



## Research article

### ADAPTATION OF THE QUESTIONNAIRE " SELF-PORTRAIT - NEEDS AND ASPIRATIONS " BY G. SHTERN

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**Summary:** The article includes validation of the questionnaire “Self-Portrait – Needs and Aspirations”, a modification of G. Stern’s questionnaire “Activity Index”, published in Bulgaria by I. Ivanov. The results of the test-retest method showed acceptable reliability of the scales from the questionnaire used in the present study, which confirms their stability and sustainability.

**Keywords:** needs; reliability; validity

Establishing the psychometric characteristics of a questionnaire contributes to enriching scientific knowledge about the structure of the studied phenomenon, its connections with other phenomena, and is beneficial for psychological practice in the future application of the diagnostic tool, in order to support the processes of counseling and prevention. In this article, the focus is on establishing the reliability and validity of a questionnaire that measures various needs, and establishing their degree of satisfaction can contribute to clarifying motives and goals that guide human behavior.

A “need” is usually understood as “an internal state of imbalance or lack that carries the potential to provoke or reinforce a given behavioral response” ( Pinder , 1998, p.244).

Need is a response to a disturbed equilibrium, which finds expression in an intense and long-term state of tension ( Cameron , 1947).

Need is defined both as a property of the personality and as a process that arises as a result of the imbalanced internal state of the organism, mobilizing available resources to carry out actions that have the potential to restore balance ( Obukhovski , K., 1981).

Needs are related to determining the behavior of the individual, the direction of their interests, regulation and self-regulation of behavior (Ivanov, I., 1999).

Needs are psychological mechanisms and are expressed in the experience of a need for specific conditions of life and development. Needs are also a mental state of inconsistency between internal and external conditions, and a movement towards achieving conformity, to achieve internal balance ( Pinder , 1998).

The need has a current character at a certain period or moment, it determines the direction of human behavior ( Desev , L., 2006). Needs are related to determining the behavior of the individual, the direction of his interests, regulation and self-regulation of behavior (Ivanov, I., 1999). And needs also determine the direction of the individual, along with his relations to the world around him and his own obligations (ibid.).

K. Goldstein advocates the idea that a need is a certain state of permanent average tension that characterizes the personality and it tries to regain its balanced state, inherent in a healthy personality, disturbed by certain internal or external factors ( Goldstein , 1939). As an illustrative example of this

is the need for hunger, which becomes leading at the appropriate moment, directing the thoughts and activities of the personality towards possible means of obtaining food, excluding almost all other stimuli ( Atkinson , 1964; Maslow , 1970; McClelland , 1953).

The need stimulates the individual to seek a means (resource) for its satisfaction and activates motives for the implementation of a given action that will provide the need (Gotseva, A., 2008), as a person uses his psychophysiological resources to satisfy his needs, and it is precisely the needs that instigate the emergence of motives.

The motive functions as an internal set of stimuli for a given need, which reflects the subjective interest and orientation of the person. The main division of motives is reduced to two groups: cognitive motives - reflect the content and structural functioning of the activity; and social motives - the interaction that the person carries out with others ( Virmozelova , N., 2012, p. 46).

The aim of this study is to verify the existence of a relationship between needs and self-esteem in students who practice sports in their free time and those who do not engage in sports activity in their daily lives, as well as to examine the sustainability of needs and their relevance over a relatively long period of time.

We assume that the test-re-test method will reveal the sustainability of needs and their relevance over a relatively long period of time.

## **ORGANIZATION OF THE STUDY**

Rosenberg 's Global Self-Esteem Questionnaire (title after M. Paunov, 2001), published in Bulgaria by R. Angelova and L. Krastev (1997), M. Paunov (2001), I. Peneva and S. Stoyanova (2011), Dilova , Papazova & Koralov (2017), and adapted for Bulgarian students by I. Peneva and S. Stoyanova (2011); the other questionnaire is "Self-Portrait – Needs and Aspirations", published in Bulgaria by I. Ivanov (1999), a modification of G. Shtern's "Activities Index" questionnaire - Activities Index ( Stern , 1958).

The questionnaire "Self-portrait – needs and aspirations" was created by G. Stern (according to Ivanov, I., 1999, p.12) in 1958 ( Stern , 1958; Stern , 1966), diagnosing mental needs according to the classification of H. Murray (according to Ivanov, I., 1999, p.12; in Shafer , 1958, p.54). The basis of the questionnaire is the idea that the need can be represented by the goals that the individual strives for and the type of interactions in which he is involved, i.e. the goals that the interaction serves for the individual, and the need is revealed in the individual's ways of behaving ( Shafer , 1958, p.53). G. Stern calls his questionnaire the "Activities Index" (Activities Index) . Index ) and was designed to measure needs by indicating preferences for various activities ( Stern , 1958). The person surveyed answers for each item whether it describes a liked or disliked activity ( Stern , 1966, p.207).

In Bulgaria, this questionnaire has been applied in several studies (Ivanov, I. P., nd .; "Handbook of a network of bread houses under the project "Bread for social change" BG05/470", 2015), but there is no data on the psychometric characteristics of the questionnaire for Bulgarian conditions, therefore, to check the reliability of the questionnaire "Self-portrait – needs and aspirations", the test- retest method was applied with an interval between the two tests of 6 months.

The study was conducted in two stages: stage 1 - from April to May 2017 (summer semester of the 2016/2017 academic year) and stage 2 - from October to November 2017 (winter semester of the 2017/2018 academic year) on the territory of the city of Blagoevgrad at the South-West University "Neofit Rilski" among students (male and female) of the bachelor's degree.

In the first stage of the study, we focused on 1st, 2nd and 3rd year students, and during the re-testing (after an interval of about 6 months) we tried to find as many of the same subjects as possible, and for this purpose we visited the relevant majors for a second time during the following winter semester, where the students were already in a higher year (2nd, 3rd and 4th year, respectively).

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The total number of people surveyed from both stages of the study is 670, with data collected from 566 students in the first stage of the study, and 104 of them being retested in the second stage of the study - that's how many were found and agreed to fill out the questionnaires again.

The study can be considered representative for the country because, according to data from the National Statistical Institute, the number of all students in Bulgaria for the academic year 2017/2018 is 229,771 (" Republic of Bulgaria. National Statistical Institute", 2018 ), so the representative sample of students at a confidence interval of 5 is 384 students (" Creative Research Systems", 2012).

### **DATA FOR THE ORIGINAL QUESTIONNAIRE "SELF-PORTRAIT – NEEDS AND ASPIRATIONS"**

The original "Activity Index" consists of 300 items ( Shafer , 1958, p.54; Stern , 1966, pp.207-214), distributed in 30 need categories ( Stern , 1966, pp.224-226), but according to other authors – in 42 need categories ( Shafer , 1958, p.54). The original "Activity Index" measures the following need categories, into which the test items are distributed – Abasement , Achievement , Adaptiveness , Affiliation - rejection , Aggression – Blame avoidance , change - sameness , conjunctivity-disjunctivity , counteraction - infavoidance , deference , dominance , ego -achievement , emotionality-placidity , energy - passivity , exhibitionism - infavoidance , fantasized achievements Achievement , Harmavoidance , Humanism , Impulse - Deliberation , Narcissism , Nurturance - Rejection , Objectivity , Order , Play , Pragmatism , Reflectiveness , Scientism , Sentience , Sex- Prudery , Succorance- Autonomy , Understanding ( Stern , 1966 , pp . 228-235 ) .

### **DESCRIPTION OF THE METHODOLOGY**

The questionnaire, modified, translated and published in Bulgarian by I. Ivanov (1999), measures 25 needs on 25 scales, each of which consists of one item , which is answered with seven levels. The questionnaire consists of short descriptions of personality traits and reactions, which express 25 psychological needs, indicated by letters of the Latin alphabet (Ivanov, I., 1999) .

These needs are: Need for achievement; Need for clarification (training); Need for knowledge; Need for creation; Need for safety as a tendency to avoid censure from others; Need for safety as a tendency to avoid physical injuries; Need for acquisition; Need for avoiding failures and falling in one's own eyes; Need for affiliation ; Need for respect for others; Need for care and guardianship for others; Need for order; Need for play (entertainment); Need for pleasant sensations; Need for sex; Need for experiencing care and guardianship from others; Need for autonomy; Need for isolation; Need for aggression; Need for recognition and approval; Need for dominance; Need for ostentation; Need for concession; Need for compensation; Need for self-justification (Ivanov, I., 1999).

The person being surveyed must assess to what extent each statement in the questionnaire applies to him or her by choosing an answer on a 7-point scale (Ivanov, I., 1999) :

- (7) – describes me perfectly
- (6) – describes me well
- (5) – I'm more like that
- (4) – it's hard for me to judge whether I am like that or not
- (3) – I'm not like that
- (2) – this does not apply to me
- (1) – does not apply to me at all

In the original methodology, either two answers are selected - I like it/I don't like it, or the response scale has values from -6 to +6 through 0 ( Stern , 1966, p.49, p.207).

Based on the results of this methodology, a linear profile of the expression of all needs can be created ( Chaim , 1991, p.129; Stern , 1966, pp.48-49). The profile according to the test can also be a circle, divided into sectors for each need ( Shafer , 1958, p.54; Stern , 1966, p.108), and the needs can be grouped into 9 clusters, and these in turn - into 3 large areas, corresponding to the ways of adaptation that K. Horney talks about - withdrawal from others, approach to others and opposition to others ( in Shafer , 1958, p.54). Stern (1966) proposes grouping the needs around the circle into 12 factors, and these in turn into 4 areas - orientation towards achievements or intellectual climate; needs expressing dependence; expression of emotions; needs related to learning ( Stern , 1966, p.108, p.245). The 12 factors derived by G. Stern are self - assertion , audacity- timidity , intellectual interests/ intellectual interests , motivation , applied interests interests , orderliness , submissiveness , closeness , sensuousness , friendliness , expressiveness -constraint , and egoism - diffidence ( Stern , 1966, p.108, p.245). Another author reports that through factor analysis he derived 9 factors for male students and 8 factors for female students in the USA, into which the items from the methodology are distributed , with only a part of G. Stern 's original factors being extracted ( Stone , 1965), which indicates differences between the sexes in their needs. In Bulgaria, in a study of teachers, needs were examined together with characteristics of temperament and gender-role stereotype, all of which were grouped into 4 clusters at a lower level, which were further combined with each other and formed a total of 6 clusters (Ivanov, I. P., nd ).

Stern 's methodology has been applied to research on students ( Shafer , 1958, pp.54-55; Stern , 1966, p.8), football players, social workers, teachers ( Shafer , 1958, pp.54-55), schoolchildren ( Stern , 1966, p.8). G. Stern 's methodology is suitable for students from 7th grade and up and adults ( Buros , 1965, p.108).

The reliability of G. Stern 's questionnaire using the test- retest method ranges from 0.47 to 0.93 ( Shafer , 1958, p.55).

Pearson correlation coefficient in the test- retest method is a measure of reliability, i.e. of measurement accuracy as stability and sustainability of the results (Stoyanova, S., 2007).

The reliability of the "need for achievement" scale, measured with the test- retest method with a retest period of about 6 months among 104 students, is acceptable ( $r=0.598$ ;  $p<0.001$ ), including 52 non-athletic students ( $r=0.609$ ;  $p<0.001$ ) and 52 athletic students ( $r=0.592$ ;  $p<0.001$ ).

The reliability of the "need for clarification (training)" scale, measured with the test- retest method with a retest period of about 6 months among 103 students, is acceptable ( $r=0.483$ ;  $p<0.001$ ), including 52 non-athletic students ( $r=0.526$ ;  $p<0.001$ ) and 51 athletic students ( $r=0.413$ ;  $p=0.003$ ).

The reliability of the "need for knowledge" scale, measured with the test- retest method with a retest period of about 6 months among 103 students, is acceptable ( $r=0.331$ ;  $p<0.001$ ), including in 52 non-sports students ( $r=0.400$ ;  $p=0.003$ ), but is very low in 51 sports students ( $r=0.230$ ;  $p=0.104$ ), which means instability of the need for knowledge in sports students.

The reliability of the "need to create" scale, measured with the test- retest method with a retest period of about 6 months among 102 students, is acceptable ( $r=0.478$ ;  $p<0.001$ ), including 52 non-sports students ( $r=0.440$ ;  $p=0.001$ ) and 50 sports students ( $r=0.541$ ;  $p<0.001$ ).

The reliability of the scale "need for safety as a tendency to avoid censure from others", measured by the test- retest method with a retest period of about 6 months among 103 students, is weak ( $r=0.235$ ;  $p=0.017$ ), but there is still a statistically significant direct proportional relationship between the results of the two tests. The reliability of the scale "need for safety as a tendency to avoid censure from others", measured by the test- retest method with a retest period of about 6 months among 52 non-sports students ( $r=0.319$ ;  $p=0.021$ ), is acceptable. The reliability of the scale "need for safety as a tendency to avoid censure from others", measured by the test- retest method with a retest period of about 6 months among 51 sports students ( $r=0.134$ ;  $p=0.348$ ), is very low, which means instability of this need in sports students.

The reliability of the scale "need for safety as a tendency to avoid physical injuries", measured with the test- retest method with a retest period of about 6 months among 103 students, is acceptable

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( $r=0.466$ ;  $p<0.001$ ), including 52 non-athletic students ( $r=0.425$ ;  $p=0.002$ ) and 51 athletic students ( $r=0.507$ ;  $p<0.001$ ).

The reliability of the "need for acquisition" scale, measured with the test- retest method with a retest period of about 6 months among 104 students, is acceptable ( $r=0.577$ ;  $p<0.001$ ), including 52 non-athletic students ( $r=0.510$ ;  $p<0.001$ ) and 52 athletic students ( $r=0.619$ ;  $p<0.001$ ).

The reliability of the scale "need to avoid failures and falling in one's own eyes", measured with the test- retest method with a retest period of about 6 months among 104 students, is acceptable ( $r=0.392$ ;  $p<0.001$ ), including in 52 non-sports students ( $r=0.485$ ;  $p<0.001$ ), but is very low in 52 sports students ( $r=0.272$ ;  $p=0.051$ ), which means instability of this need in sports students.

The reliability of the "need for affiliation " scale, measured with the test- retest method with a retest period of about 6 months among 103 students, is acceptable ( $r=0.436$ ;  $p<0.001$ ), including in 51 sports students ( $r=0.604$ ;  $p<0.001$ ), but is very low in 52 non-sports students ( $r=0.189$ ;  $p=0.180$ ), i.e. in non-sports students as part of the student sample the need for affiliation is unstable.

The reliability of the "need for respect for others" scale, measured with the test- retest method with a retest period of about 6 months among 104 students, is acceptable ( $r=0.466$ ;  $p<0.001$ ), including 52 non-athletic students ( $r=0.453$ ;  $p=0.001$ ) and 52 athletic students ( $r=0.479$ ;  $p<0.001$ ).

The reliability of the scale "need for care and custody of others", measured with the test- retest method with a retest period of about 6 months among 104 students, is acceptable ( $r=0.320$ ;  $p<0.001$ ), including in 52 non-sports students ( $r=0.469$ ;  $p<0.001$ ), but is very low in 52 sports students ( $r=0.069$ ;  $p=0.629$ ), which means instability of this need in sports students.

The reliability of the "need for order" scale, measured with the test- retest method with a retest period of about 6 months among 100 students, is acceptable ( $r=0.410$ ;  $p<0.001$ ), including 50 non-sports students ( $r=0.428$ ;  $p=0.002$ ) and 50 sports students ( $r=0.344$ ;  $p=0.014$ ).

The reliability of the "need for play (entertainment)" scale, measured with the test- retest method with a retest period of about 6 months among 102 students, is acceptable ( $r=0.534$ ;  $p<0.001$ ), including in 52 non-sports students ( $r=0.374$ ;  $p=0.006$ ) and in 50 sports students ( $r=0.692$ ;  $p<0.001$ ).

The reliability of the "need for pleasant sensations" scale, measured with the test- retest method with a retest period of about 6 months among 103 students, is acceptable ( $r=0.515$ ;  $p<0.001$ ), including 52 non-sports students ( $r=0.585$ ;  $p<0.001$ ) and 51 sports students ( $r=0.450$ ;  $p=0.001$ ).

The reliability of the "need for sex" scale, measured with the test- retest method with a retest period of about 6 months among 100 students, is acceptable ( $r=0.507$ ;  $p<0.001$ ), including 50 non-athletic students ( $r=0.530$ ;  $p<0.001$ ) and 50 athletic students ( $r=0.528$ ;  $p<0.001$ ).

The reliability of the scale "need to experience care and protection from others", measured with the test- retest method with a retest period of about 6 months among 102 students, is acceptable ( $r=0.371$ ;  $p<0.001$ ), including in 51 non-sports students ( $r=0.437$ ;  $p=0.001$ ), but is weak in 51 sports students ( $r=0.287$ ;  $p=0.041$ ), and yet the correlation between the two tests is statistically significant, although weak in sports students.

The reliability of the "need for autonomy" scale, measured with the test- retest method with a retest period of about 6 months among 104 students, is acceptable ( $r=0.359$ ;  $p<0.001$ ), including in 52 non-sports students ( $r=0.484$ ;  $p<0.001$ ), but is very low in 52 sports students ( $r=0.259$ ;  $p=0.064$ ), which means that this need is unstable in sports students.

The reliability of the "need for isolation" scale, measured with the test- retest method with a retest period of about 6 months among 104 students, is weak ( $r=0.276$ ;  $p=0.005$ ), but there is still a statistically significant direct proportional relationship between the results of the two tests. The reliability of the "need for isolation" scale, measured with the test- retest method with a retest period of about 6 months among 52 non-sports students ( $r=0.356$ ;  $p=0.010$ ), is acceptable. The reliability of the "need for isolation" scale, measured with the test- retest method with a retest period of about 6 months among 52 sports students is very low ( $r=0.188$ ;  $p=0.181$ ), which means that this need is unstable in sports students.

The reliability of the "need for aggression" scale, measured with the test- retest method with a retest period of about 6 months among 103 students, is weak ( $r=0.194$ ;  $p=0.049$ ), including in 51 sports students ( $r=0.282$ ;  $p=0.045$ ), but there is still a statistically significant direct proportional relationship between the results of the two tests. The reliability of the "need for aggression" scale is very low in 52 non-sports students ( $r=0.068$ ;  $p=0.634$ ), i.e. in non-sports students as part of the student sample the need for aggression is unstable.

The reliability of the "need for recognition and approval" scale, measured with the test- retest method with a retest period of about 6 months among 102 students, is acceptable ( $r=0.450$ ;  $p<0.001$ ), including 52 non-athletic students ( $r=0.578$ ;  $p<0.001$ ) and 50 athletic students ( $r=0.343$ ;  $p=0.015$ ).

The reliability of the "need for dominance" scale, measured with the test- retest method with a retest period of about 6 months among 102 students, is acceptable ( $r=0.460$ ;  $p<0.001$ ), including 52 non-athletic students ( $r=0.559$ ;  $p<0.001$ ) and 50 athletic students ( $r=0.377$ ;  $p=0.007$ ).

The reliability of the "need for show" scale, measured with the test- retest method with a retest period of about 6 months among 102 students, is acceptable ( $r=0.386$ ;  $p<0.001$ ), including in 52 non-athletic students ( $r=0.577$ ;  $p<0.001$ ), but is very low in 50 athletic students ( $r=0.236$ ;  $p=0.099$ ), which means that this need is unstable in athletic students.

The reliability of the questionnaire measuring the "need for a break", measured with the test-retest method with a retest period of about 6 months among 102 students, is acceptable ( $r=0.335$ ;  $p<0.001$ ), including in 50 sports students ( $r=0.345$ ;  $p=0.014$ ), and in 52 non-sports students ( $r=0.279$ ;  $p=0.045$ ) it is low, but still the correlation between the scores of non-sports students on the need for a break in the two tests is statistically significant, although weak.

The reliability of the "need for compensation" scale, measured with the test- retest method with a retest period of about 6 months among 103 students, is weak ( $r=0.278$ ;  $p<0.004$ ), including in 52 non-sports students ( $r=0.288$ ;  $p=0.039$ ), but there is still a statistically significant direct proportional relationship between the results of the two tests. The reliability of the "need for compensation" scale, measured with the test- retest method with a retest period of about 6 months among 51 sports students is low ( $r=0.156$ ;  $p=0.276$ ), which means that this need is unstable in sports students.

The reliability of the "need for self-justification" scale, measured with the test- retest method with a retest period of about 6 months among 101 students, is acceptable ( $r=0.471$ ;  $p<0.001$ ), including in 51 non-athletic students ( $r=0.418$ ;  $p=0.002$ ) and in 50 athletic students ( $r=0.488$ ;  $p<0.001$ ).

Pearson correlation coefficient in the test- retest method is a measure of reliability, i.e. of measurement accuracy as stability and sustainability of the results (Stoyanova, S., 2007).

The reliability of the scales on the "Self-Portrait – Needs and Aspirations" questionnaire using the test- retest method among all Bulgarian students surveyed ranges from 0.194 to 0.598, with all Pearson correlation coefficients, measures of reliability, being statistically significant and worthy of interpretation –  $p < 0.05$  (the values of the reliability coefficient range from 0.068 to 0.609 for non-sports students and from 0.069 to 0.692 for sports students), which is a lower value of the reliability coefficients than in studies abroad with the full version of G. Stern's methodology (Shafer, 1958, p.55), but in studies abroad the period between the two tests is several weeks, not several months. The 6-month period between the two tests in Bulgaria was chosen as an opportunity to check the sustainability of the students' needs for a longer period. The significance of the relationship between the results of the two tests of all the students studied on all scales of the questionnaire "Self-portrait – needs and aspirations" after a 6-month period reveals the stability of the needs and their relevance for a relatively long period of time. For 4 of the scales, i.e. for 4 needs ("need for safety as a tendency to avoid censure from others", "need for isolation", "need for aggression" and "need for compensation"), a greater dynamics of change in needs was established over a period of half a year, compared to the other needs for all the students studied, but this dynamics is not too great and the results are stable, although to a lower extent than for the other needs for all the students studied. The

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results of the test- retest method showed generally acceptable reliability of the scales from the questionnaire used in the present study, which confirms their stability and sustainability.

For two scales, i.e. for two needs ("need for affiliation" and "need for aggression"), a much greater dynamics of change in needs over a period of half a year was found compared to the other needs in non-sports students. For 8 of the scales, i.e. for 8 needs ("need for knowledge", "need for safety as a tendency to avoid reprimand from others", "need to avoid failures and falling in one's own eyes", "need for care and guardianship for others", "need for autonomy", "need for isolation", "need for ostentation" and "need for compensation"), a greater dynamics of change in needs over a period of half a year was found compared to the other needs in sports students. It was found that a greater number of needs of non-sports students are sustainable (23 needs) than the number of sustainable needs of sports students (17 needs), but on the other hand, the reliability coefficients for non-sports students are lower – ranging from 0.068 to 0.609, than for sports students – ranging from 0.069 to 0.692, which is an indicator of higher reliability of the scales from the methodology for sports students. It is possible that achieving successes or failures in sports activities can lead to a change in the needs of sports students. The longer duration of sports activities, more hours of practicing sports could lead to the satisfaction of some needs and the emergence of new ones. It is also possible that if there are more interrelationships between the needs of sports students than between the needs of non-sports students, then the change in one need for sports students is associated with greater dynamics of their other needs.

### **RESEARCH RESULTS – RELATIONSHIP BETWEEN SELF-ESTEEM AND NEEDS**

To determine the strength of the linear relationship between needs on the one hand and self-esteem on the other hand, a correlation analysis.

, the need for achievement increases ( Spearman 's Rho = 0.301;  $p < 0.001$ ;  $N = 566$ ) at the first testing at the end of the school year for all surveyed students. As the self-assessment score increases in the second test at the beginning of the school year, the need for achievement increases ( $r = 0.375$ ;  $p < 0.001$ ;  $N = 101$ ), as does the need for explanation/training ( $r = 0.408$ ;  $p < 0.001$ ;  $N = 101$ ), and also the need for knowledge ( $r = 0.335$ ;  $p = 0.001$ ;  $N = 101$ ). during the second testing at the beginning of the school year for all surveyed students.

Since we want to verify the reliability of the "Self-Portrait - Needs and Aspirations" questionnaire using the test- retest method and present the results in detail in this article, we will present only the significant correlation coefficients between self-esteem and needs for all surveyed students from both stages of the study.

As the self-esteem score increases at the first test at the end of the school year, the need for safety (avoidance of reprimand) decreases ( $r = -0.302$ ;  $p < 0.001$ ;  $N = 239$ ) at the first test at the end of the school year among non-athletic students. As the self-esteem score increases in the second test at the beginning of the school year, the need for achievement ( $r = 0.344$ ;  $p = 0.014$ ;  $N = 51$ ), the need for explanation/training ( $r = 0.478$ ;  $p < 0.001$ ;  $N = 51$ ), the need for knowledge ( $r = 0.368$ ;  $p = 0.008$ ;  $N = 51$ ), the need for show ( $r = 0.316$ ;  $p = 0.024$ ;  $N = 51$ ) and the need for compensation ( $r = 0.323$ ;  $p = 0.021$ ;  $N = 51$ ) increase in the second test at the beginning of the school year for non-athletic students.

, the need for achievement increases ( Spearman 's Rho = 0.334;  $p < 0.001$ ;  $N = 327$ ) and the need for compensation ( Spearman 's Rho = 0.300;  $p < 0.001$ ;  $N = 324$ ) at the first testing at the end of the school year for students who play sports. With an increase in the self-esteem score at the second testing at the beginning of the school year, the need for achievement ( $r = 0.371$ ;  $p = 0.008$ ;  $N = 50$ ) and the need for affiliation ( $r = 0.392$ ;  $p = 0.005$ ;  $N = 50$ ) increase at the second testing at the beginning of the school year for students who play sports.

These data prove that there is a relationship between self-esteem and needs among the students surveyed.

## CHECKING THE RELIABILITY OF THE QUESTIONNAIRE

The original methodology of G. Stern is normalized in means and standard deviations (Stern, 1966, p.245). In Poland, the methodology of G. Stern is also normalized in means and standard deviations (Chaim, 1991, p.130-131).

item<sup>1</sup> difficulty indices, expressed through the coefficients of asymmetry and kurtosis, for Bulgarian students are presented in Table 1.

The data in Table 1 reveal that all items in the questionnaire are of optimal difficulty, as the skewness and kurtosis coefficients range from -2 to +2, which is an indicator of the normal distribution of responses on each item for each need (Dzhonev, S., 2004; Stoyanova, S., 2007).

At the same time, the data in Table 1 reveal the degree of expression of individual needs for students, with the most strongly expressed being the need for care and protection for others, for affiliation, for knowledge, for order, and the least expressed being the need for concession.

*Table 1. Mean values, standard deviations and coefficients of asymmetry and kurtosis of the items expressing needs, measured with the "Self-portrait – needs and aspirations" questionnaire at the first testing at the end of the school year*

Needs	Arithmetic mean	Standard deviations	Asymmetry coefficients	Kurdistan coefficients
Need for care and protection for others	6.03	1,075	-1,304	2,301
Need for affiliation	5.82	1,294	-1,248	1,487
Need for knowledge	5.76	1,271	-1.23	1,738
Need for order	5.67	1,352	-1,079	0.943
Need for compensation	5.48	1,273	-0.905	1.04
Need for play, entertainment	5.35	1,467	-0.787	0.147
Need for achievements	5.32	1.35	-0.651	-0.031
Need for sex	5.23	1.61	-0.743	-0.201
Need for pleasant sensations	5.18	1,348	-0.62	0.268
Need for autonomy	5.09	1,637	-0.668	-0.315
Need for creation	5.05	1,535	-0.537	-0.499
Need for clarification/training	4.92	1,522	-0.399	-0.671
Need to feel cared for and protected by others	4.81	1,581	-0.609	-0.12
Acquisition need	4.75	1,688	-0.32	-0.877
Need for show-off	4.34	1,663	-0.158	-0.778
Need for self-justification	4.3	1.67	-0.122	-0.797
Need for recognition and approval	4.19	1,662	0.038	-0.818
Safety needs such as avoiding physical harm	4.03	1,805	-0.028	-1.05
Need for dominance	3.91	1,679	0.199	-0.772

<sup>1</sup>Each item measures a separate need.

## ADAPTATION OF THE QUESTIONNAIRE "SELF-PORTRAIT - NEEDS AND ASPIRATIONS" BY G. STERN

Need for insulation	3.87	1,878	0.107	-1.065
Safety Need as Avoidance of Reprimand	3.78	1,775	0.189	-0.97
Need for respect for others	3.67	1,795	0.152	-0.998
Need for aggression	3.66	1,763	0.243	-0.892
Need to avoid failure and falling in one's own eyes	3.65	1,616	0.245	-0.786
Need for retreat	2.84	1,639	0.674	-0.425

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