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### **Architectural Stimuli in the Perception of Urban Residents**

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#### **Abstract**

The work is devoted to the study of social frustration and emotional reactions of citizens to architectural stimuli. It addresses the issues of differences in the level of social frustration of young and adult citizens and the relationship between social frustration and emotional responses to architectural stimuli. This study is relevant to the activities of practical psychologists, in personnel work with the staff, in the work of consulting centers, and other areas of work with people. Results and conclusions of the study emphasize the importance of the philosophical and anthropological parameters of the urban population, that could be used by urban self-government in making various administrative decisions and the development of short- and long-term programs for the development of the city in various kinds of ideological actions.

**Keywords:** Architectural stimuli, Urban residents, Level of social frustration, Emotional reactions, Diagnostics, Young and adult age, Correlation.

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## **Introduction**

Urban man creates a long-term stationary housing and a distinctive settlement of a new type - a city, in which people live in close communication and interaction. In a city there is, first of all, a change in space of dwelling, types of activity make out their own space; the system of production dictates the necessity of special structured spaces; technical means of information also begin to be structured in space; there are created and functioned wide opportunities for leisure (Schultz, 2003). Urban people are formed and operate in the urban space, and profound changes in them are made under the influence of the architectural features of the city. Man creates a city, and the city creates a citizen, a city man with new traits. The space of the city is formed under the influence of man, and the space of the city, in turn, affects the person, forms his own and his social roles, developing special forms of behavior (Cornelius & Faire, 1992)

In modern reality, due to the change of socio-economic relations, there are quite tense conditions that expose both adults and young people to complex frustrating situations that affect their emotional state and actions (Craig, 2000).

Representatives of the concept of frustration, such as Vasilyuk (2008), Levitov (1967), Fromm (1998), Rosenzweig (2004) and Maslow (2004), consider it as a driving force of personality development. In this regard, the study of social frustration and emotional reactions of citizens to architectural incentives is of particular relevance.

Frustration, by Dollard's (1939) definition, is seen as an emotionally negative experience of human failure, loss, disappointment, accompanied by a sense of hopelessness, futility of effort (Boyko, 1996). Emotional attitude gives the primary indication on the way of life that is why this paper investigates the way of life of urban residents in the framework of emotional reactions to the stimulus of the environment.

The problem of emotions and emotional reactions in the Russian literature were studied by Anokhin (1976), Simonov (1996), Rappoport (1972), Leont'ev (1975) and a number of other authors, and in the foreign literature - by Mac-Dougall (1984), Selye (1982), Maslow (1997), Izard (2011) Vilyunas (1988), Plutchik (1986) etc.

The way of life of urban residents can be considered as an indicator of life success, based on the following theoretical provisions as: including a certain set of life successes and achievements of urban residents, evaluation not only from the objective benefit to other people, society, but also from the standpoint of its internal self-assessment of life, characterized by an abstract possibility of self-realization of the individual, meaningful criterion characterizing the citizen in terms of activities and its results, radically changing the life of the resident, reflected in habits (Kogan, 1990). The level of social frustration is the level of negative mental state caused by the inability to meet social needs (Wasserman, 2004).

The emotional attitude of citizens to any objects of the urban environment gives the primary indication of their way of life in general. Referring to the existing in the literature concept, we can say that the way of life is the subjective significance of objects and phenomena of reality, manifested in two forms: 1) in the emotional coloring of the images of perception and representations of these objects and phenomena; 2) in the understanding of the subject of their role and place in their life (Yankova & Rodzinskaya, 1982).

Emotional reactions are directly related to the needs of the person, based on them and reflect the degree of their satisfaction (Molz, 1994).

## **Materials and Methods**

We assume that there are differences in the level of social frustration of young and adult citizens and there is a relationship between social frustration and emotional reactions of citizens to architectural stimuli.

The following methods were used as the main empirical tools: "Diagnostics of the level of social frustration"

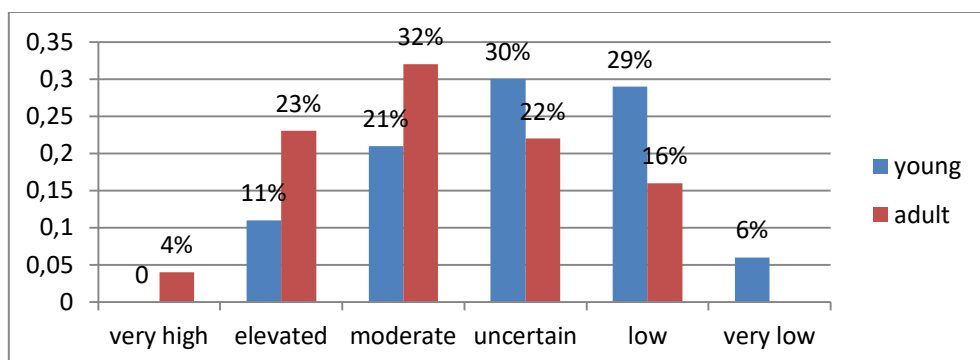
by L. I. Wasserman (2004), "Differential scales of emotions" by K. Isard (2011). The following methods of data interpretation and processing were used: Student's t-test and Pearson linear correlation (Eliseev, 2003). To study the relationship of social frustration of citizens and emotional reactions to the architectural objects of the city, a sample of residents in one of the cities of Tatarstan was formed.

Based on the age periodization of Erickson's theory and in accordance with the objectives of the study, the sample was divided into two groups: the "young" from 20-25 years (15 women and 15 men) and the "adults" from 45-64 years (15 women and 15 men).

The research procedure consisted of four stages. At the first stage, which was preparatory in the experiment, expert evaluation was carried out by the method of random selection of passers-by on the street. The experts were asked to choose four the most common city's architectural structures in their lives out of the 10 presented photographs. The results of the expert survey gave four images as prevailing in the responses: a view of the "children's playground", "City Hall building", "bus stop" and a view of the "underground passage". At the second stage, which was also preparatory, a sample of the subjects from the residents of the city was formed, taking into account the age of the subjects. At the third stage of the study, the subjects were presented with a specific type (its photo image), and were offered to evaluate emotional reactions to them using techniques. The analysis and interpretation of the obtained results were carried out in the fourth stage.

## Results and discussions

Results of the comparative analysis of diagnostics of social frustration of citizens of "young" and "adult" subjects were displayed in Figure 1.



**Figure 1.** Level of social frustration of "young" and "adult" subjects

As can be seen from the figure, the level of social frustration in "adult" subjects is slightly higher than that in "young". "Young" subjects do not show very high level of social frustration, which speaks about emotional stability of "young" people. Perhaps, this is a feature of the age, as when dissatisfaction in certain areas of life is not a strong disappointment and can be seen as a goal to achieve in the future. "Adult" subjects show a very high level of social frustration (4%), which indicates serious experiences of the subjects, the possibility of depression.

The increased level of social frustration is more common in "adults" (23%) than in "young" (11%). This indicates the sensitivity, vulnerability, emotionality of "adults", their greater concern for their achievements than the "young", which, perhaps, suggests that adults have less opportunities, time, abilities to realize themselves in certain areas of life.

A moderate level of social frustration is manifested in 21% of the "young" and 32% of the "adult" subjects, which suggests that the bulk of the subjects show dissatisfaction in certain areas of their lives, but this level of frustration can be evidence of a high level of claims, it can serve as a basis for further personal and social development.

An uncertain level of frustration, shown in 30% of "young" and 22% of "adults", suggests that these subjects are not fully satisfied with their achievements, the surrounding reality, believe that the results could be higher. It can be assumed that the values at this level are a reflection of the situational mood. 29% of "young" and 16% of "adults" show a reduced level of social frustration. This is manifested in a sufficient level of satisfaction in most areas of life, the assumption of a higher level of achievement and development in the future. It can be assumed that the "young" subjects see more opportunities and prospects for achievement.

Very low level of frustration is manifested in 6% of "young" subjects, and in "adult" subjects it does not occur. Such results can speak about the extreme carelessness of "young" subjects, that they do not think about their future, about the low level of claims, about the indifferent attitude to society and their place in it, and, perhaps, about the insincerity of answers. The significance of differences between "young" and "adult" subjects was calculated using Student's t-test, after calculating the average score for each group. The results are displayed in the table.

**Table 1.** Comparative analysis of the level of social frustration in "young" and "adult" subjects

Sample	Young	Adults
Average score	1,9	3,0
Student's t-test	t=2.02 (p≤0.05)	

The level of differences in the values of the subjects is significant (p≤0.05), which suggests that "young" men and women are characterized by frustration at the level below average, and for "adult" subjects at the level of average. Perhaps, this means that the subjects of 20-25 years are optimistic about the future, the emotional experiences they experience with respect to failures, and dissatisfaction in various spheres of life do not cause prolonged apathy and depression, they have prospects to achieve more in the future.

Subjects 45-64 years are less optimistic in their views on life, less satisfied with what has been achieved, regret the missed opportunities; realize their limited (for various reasons) opportunities, deeply and seriously experiencing dissatisfaction, injustice. Thus, the study of the level of social frustration of the subjects showed that the subjects of different ages have a tendency to social frustration, but the "adult" subjects experience frustration more deeply.

At the second stage of our empirical research, we analyzed the emotional reactions of the subjects to the presented photo-stimuli of the objects of urban architecture.

### ***Children's playground***

The study of emotional reactions of the tested citizens to architectural stimuli showed that emotional reactions to the "children's playground" in "adults" and "young" subjects are positive and do not have significant differences in the evaluation of emotional reactions. Bright colors, small design, ease of perception, children's figures on the background of the site, all this is associated with kindness, love, spontaneity, innocence, causes positive associations, smile and positive emotions. Bright and lightweight design of the playground adorns grey courtyards, bringing life and mood.

Correlation analysis of social frustration and emotional reactions of "adult" people to the "children's playground" showed that, there is a relationship between the factors of frustration and disgust (p≤0.05). This suggests that, this emotion is most often the basis of frustrating experiences of the subjects of this group. There is also a negative correlation between frustration and joy, both in "adults" and "young" subjects, proving once again that, the opposite frustration experiences are joyful emotional reactions (p≤0.05).

Also in "adult" subjects there is a correlation between frustration and general well-being (p≤0.05). This

suggests, that frustration experiences are typical for the subjects of this group, where also a significant place is given to emotional reactions to the architectural structures of the city. As it turned out, young people are less sensitive to the type of "children's playground" and it does not play a decisive role in the emergence of social frustration, there are no significant correlation links.

### ***Underground passage***

The kind of "underground passage" in both "adults" and "young" subjects causes restrained emotional reactions, and there are no significant differences in the emotional reactions of the subjects, this suggests that at any age the need for the functionality of the architectural design is realized.

The type of "underground passage" can cause frustration in both "adults" and "young" subjects. There is a correlation in "adult" subjects between frustration and emotions such as grief ( $p \leq 0.05$ ), anger ( $p \leq 0.05$ ), disgust ( $p \leq 0.01$ ) and general well-being ( $p \leq 0.05$ ). This suggests that, the type of "underground passage" does not cause positive emotional reactions, and may be associated with negative experiences and cause social frustration of the population.

In "young" subjects found a correlation between social frustration and emotions such as grief ( $p \leq 0.05$ ), anger ( $p \leq 0.05$ ), and perhaps this suggests that, the type of underground passage is not very pleasant architectural structure and some negative emotional experiences, under certain circumstances, can cause frustration.

### ***City Hall***

The view of the "City Hall" caused negative reactions in the "young" subjects. Perhaps, the grey, gloomy building is perceived as insufficiently spectacular and aesthetically designed architectural structure that does not cause pleasant emotional experiences. High marks on negative emotions, such as disgust and grief, show that "young" people refer to the architectural object with a pronounced antipathy. However, positive emotions are also present. Such emotions as interest, joy, surprise received not low marks from the younger generation.

In "adult" subjects emotional reactions are more restrained, they treat this architectural structure calmly and with understanding. It can be noted that, the emotional reaction like a joy toward the object of the urban environment, the adult generation experiences the least.

The results of the study led to the conclusion that, despite the restrained emotions about the architecture and appearance of the "City Hall", the citizens of 45-65 years would like to see this object of urban significance, more respectable, attractive. Not matching the appearance of the building to its level of importance causes a certain level of frustration. In the group of "adults" there is a correlation between the level of social frustration and disgust ( $p \leq 0.01$ ) and contempt ( $p \leq 0.05$ ).

The "young" subjects also found a correlation between the level of social frustration and emotions such as interest ( $p \leq 0.05$ ) and surprise ( $p \leq 0.05$ ), proving that the "young" subjects would be interested in learning what is inside, but the architecture of the building and appearance surprises the subjects without causing positive emotions.

### ***Bus stop***

Sight of "bus stop" causes in "adults" negative emotions, among which the most pronounced is "disgust". It can be assumed that, this attitude is expressed not so much to the presented photo-picture, but as an associative attitude to the stops in general, their design and the degree of their cleanness and attractiveness. In "young" subjects these are moderately positive emotional reactions, indicating that they are not very concerned about aesthetics, convenience and cleanness of the stops. It is also possible that, the "young" subjects evaluated the "bus stop" as a picture, without making any associations. Despite the

visible differences in the assessment of the type of "bus stop" in "adults" and "young" subjects, however, there are no significant differences in emotional reactions. This may indicate that the subjects have an understanding of the social need for this structure and the realization that the evaluation of the structure depends not only and not so much on the features of the architecture, but also on other related factors.

The appearance of the "bus stop" and the attitude to this object of urban architecture on the part of "adult" citizens is unsatisfactory, confirms this correlation between the level of social frustration and disgust ( $p \leq 0.01$ ) and contempt ( $p \leq 0.05$ ). Perhaps, a small transformation in the direction of greater cleanliness, aesthetic design and order will change their attitude to this object.

The correlation between the level of social frustration and such emotion as interest was found in "young" people ( $p \leq 0.05$ ). Perhaps, the look of a bus stop interested them, because often it is at a bus stop where meetings of young people often take place. Here they find something interesting for themselves, maybe ads or posters.

The study of the relationship between the level of social frustration and emotional reactions of citizens to architectural stimuli showed that the type of object of the urban environment can cause frustration, or vice versa, cause elevated mood. After analyzing the results, it can be noted that, the "adult" subjects have several more correlations of the level of social frustration and emotional reactions to the architectural stimuli of the city. Citizens of 45-65 years are more sensitive, more vulnerable, they have more reason for frustration experiences, and the form of the next building can complement the picture of dissatisfaction and experiences. "Young" subjects are more optimistic, less attentive to the architectural structures of the city and less susceptible to emotional reactions to architectural stimuli.

Based on the study, we consider it appropriate to make the following recommendations:

- Residents of the city, regardless of age, emotionally react to urban stimuli, which in turn affects the level of social frustration. In this regard, it is recommended to use positive colors and original architecture in the design of the city;
- Buildings of the city should be comfortable, functional, practical, cause positive emotions among the citizens;
- Architectural structures of the city is desirable to diversify with different shapes, structures and colors, using modern technology and techniques;
- Cleanliness and order in the city are not less important, and therefore, public places (stops, underground passages) are recommended to be more often and better cleaned, as well as teaching citizens to observe cleanliness and order, perhaps even to introduce administrative penalties for violation of order and cleanliness.

The study concluded that, the urban environment, of course, requires a radical transformation, the creation of dynamics, a certain direction, allowing to create a different emotional atmosphere, so that the visual image of the city to meet the different functions of the central spaces of the city, the diverse needs of citizens and tourists.

## **Conclusion**

Some of the emotions can act extremely destructive on human behavior in society, so everyone needs to learn how to manage emotions, not to allow them to destroy the interpersonal relationships in society (Maslow, 1997).

It is proved that, people living next to sports facilities, often engaged in physical education and sports, fun and healthy, and those who live near entertainment facilities – experience fatigue and nervousness (Maslow, 1999).

The study of the level of social frustration of citizens showed that subjects of different ages have a tendency

to social frustration, but the subjects of older age, for one reason or another, experience frustration more deeply (Berezin, 1988).

In the emotional reactions of citizens to architectural stimuli there are age differences, where young people act as more categorical, demanding, making requirements to the functionality of the structure and its aesthetic design. The "adult" subjects have slightly more correlations in the level of social frustration and emotional reactions to the architectural stimuli of the city, perhaps because the subjects at the age of 45-65 years are more sensitive, more vulnerable, they have more grounds for frustration, and the type of the next building can complement the picture of dissatisfaction and experiences. "Young" subjects are more optimistic, less attentive to the architectural structures of the city and less susceptible to emotional reactions to architectural stimuli.

The practical significance lies in the possibility of taking into account and using the results in the practice of practical psychologists, in personnel work with the staff, in the work of consulting centers, and other areas of work with people.

Empirical data and conclusions of the study can be used in the practice of urban self-government, taking into account the philosophical and anthropological parameters of the urban population in the adoption of various administrative decisions, the development of short-and long-term programs for the development of the city in various kinds of ideological actions.

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