondents of the cluster. Also, everyone here has low scores on the following scales: self-distance; self-transcendence; personality-factor.

Table 4 Descriptions of the picture "Girl in front of a Persian carpet" by Vrubel

Cluster #1

A girl against the background of a Persian carpet. I feel sorry for her. Instead of playing with her peers, she has to sit and pose for some old man at the whim of her parents

Cluster #2

Due to my education in art history, all the pictures in the mind immediately take their place in the row of art history, thus, the pictures do not cause strong impressions (they are illustrations, after all). If we talk about the description. I remember Vrubel's "Girl Against the Background of a Persian Carpet." Description: Against the background of a Persian carpet, a girl in a pink dress (it seems to be made of satin) sits with her arms crossed. The girl's figure itself is intertwined with the colorful ornament of the carpet. Dark colors

A girl sits against the background of a carpet with many decorations, sad eyes and a flower in her hand

Cluster #3

The painting "Girl by the Persian Carpet" - I remember this painting for its brightness and darkness at the same time. On the one hand, I can imagine what beautiful colors were in life from which the artist painted the picture. I imagine the warm sun, such warm aromas around and this girl, who is waiting, as if they would quickly let her go for a walk and play, but for now she has to sit here. And there is such a kind of childish carelessness. But still with some slightly heavy feeling of lack of freedom or something…

"Girl against the background of a Persian carpet" echoes the biblical Salome, as I see her

A girl against the background of a Persian carpet—I saw a sad girl, but beautifully depicted by the artist. The whole dark background and attire, her dark hair and eyes merged together, looks very aesthetically pleasing. At the same time, all the darkness merges with her dark eyes, that is, the whole picture seems to convey sadness. This sadness overshadows the beads that the girl has, her beautiful, seemingly burgundy dress, and lush black hair. It can be seen that if this picture was painted a long time ago, the girl is not from a poor family. Not poor, but sad

"…And it just doesn't fit in my head that this same person[a] painted such a gloomy picture as a Girl against the backdrop of a Persian carpet. Honestly, it's just some kind of horror movie for me."

Cluster #4

The child dressed up like an adult, wearing maybe all her mother's jewelry that was in the house, but why does she need a knife, and even holds it in her left hand? Maybe she decided to master her dad's accessories too. The girl imagines herself as an important person, the arbiter of destinies

The painting depicts an oriental girl in an elegant robe against the background of a painted silk carpet. There are beads on the girl's neck, rings on her fingers, and in her hand she is clutching a flower that has begun to bloom. The girl herself is like this flower, she is still a child, but very soon she will turn into a beautiful girl. But why are her eyes so sad? Perhaps the girl's father has already made a choice about the fate of his daughter, or perhaps the girl herself does not want to grow up and part with childhood. But looking at the picture, I want to believe that everything will turn out well in her life

The pattern of the ESK and LM scales corresponds to the fact that all descriptions of pictures by the subjects are pour in the manifestation of emotions, the respondents write a lot about the objects and meaning of the picture, summarizing what is depicted, but not a single participant used the emotional strategy. One can see an even greater dominance of cognitions over the effect in this group than in cluster #1. The palette of strategies is completely dominated by the pictorial and summarizing ones, and a wordly one close to the latter has been added, which one can see from the descriptions of the paintings "Children" and "Girl against the backdrop of a Persian carpet" (see Table 3 and 4). In relation to other paintings, concise, short descriptions are often in this group: "A girl sitting on the seashore and looking at the waves," "A woman lying naked on a couch and showing herself, in the background a servant is standing." Examples from descriptions using summary and life strategies: "She seems to me tired of the company of the man, and her face tells of a desire to go home and sleep; "The waitress seemed tired to me, and I noticed that she was disgusted to be in the company of rich people and to serve them"; "There is a time for everything: a time to effortlessly get bird eggs, as the peasant himself did in childhood, and

Table 4 (continued)

Cluster #6

"Girl against the background of a Persian carpet" Depicts a sitting girl in a dress, with dark black hair, eyebrows and large dark eyes. It seems that the girl is from somewhere in the east, perhaps from Persia, which is where the carpet behind her comes from. The carpet is patterned, but still dark. The brightest thing in the picture is the girl's skin. It seems that she is sitting, while her hands are folded. Looking at the picture, one feels humility, acceptance of one's fate, sadness, naivety and hopelessness. It seems that it doesn't matter what events happen in the girl's life, she will take that for granted. She will not try to change anything, fight, she will be a person who will respect elders, men, will wear a headscarf or something else, if customs require it. At the same time, she will not even think that there is another life, and if she does, she will still gratefully accept what she has. And her eyes are very drawn to her white skin. It seems that this is the light of the stars, as if it is saturated with light that will gradually fade away. However, it will not fade away completely, but will still warm her among all the dresses and carpets that other people have arranged and worn

What attracted me most in this picture was the girl's thick black hair and eyes and the face, how she looked. I felt like there was no life in her. She has a cold, empty gaze, but what was behind her terrified me no less. Behind her, I saw some kind of monster, reminiscent of Benicio Del Toro's monster in her film Pan's Labyrinth. The monster looked exactly the same and he ate everything that caught his eye. I have a feeling that this frame shows hell and a monster behind the girl, a monster that tortures and causes both physical and mental pain. I felt horror and fear looking at her. I would not want to be left alone with this picture in an empty, dark room with one candle and which also has no windows

I like the colors and all the shades of color of this picture, the girl's deep eyes, very expressive. A girl from a rich family, gentle, but not spoiled, this girl's parents love each other very much, they gave birth to such a beautiful angel

Cluster #6

In luxurious clothes, hung with beads and bracelets, she poses for the artist against the background of a Persian carpet. Her look is sad, probably sitting like that is not something that interests children at her age. Depicted by the artist as deliberately trying to look like an adult woman. The girl's youth fades against the background of luxury around

The girl has a sad, thoughtful look, the picture is in dark colors. The atmosphere seems heavy, oppressive due to the background. It seems to smell of wine and spices. It seems to me that the girl is feeling awkward, her posture is constrained

[a]Talking about Vrubel's painting "The Seated Demon"

a time to cultivate the land, to stand firmly on the ground"; "What dignity! peace, wisdom, and strength. His gaze. It's like he's thinking about something very important. The past and the present. Much more the past". "Ladies bathing. They know that they are being watched and admired by those on the shore."

While in the descriptions of the pictures of the representatives of clusters #1 and #2, the cognitive component prevails over the affective one, we observe the opposite in cluster #3.

In the cluster No. 3, the indicators of scales of the LM are unevenly distributed, there are low, high, and medium scores. The overall indicator of "GM" presents high and medium scores. Of interest is the high self-transcendence scale, which indicates a person's ability to touch the value foundations of the world and perceive their own inner involvement in this feeling. Es—the total score is low, which indicates an unfulfilled existence, possibly a lack of involvement in life.

Representatives of this cluster often use the impressive and the emotional strategies, in contrast to clusters #1 and #2. The summarizing strategy is used much less, as well as the pictorial one. We assume that these people are marked by the dominance of the affective component of the worldview over the cognitive one. This can be seen in the descriptions of the paintings "Children" and "Girl", in Table 3 and 4, and in the descriptions of other paintings.

In the descriptions of other paintings, one can also note emotionally rich moments, mainly in line with negative emotions: words about pain, horror, sadness, fatigue. The choice of pictures described by the representatives of the cluster speaks for itself. This group accounts for 3 out of 5 selections for Frida Kahlo's "The Two Fridas" and 5 out of 9 selections for Dali's "The Dream."

From the descriptions of the painting "Two Fridas": "Even before I have noticed in her works a special strength and pain, which are reflected with the help of bright colors"; "I was very imbued with her story. Frida "before" and Frida "after," already wounded by various life events…"; "The picture gives me a headache, disgust, and intense mental pain, similar to deep despair and a terrible feeling of unhappiness. This picture is also telling about self-support to me, but in this self-support there is a lot of loneliness and the inability to trust someone else… It causes disgust and fear."

Descriptions of Dali's painting "The Dream": "some kind of unpleasant dream. Also about loneliness, and some kind of brokenness"; "Hovering on fragile supports above a joyless world. About the fragility of sleep? It turns out that support is needed… I mean, the fragility of sleep and everything that we see in it"; "Dali's paintings often require a lot of reflection, focusing on some of the sensations that I experienced when I had sleep paralysis—you are big and growing, while holding on to such small fragile sticks"; "…even the most complicated dreams are fragile and thin—the crutches are about to fall into reality… and everything will disappear."

Descriptions of other paintings reveal also positive emotions: "…and of course Monet— I love his sunny colors—a lattice separates the garden from the real world, which the girl wants to see and the woman does not want to see…"; "The leisurely rhythm of the picture is like the leisurely passage of time"; "the picture exudes lightness, calm and freshness, it evokes a feeling of carelessness"; "a beautiful, pleasant picture, I like the diversity of the beauty of women, their gentleness and grace, the picture arouses interest and admiration"; "The picture is bright, contrasting… It arouses interest, I want to find out the whole story, who this grandmother is, who sits next to her.."; "This picture is also light, gentle, warm, and calm, there are no catchy or bright details, but it makes you think about it", "bright, catchy… sparkling objects: supposedly, bottles of champagne, tangerines", "I chose it because there is a feeling of celebration, and for its brightness", "For me, this picture is about some kind of childish interest, summer warmth, something about childish anticipation"; "This picture exudes warmth, richness, and relaxation."

Notable in this group are the frequent references to one's own identity and experience: "The image of the sea is harsh and cold, without beginning or end—association with myself, loving the sea, its smell and energy"; "The picture reminded me of myself, as I go to the sea in summer," "It reminded me of my hometown by the sea and my youth. In this girl I saw myself and my childhood and youth."

Discussion

Individually specific complexes of the strategies for free descriptions of paintings, revealed in our study, to a certain extent correspond to the four styles of aesthetic judgment identified in the work of Axelsson (2007), see (Axelsson, 2007; Bahrami-Ehsan et al., 2015): concrete, analytical, symbolic, and emotional. Thus, our data reveal a complex of interrelated strategies that characterize a tendency towards "concrete" judgment (wordly and summarizing strategies), to the use of symbolic language (metaphorical and partly associative strategies). Opposing tendencies

towards the dominance of the cognitive (analytical) and emotional components of perception of pictures, as evidenced by the close correlations between the impressive and emotional strategies and the negative relationships between the complex of these strategies and the summative one) also seem in line with analytical and emotional judgment styles.

However, we believe that our data characterize not only and not so much the "level" qualities, abilities, of our subjects, as their ability to make aesthetic judgments was not the focus of our research. The only fact obviously related to the ability to make professional judgments on art in our data is the significance of the closely related cultural and Stylistic strategies, which undoubtedly indicates the presence of a certain "professional" ability for making judgments on works of art. At the same time, the absence of these strategies in the descriptions of paintings by a subject, in our opinion, cannot be interpreted as unambiguous evidence of the lack of corresponding abilities, since the instructions given oriented the subjects towards a free choice of any aspects and themes that the pictures evoked, so that describing professionally important aspects was not obligatory and could be lacking due to some states of mind or personality traits.

In our opinion, the most significant result of our research is that two trends have been revealed in the perception and interpretation of works of art related to the characteristics of the meaning-life sphere of the individual, first of all, to the current state of personality existential needs, assessed with the Existential Scale. Using associative strategy, which implies associations not directly related to the painting, reasoning on general issues and other themes, negatively correlates with the "Locus of control (LC-life) scale. The LC-life scale embodies that a person has control over his life, he feels free, he makes decisions and implements them (Leontyev, 1992). Using associative strategy also negatively correlates with the majority of indicators of the Existencia Scale. The results obtained suggest that the "problematic" state of the life-meaning sphere, correlated with the associative strategy for free descriptions, causes a kind of a "search" style of the perception of art objects, manifesting in the desire to surf the broad spheres of the individual's consciousness, using the observed picture as a steppingstone, pushing off from which a person dwells on issues relevant to his/her life situation and world view. In this case, the painting is just a tool for pushing off.

In the other case, when the life-meaning sphere is relatively "calm," the focus of the subject's attention becomes the object of observation itself—the picture, which manifests in close correlations of the indicators of the Existence Scale with using the description strategy that is most focused on the object—Stylistic. The subject in this case speaks specifically about the picture, its place, and specific meaning of the picture in culture, following cultural norms and traditions, and not in line with associations generated by his subjective experience.

Following the logic of A.N. Leontiev, who distinguished three levels in the structure of consciousness: "the sensory fabric," the "meaning," and the personal sense" (Leontiev, 2005), see also (Mironenko et al, 2020), we assume that those who use the associative strategy primarily activate the level of personal meanings, and this is where associations arise. For those who use the Stylistic strategy, the process of interpretation unfolds in the sphere of cultural meanings.

The interpretation we give here is apparently a hypothesis and needs further testing. Focus on the characteristics of the object (picture) or on one's own subjective experiences can be both a characteristic of a state of mind, which we hypothesized basing on correlations with the existential fulfillment, but it can also reflect a relatively constant personality trait. In this regard, first of all, it seems necessary to compare the tendency to focus on a subjective internal picture of the world or on an object with the classical dyad of introversion and extraversion—not in the Big Five interpretation, but in the sense in which these concepts were introduced by Carl Gustav Jung.

Conclusion

Recent decades brought a number of investigations on interrelationships between personality traits and characteristics of perception and interpretation of works of art (Furnham & Chamorro-Premuzic, 2004; Kopatich et al., 2023; Swami & Furnham, 2014). Majority of the studies address in this respect the Big Five personality traits, primarily Openness to Experience (Afhami & Mohammadi-Zarghan, 2018; Atari & Yaghoubirad, 2016; Chamorro-Premuzic & Furnham, 2004; Chamorro-Premuzic et al, 2009). Our study aimed to reveal the influence of the personality life-meaning sphere on perception and interpretation of pictures.

The results of the investigation revealed statistically significant correlations between individual preferences for use of certain strategies for free descriptions of paintings (Belonogova, 2003) and the scales of ESK test (Längle et al., 2003; Mainina, 2007) and LM (PIL) tests of life-meaning sphere (Leontyev, 1992). The assessed individual complexes of strategies for descriptions to a certain extent correspond to the four styles of aesthetic judgment identified in the work of Axelsson (2007), but we do not interpret those as "abilities," which can be assessed in "more or less advanced" terms. The most important result of our investigation we believe is that our investigation revealed two trends in how a work of art is perceived, related to the state of the life-meaning sphere of personality. The results obtained suggest that a "problematic" state of the life-meaning sphere, which correlates with the associative strategy for free descriptions, manifests in using the observed picture as a steppingstone, pushing off from which a person dwells on issues relevant to his/her life situation and world view so that the painting is just a tool for pushing off to surf the unbounded.

In the other case, which manifests in close correlations of the indicators of the Existence Scale to the description strategy that is most focused on the object—Stylistic, the subject focuses on the picture, its place, and specific meaning in culture, following cultural norms and traditions, not following associations generated by his/her subjective experience.

Our next step was to move from the analysis of correlations between individual strategies of free descriptions and individual parameters of the life-meaning sphere to the links between holistic patterns of characteristics of the life-meaning sphere and characteristics of paintings interpretation. To do this, we divided our subjects into groups according to the similarity of the general pattern of characteristics of the life-meaning sphere identified by ESK and LM scales through cluster analysis and compared the strategies of free descriptions of painting in these resulting groups. Analysis of the free descriptions of the paintings do not allow us to state unequivocally that the specificity of the descriptions in clusters corresponds directly to the profiles of the life-meaning sphere of the subjects. The complexity and multidimensionality of the human psyche make it impossible to assume such direct correlations. However, we believe, certain trends can be traced and noted.

Our work in many ways just outlines future reference points for research efforts; it was an attempt to approach the problem and outline further prospects. Despite the work done with theoretical analysis of the literature, our preliminary hypotheses were based on intuitive assumptions. The typology of our research can be characterized as inductive-correlation, which leads to the necessity for further research based on the results obtained.

Analysis of the data showed that the tools require further in-depth refinement. However, in the course of the study, it was possible to reveal interrelations between parameters of the life-meaning sphere of personality and certain attitudes and traits of comprehension of art. The obtained correlations show that the recipient's introduces his own meanings into the free description of the paintings.

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Data Availability The authors have all the data and upon request, it will be possible to access the data in an anonymized version.

Declarations

Consent to Participate Informed consent was obtained from all individual participants included in the study.

Competing Interests The authors declare no competing interests.

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