# A System of Social Values of Contemporary Students

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*Abstract*

*A system of social values of contemporary student youth is investigated in this paper on the basis of methods of analysis of variance, multidimensional scaling, and methods of cluster analysis. It was shown that importance of education is not seen by young people as a prior factor in their lives. Besides, students do not see any connection between health and the environmental component. They do not see any role of religion in strengthening the institutions of family and friendly relations. Those students, who prefer such categories as Power and Prestige, do not see any connection among these categories and the variables Education, Health, and Sports.*

*Keywords: values, youth, multidimensional scaling, clusters.*

## 1. Introduction

The modern world of a young man is very different from the realities of the past years. Availability of information, freedom of choice of activities, the openness of modern social systems, contradictory of social trends, and some other reasons may cause the transformation of ideas of students about life values, unlikeness of these ideas from ones of their peers for another ten or fifteen years ago. This phenomenon is well described in a paper written by V.I. Safyanov (Safyanov, 2010). Therefore, the reform of the educational process in higher education must necessarily take the modern ideas of students about the system of social values into account, where necessary, trying flexibly to correct them, in other cases, trying to adjust to them.

The aim of the article is to study a system of social values of contemporary Russian student youth and to clarify which social values are important and which ones are not so important for the youth. Without any doubt, the social values play a pivotal role in the life of contemporary young people. How their future life will be, it mainly depends on their life goals. The system is important for a wide range of social processes in society. That is why, the objectives of the investigation are essential for analysis some trends in our modern life.

In our paper we provide a quantitative analysis of the system. This analysis based on the strict mathematical methods of data analysis and statistics. It is well known, that these methods are robust. Therefore, it allows us to think that the got results are reliable. In our analysis the system includes some social values, such as Family, Friendship, Health, and so on. In total we consider 15 social values. In our further papers we plan to expand the list of social values included in the sociological analysis.

## 2. Reserch Methods

The methodology of this paper is based on the approaches, concepts and methods of scientific knowledge. To identify existing laws, the authors have carried out a case study. For the survey a sample was taken, which includes twenty-six fifth-grade students of the Faculty named "Economics and Entrepreneurship" of South Ural State University (Chelyabinsk, Russia). List of fifteen variables consisted of the following values: Family, Friendship, Health, Work & Career, Money, Love, Education, Religion, Ecology, Security, Stability, Leisure, Prestige, Sports, and Power. Students were asked to rank the proposed values according to the 15-point scale, ranging from the least important from their point of view, i.e., the higher the score, the corresponding value is more important for the student. The survey data are presented in Table 1.

The methodological foundation of this paper is an approach based on the use of the principles of sociological surveys and data analysis. Processing initial data was conducted with help of a computer program SPSS. The program was developed in the USA and is by far the most popular in developed countries for processing of information. In this

paper we conducted our investigation based on methods of descriptive statistics, analysis of variance, multidimensional scaling, and methods of cluster analysis.

## 3. The Main Part

### 3.1 Average values of the variables

Analysis of average values of the proposed variables (Table 2) shows that the categories of Family, Love, and Friendship are still the most important and eternal for youth. Also important categories are Health, Work & Career, and Money. Education is not among the priorities, and occupies the middle position together with categories such as Stability, Leisure, and Security. From the results it is clear that Education is not seen by students as a very important part of their lives, which largely determines their fate. Note that, despite all the postulation in the modern media the importance of achieving personal success, Prestige and Power categories are not considered as important by modern students in the system of the life values. Bringing up the rear list of Religion, which, again, despite the efforts of the media, not only becoming a leading, but any meaningful way in lives of modern students.

**Table 1:**

| № | Family | Friendship | Health | Work & Career | Money | Love | Education | Religion | Ecology | Security | Stability | Leisure | Prestige | Sports | Power |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 12 | 11 | 15 | 14 | 13 | 10 | 4 | 2 | 1 | 3 | 8 | 7 | 9 | 6 | 5 |
| 2 | 12 | 11 | 10 | 13 | 9 | 13 | 8 | 1 | 2 | 4 | 14 | 5 | 6 | 7 | 3 |
| 3 | 15 | 6 | 14 | 13 | 5 | 7 | 9 | 1 | 3 | 10 | 12 | 11 | 2 | 8 | 4 |
| 4 | 15 | 6 | 14 | 13 | 5 | 7 | 9 | 1 | 3 | 10 | 12 | 11 | 2 | 8 | 4 |
| 5 | 15 | 12 | 10 | 13 | 9 | 11 | 14 | 1 | 2 | 6 | 7 | 8 | 5 | 4 | 3 |
| 6 | 10 | 15 | 9 | 14 | 13 | 2 | 12 | 1 | 5 | 6 | 7 | 11 | 4 | 8 | 3 |
| 7 | 11 | 13 | 6 | 10 | 8 | 9 | 12 | 1 | 3 | 15 | 14 | 4 | 5 | 2 | 7 |
| 8 | 14 | 13 | 6 | 5 | 7 | 15 | 4 | 11 | 8 | 3 | 12 | 10 | 1 | 9 | 2 |
| 9 | 15 | 9 | 13 | 4 | 11 | 14 | 5 | 6 | 3 | 8 | 2 | 10 | 7 | 12 | 1 |
| 10 | 15 | 13 | 12 | 9 | 7 | 14 | 10 | 3 | 6 | 8 | 5 | 2 | 1 | 11 | 4 |
| 11 | 14 | 12 | 13 | 11 | 10 | 15 | 8 | 1 | 6 | 4 | 9 | 7 | 2 | 5 | 3 |
| 12 | 15 | 9 | 14 | 10 | 12 | 13 | 11 | 3 | 2 | 8 | 7 | 4 | 5 | 1 | 6 |
| 13 | 12 | 11 | 3 | 14 | 5 | 13 | 6 | 1 | 2 | 5 | 15 | 10 | 8 | 4 | 7 |
| 14 | 15 | 14 | 11 | 8 | 10 | 13 | 12 | 6 | 5 | 9 | 4 | 7 | 3 | 2 | 1 |
| 15 | 15 | 13 | 12 | 10 | 9 | 14 | 11 | 1 | 2 | 6 | 8 | 7 | 3 | 5 | 4 |
| 16 | 15 | 12 | 11 | 13 | 10 | 14 | 5 | 2 | 4 | 7 | 9 | 8 | 6 | 1 | 3 |
| 17 | 15 | 14 | 11 | 9 | 13 | 12 | 5 | 2 | 1 | 4 | 10 | 7 | 8 | 3 | 6 |
| 18 | 15 | 13 | 9 | 14 | 8 | 11 | 12 | 1 | 2 | 4 | 7 | 3 | 6 | 5 | 10 |
| 19 | 14 | 12 | 13 | 6 | 8 | 15 | 5 | 1 | 3 | 10 | 11 | 9 | 4 | 2 | 7 |
| 20 | 15 | 11 | 13 | 14 | 3 | 10 | 9 | 8 | 5 | 7 | 4 | 6 | 1 | 12 | 2 |
| 21 | 8 | 14 | 12 | 15 | 10 | 13 | 4 | 5 | 1 | 3 | 2 | 6 | 7 | 11 | 9 |
| 22 | 14 | 7 | 9 | 13 | 12 | 15 | 8 | 3 | 2 | 10 | 11 | 5 | 8 | 4 | 6 |
| 23 | 11 | 14 | 8 | 6 | 4 | 15 | 10 | 1 | 7 | 9 | 13 | 12 | 3 | 5 | 2 |
| 24 | 15 | 14 | 8 | 9 | 10 | 13 | 7 | 1 | 2 | 5 | 12 | 11 | 6 | 4 | 3 |
| 25 | 9 | 15 | 14 | 12 | 11 | 10 | 13 | 3 | 4 | 5 | 6 | 7 | 2 | 8 | 1 |
| 26 | 15 | 11 | 7 | 4 | 14 | 12 | 13 | 3 | 6 | 5 | 10 | 8 | 2 | 9 | 1 |

**Table 2:**

| Category | Mean | Standard deviation |
|----|----|----|
| Family | 13.50 | 2.140 |
| Love | 11.92 | 3.097 |
| Freedom | 11.73 | 2.539 |
| Health | 10.65 | 3.032 |
| Work & Career | 10.62 | 3.407 |
| Money | 9.08 | 2.992 |
| Stability | 8.88 | 3.681 |
| Education | 8.69 | 3.197 |
| Leisure | 7.54 | 2.716 |
| Security | 6.69 | 2.909 |
| Sports | 6.00 | 3.370 |
| Prestige | 4.46 | 2.486 |
| Power | 4.12 | 2.487 |
| Ecology | 3.46 | 1.964 |
| Religion | 2.69 | 2.558 |

### 3.2 Analysis of variance

Application of Kolmogorov-Smirnov's test shows that the distribution of some of the original variables is different from normal. Therefore, while we were conducting analysis of variance, Friedman nonparametric method for multiple dependent variables was use. Final results of the analysis are shown in Table 3.

**Table 3:**

| N | 26 |
|---|---|
| Chi-Square | 206.794 |
| df | 14 |
| Asymp. Sig. | .000 |

a  Friedman Test

As we can see, the level of significance for the chi-square coefficient is much less than the threshold value of 0.05, indicating a significant difference in the mean values for the system of life values in general. Application of parametric method ANOVARM gives a similar result, for example, according to the most reliable criterion Pillai's Trace (Table 4) the significance level (Sig.) is much less than 0.05. However, other parametric criteria also show the significant difference for the entire set of the life values.

**Table 4:**

| Effect | | Value | F | Hypothesis df | Error df | Sig. |
|---|---|---|---|---|---|---|
| Category | Pillai's Trace | .992 | 111.263(a) | 14.000 | 12.000 | .000 |
| | Wilks' Lambda | .008 | 111.263(a) | 14.000 | 12.000 | .000 |
| | Hotelling's Trace | 129.806 | 111.263(a) | 14.000 | 12.000 | .000 |
| | Roy's Largest Root | 129.806 | 111.263(a) | 14.000 | 12.000 | .000 |

For pairwise comparison of the categories we apply the nonparametric Wilcoxon's method. This method shows that there is no any significant difference for the following pairs of the variables: Love-Friendship; Love-Health; Love-Work; Friendship-Health; Friendship-Work; Health-Work; Health-Money; Health-Stability; Work-Money; Work-Stability; Money-Stability; Money-Education; Money-Leisure; Stability-Education; Stability-Leisure; Education-Leisure; Leisure-Security; Safety-Sport; Sport-Prestige; Sports-Power; Prestige-Power; Prestige-Ecology; Power-Ecology; Ecology-Religion. For the other pairs of the variables the program has identified a significant difference in the average estimations of the students.

In order to reduce the number of the variables we can try to apply factor analysis described in the book of A. Buul and P. Zefel (Buul, Zefel, 2005). However, the attempt of such application shows that the value of the Kaiser-Meyer-Olkin's criterion is only 0.131, which indicates unsuitability of initial data for factor analysis.

### 3.3 Multidimensional scaling

Multidimensionality of the initial data can not directly represent them graphically. However, using the methods of multidimensional scaling, that is done in Davison's book (Davison, 1988), we can visualize the investigated values as points on a plane using the advantage of graphical representation of information, namely, visibility in a full extent. This presentation will also allow us to evaluate the proximity of the value categories in relation to each other. Besides, it is important to note that the multidimensional scaling allows not only taking into account the mean values of the variables, but their variances as well. The result of the multivariate analysis is shown in Figure 1.
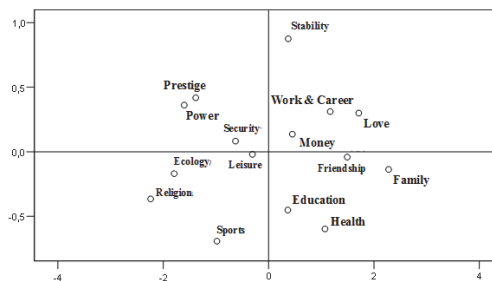


**Figure 1.** Relation among value categories based on the results of the multidimensional scaling

For the method of multidimensional scaling direction of the axes is not important. An important point is the location corresponding to the values in relation to each other. The values that in Figure 1 are close to each other, they are approximately equal in importance in student performance, and vice versa, the values that are far from each other, they are greatly differ in their importance. We see that at opposite poles on the horizontal axis there are groups such categories as Love, Friendship, Family, on the one hand and Prestige, Power, Ecology, Religion ─ on the other hand. As for the vertical axis, the variable Stability and a group of values, that includes the variables such as Sport and Health, sharply differ.

### 3.4 Analysis result of the multidimensional scaling

Analysis of the obtained results of the multidimensional scaling shows that, understanding importance of such values in life as Health, the students do not see its connection with the category Ecology. This fact indicates the need to strengthen environmental trends in education, upbringing of ecological culture among students in Russian universities. Moreover, it is important to notice that the low level of environmental culture identified in the sample, representing the students of "Economics and Entrepreneurship" department, and in fact it is assumed that students of such kind of faculties, in the first place, will create new businesses and working places. If they will not care about saving the environment, it is meaningless to talk about the importance of such categories as Health.

In addition, it should be noted that, highlighting in the scale of priority values such as Love, Friendship and Family, students do not link them with the category Religion. They do not see an impact of the category Religion on the strengthening of family and friendship bonds. Note also that, if the categories Stability and Security do not differ much at the average values (Table 2), the analysis made by the method of multidimensional scaling quite significantly separates these categories. Moreover, the category Stability, as shown in Figure 1, differs significantly from all other categories. This indicates a large spread of values for this category in the students' responses. Indeed, as it can be seen from Table 2, the standard deviation of the variable Stability has the biggest value. For some of the students, this category is very important for some others it almost does not matter.

### 3.5 Cluster analysis

For more complete representation of the real picture of life values from the point of the modern students view we conduct a cluster analysis. This analysis is considered in Gitis' book (Gitis, 2003). The main objective of the cluster analysis is split the respondents into clusters (groups), so that the respondents falling in one cluster are similar in their life values, and falling in different clusters they are greatly differ in their life priorities. It is also important not just to split the respondents into clusters, but also to identify what these clusters are different, to characterize the identified clusters.

The cluster analysis is performed by the Ward's method, allowing us to form spherical, compact clusters with the lowest possible variance. As a measure of proximity it is chosen the most popular measure, namely, the squared Euclidean distance. The optimal number of clusters is defined by the dendrogram, constructed with help of SPSS computer program. This dendrogram is shown in Figure 2.
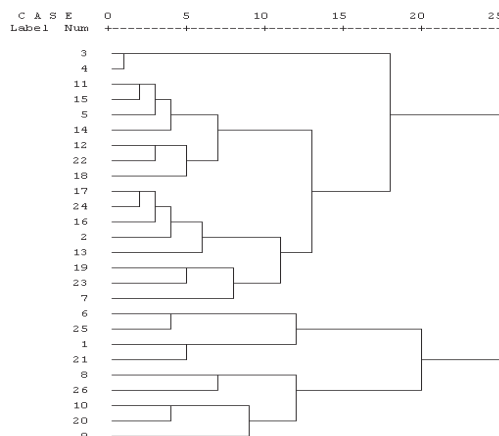


**Figure 2.** Dendrogram to determine the optimal number of clusters

### 3.6 Result of the cluster analysis

Analysis of the dendrogram indicates that as the optimal partition of students, it can be taken a partitioning into five clusters. To understand the differences among these clusters we compare the averages survey results on clusters and the variables (Table 5).

**Table 5**

| Ward Method | Family | Frienship | Health | Work & Career | Money | Love | Education | Religion | Ecology | Security | Stability | Leisure | Prestige | Sports | Power |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9.75 | 13.75 | 12.50 | 13.75 | 11.75 | 8.75 | 8.25 | 2.75 | 2.75 | 4.25 | 5.75 | 7.75 | 5.50 | 8.25 | 4.50 |
| 2 | 13.13 | 12.63 | 8.75 | 10.00 | 8.38 | 13.00 | 7.25 | 1.25 | 3.00 | 7.38 | 12.25 | 8.25 | 5.75 | 3.50 | 4.75 |
| 3 | 15.00 | 6.00 | 14.00 | 13.00 | 5.00 | 7.00 | 9.00 | 1.00 | 3.00 | 10.00 | 12.00 | 11.00 | 2.00 | 8.00 | 4.00 |
| 4 | 14.71 | 11.43 | 11.14 | 11.29 | 10.00 | 13.14 | 10.86 | 2.29 | 3.00 | 6.71 | 7.57 | 5.86 | 4.57 | 3.71 | 4.71 |
| 5 | 14.80 | 11.40 | 10.20 | 7.20 | 8.40 | 13.00 | 8.20 | 6.20 | 5.60 | 6.20 | 6.60 | 7.20 | 2.40 | 10.60 | 2.00 |

The most inconsiderable in number is the third cluster. It contains only two students. For these students such life values as Family, Health, Safety, and Leisure are important. But the categories Friendship, Money, Love, Religion, and Prestige care these students a little. The next largest (4 people) is the first cluster. For students in this cluster such vital categories as Business and Career, Money are important, with reduced requirements for Environmental, Safety and Stability. But at the same time, these students are committed to values such as Friendship and Sport. The fifth cluster includes 5 people, for whom the important values are Religion, Ecology, Sport, with low estimations of variables such as Power, Work & Career.

The most numerous and therefore deserved special attention are the second cluster (8 people) and the fourth one (7 people). Students, included in the second cluster, distinguish the life values Power, Prestige and Stability as particularly important for them. But to achieve these goals, they do not see the importance of such categories as Education, Health, and Sports. Taken the large number of this group into consideration, we understand that, unfortunately, the category Education is not significant for big amount of young people. They do not seen the category Education as a priority in their lives.

For students of the fourth cluster, on the contrary, the most important landmark of life, along with love, is education, with low interest in organizing their leisure time. Given that in this cluster a fairly large proportion of respondents includes, we conclude that there is a sharp division of young people concerning the importance of education.

## 4. Conclusions

1. In general, importance of education is not seen by young people as a prior factor in their lives. However, compared with the ninetieth years of the last century, there has been a radical change in the minds of young people in relation to education. Despite the fairly large number of young people with a low estimation of the importance of education, there is a fairly large group of them, which, on the contrary, see education as one of their priorities in life.
2. Understanding importance of the category Health, students, unfortunately, do not see any connection between this category and the environmental component. This fact suggests the need to pay more attention to ecological culture in education, necessity to develop and implementation in syllabuses and curriculum plans some training courses aimed at increasing environmental awareness among students and understanding of its importance.
3. Giving preference in the system of their life values to such eternal categories as Family, Love, Friendship, students do not see virtually any role of religion in strengthening the institutions of family and friendly relations. Here we note that, compared with the listed categories (Family, Love and Friendship) some categories such as Power and Prestige as a whole are not considered students as important.
4. Those students who prefer such categories as Power and Prestige, do not see any connection among these categories and the variables Education, Health, and Sports. Especially note the lack of communication with the category Education. Path to the power and prestige these students do not see through increasing their educational level, and they likely consider other means as important in this way to reach their goals.

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