

Personality Conditions of Pianists' Achievements

Malgorzata Chmurzynska

**Chair of Music Psychology, Fryderyk Chopin Music University, Poland*

mchmurzynska@chopin.edu.pl

ABSTRACT

The researchers indicate that personality is a significant factor determining the achievements both of the students during their music education process and the professional musicians in their musical career. The aims of the present study were to define the psychological profile of young pianists with the outstanding artistic achievements and to compare them with non-musicians groups. The respondents (the participants of the 16th International Fryderyk Chopin Piano Competition) completed the NEO Five-Factor Inventory, the General Self-Efficacy Scale and the Formal Characteristics of Behavior-Temperament Inventory. The results were compared with the results of non-musicians groups. The study has revealed the differences between the pianists and non-musicians.

I. BACKGROUND

Investigation of personality of the professional musicians remains the sphere mostly neglected by psychology of music. One of the reasons of this neglect are - apparently - difficulties in approaching the homogeneous, in respect of their performance specialization, possibly numerous group of musicians with proven outstanding achievements. Researchers, pondering over personality of musicians, refer most often to Kemp's investigations (1981, 1996, 1997). It will be like that this time too. However, I will present first the chronologically earlier investigations of the Polish psychologist Maria Manturzevska, scarcely known in the English language literature.

She attempted, in the second half of fifties of XX century, to analyse the reasons of difficulties and failures in learning playing the instruments of pupils of the professional music schools. Initially, she concentrated solely on testing gift for music using the tests most known at that time - Wing's, Drake's, Gordon's, Bentley's - adapted to the Polish conditions. It was like that, as she assumed - according to the common conviction prevailing at that time - that the deficiency in the area of the inborn abilities may feature the main source of problems in learning music at the advanced level. It turned out, however, that in 17% of cases only failure in musical education could be explained by deficiencies in the area of gift for music. Other factors were diagnosed having the negative effect on the process of learning, among others the ones connected with the pupil's personality trait, e.g.,: problems with concentration, lack of perseverance and getting discouraged easily, no need for self-improvement, lack of ability to withstand a failure, depression reactions to defeat, low level of mental - and intellectual passivity, lowered/overestimated self-evaluation (Chmurzynska, 2012). Therefore, taking up studies on psychological conditioning of achievements, Manturzevska (1969, 1974) concentrated on investigation of factors that were not taken into account so far as determinants of success in musical performances, like: general intelligence of musicians,

their personality, interests, and also their family environment, and individual work characteristics.

At the first stage participants of the Chopin Competition, which was held in 1960 in Warsaw, were investigated - as the experimental group - (40 persons in total, however, in particular tests the number of participants ranged from 11 to 23), and - as the control group - students of musicology, students of the non-music university faculties, and also randomly selected piano students from the last classes of the Academy of Music in Warsaw. The main Manturzevska's conclusions were as follows (1969):

- a. The group of the competition participants, as compared to the students, demonstrated better concentration ability, more efficient summoning of energy in stress situation, more perseverance in striving to reach the goal, conscientiousness and thoroughness at work.
- b. Students, in comparison with the competition participants, were characteristic of more intense features like shyness and tendency to stage fright.

In the second stage in years 1967-72, pupils from the primary and secondary professional music schools were investigated, and also students of the academies of music (from the instrumental faculties only), and - comparatively - pupils and students from the non-music schools. In this case - as opposed to first stage - a number of standardized psychological methods were used (Raven's Matrices test, Kuder Interests Inventories, Eysenck Personality Questionnaire, The California Psychological Inventory CPI created by H. Gough, Krepelin test). According to the tradition to date, the attention was focused on investigation of the power of perception in research into the specifically musical abilities, albeit - as Manturzevska states (1974) - the question remains open how these abilities are reflected in achievements in the instrumental performances. Cases of pupils with significant disproportions in this area are encountered in school practice.

The most important findings are presented below, referring to differences between the musical- and the non-musical youth and between the best and weakest pupils/students of the music schools (in this case examination marks for the performance on major instrument were adopted as the achievement criterion).

A. Specifically musical abilities

Youth from music schools compared to youth from the ordinary schools achieve very high scores in their music ability tests; therefore, against the background of the population, they are the group selected excellently in respect to their perceptive music abilities. As regards differentiation within the musical group, the significant differences in the gift for music levels between the best and weakest music school pupils (performance on the instrument being the criterion) appear solely at the lower education levels. The specifically musical abilities are, therefore, the strong predicate for success in learning music, but only in the primary music schools. At the

secondary school and university levels all pupils and students represent the very high level in this respect and differences between the best and weakest ones are relatively small. Therefore, the significance of the gift for music as the predicate for success gets clearly smaller.

B. Personality

It is quite the contrary in case of the personality trait - pupils of the primary music schools differ insignificantly in this respect from their peers from the ordinary schools. Bigger differences show up at the secondary school level, and the biggest ones - at the university level. Students of the academies of music demonstrate the higher neuroticism and introversion levels compared to students in general. They are more inclined to enthusiasm, intuitive perception and understanding the reality, approval of the other points of view. They are characteristic of a higher sensitivity, penetration, impulsiveness, and emotional excitability, lively imagination, and also the high concentration level regarding their personal matters and goals. They seem to be less mature and less emotionally balanced, more prone to mood swing, and also more egocentric. They have the higher self-value and less need for the social approval. According to characteristics provided by Gough, students of academies of music demonstrate, more than others, features of their artistic personality trait.

As regards differentiation within the musical group, then the clearer difference in the personality trait between the best- and the weakest ones are noted at the secondary schools' level, and the biggest ones at the academy of music level. In the primary music schools Manturzevska has found out only that the better pupils demonstrated the higher concentration ability and more perseverance at work. At the secondary schools level, the better pupils have features making the mental work easier. They demonstrate higher diligence, ease of adapting to the binding conduct standards and school requirements, conscientiousness, responsibility, and ambition. Better results at the university level studies achieve students less neurotic but introverted, more diligent, conscientious, reliable, persevering, with better adaptability to their environment requirements. Better students (and pupils from the secondary schools), compared to the weaker ones, demonstrated a higher level of their social maturity and emotional balance. However, such set of features, characteristic of the best ones, is not typical of the statistical pupil/student of a music school. As mentioned above, the total of pupils and students from the music schools compared to the non-musical youth achieved worse results in scales testing their social-emotional maturity and impulsiveness. The best ones have simply these features with less intensity than the major part of the musical youth population.

Therefore, the importance of personality as the determinant of success, according to Manturzevska, grows with the age and progressing to the higher musical education stage. The researcher observed the following tendency regarding the total of youth from the music schools and music academies: the neuroticism and introversion levels intensify with the age along with the need for achievements, and ambition level and flexibility of thinking grow. However, their social adaptability and emotional maturity levels decrease. This attests to fixation of the artistic personality trait among the majority of students of the academies of music.

One should stress, summing up results hereinabove that, according to Manturzevska, success in learning music in the

first years is decided by: specifically musical abilities and general intelligence (and also by the environmental factors - parental support and control, and good contact with the teacher). The excessively high or low intensity of any of these features (e.g., too high level of the general intelligence in respect to the specifically musical abilities) creates the unfavourable conditions for the artistic development. However, at the higher education stages, the most advantageous set of the personal features of an individual is composed of: high level of the general intelligence, low neuroticism, low extroversion, high social-emotional maturity level, relatively high responsibility, relatively high emotional balance level, big need for achievements, low interest in social life, problem solving orientation.

The following features are undesirable from the point of view of the educational and professional achievements: high neuroticism level, lowered self-value level compensated for with the excessive social activity. Such set of features does not augur well even for those highly gifted for music (Manturzevska, 1974).

Many years long Polish research into the determinants of success in studies and musical activity revealed that the specifically musical abilities, which are considered to be very important by the teachers, as the prognostic sign of achievements, are the necessary condition for the further successful musical development, however being the insufficient one - their value as a predicate for success is relative and dependent on the context created by other factors, and especially the personality trait (their importance grows with the musician's age).

Findings of Kemp are frequently cited in literature, coinciding mostly with Manturzevska's investigation results. Namely, he found out that musicians are characteristic of unsociability and higher introversion level in comparison with the population. As a group, they demonstrate the emotional instability, nervousness, sense of frustration and continuous restlessness; they are sensitive, at the younger age they are characteristic of submissiveness, however, at the older age - they demonstrate better self-dependence and independence of thought, and also assertiveness and reluctance to conform to external pressure. They are characteristic of much imagination and tendency to use their intuition, and also courage in undertaking a risk and various challenges. A musician is, according to Kemp, "a bold introvert".

Apart from these generally known conclusions from Kemp's investigations I would like to pay attention to two issues mentioned by the author. In the first place, he stated that the significant differences existed between musicians playing different instruments, therefore, he described separately composers, conductors, vocalists, instrumentalists (split into the orchestral and non-orchestral ones), and music teachers. In the second place, he made interesting observations, comparing two age groups of pianists, and also with analogous - in respect of their age - groups of other musicians. It turned out that both groups of pianists differed significantly in respect to some personality trait both among themselves and also in respect to other musicians. The group of younger pianists, pupils from the secondary music school, manifested the significantly higher shyness and higher level of introversion and anxiety. According to the author „the shyness factor suggests that this group of young pianists may not be particularly healthy from a

psychological point of view” (1996, p. 169). On the other hand, the group of elder pianists (students), other than their peers playing other instruments, and also the younger group of pianists, was characteristic of a higher extroversion level and lower neuroticism, and emotional balance. This group presented the attitude toward life that Kemp defined as „relaxed“. Manturzevska observed similar features with students of academies of music having a higher level of achievements.

More modern works of music psychologists are concentrated on such features of musicians like self-evaluation, self-confidence, feeling of self-value, capability to withstand a failure, self-efficacy.

The role of self-efficacy as the determinant of success in various areas is particularly stressed in the last years. The theory of self-efficacy, whose creator is A. Bandura, belongs to the most influential psychological theories of XX century (Baltes et al, 2004). It is oriented towards improvement of functioning of a person. Many definitions of the self-efficacy notion indicate that it is a kind of self-evaluation of the own competences, making effective activity in a particular area possible.

A number of regularities were identified, characterizing persons with the high efficacy feeling level (review of investigations in: Chmurzynska, submitted). These persons:

- set themselves ambitious goals; more often than others undertake accomplishment of difficult tasks;
- have more perseverance in pursuing their aim and try to finalise the task with more determination;
- have a positive attitude to the imminent difficulties, make every effort to overcome them; have a feeling of control in difficult situations;
- regain their self-confidence faster having experienced defeat (while persons lacking confidence in their competences feel apathy then and abandon the task more often); they summon their energy to take up the repeated attempts to achieve their aim and attribute the reasons of the defeat to the insufficient effort exerted or to the deficit of their knowledge or acquired skills (in the same case persons lacking confidence in their abilities seem to treat the tasks as more difficult than they are in fact, magnify the obstacles, brood over the difficulties, which limits their perception and renders solving problems impossible; attribute defeats to deficit of their abilities, which is out of their control);
- have better ability to overcome the stress and reduced susceptibility to depression;
- they demonstrate more interest in a particular field, more commitment in activity, and at the same time - higher level of achievements (this results in part from the fact that the activity in itself may be their source, as it makes achieving successes possible - even accidental ones).

Having personal traits characteristic of persons with the high self-efficacy is indispensable if efficient functioning in musical performance. Among others, Chaffin and Lemieux (2004), Hallam (1997, 2004, 2009), Lehmann, Sloboda and Woody (2007), McCormick and McPherson (2003), McPherson and McCormick (2006) McPherson and Schubert (2004) used to write about importance of the self-efficacy in musical activity.

II. STUDY

The main research objective that was set in this work was to define the psychological profile of young pianists with the outstanding artistic achievements.

At the 50th anniversary of the legendary for us research of Prof. Maria Manturzevska, thanks to co-operation with The Fryderyk Chopin Institute, had the opportunity to investigate participants of The International Fryderyk Chopin Piano Competition. Chopin Competition was composed of: the pre-elimination round - in February 2010 Qualification Committee consisting of Polish jurors made a selection of candidates based on the submitted DVD recordings and recommendations of eminent pianists, the elimination round - auditions with participation of the international jury were held in April 2010 in Warsaw. As a result, 81 young pianists with the already significant artistic achievements, laureates of the other international piano competitions, were qualified for the main competition which was held in October 2010 in Warsaw. They come from Middle and Western European countries, the former post-Soviet countries, Asian Countries, and other developed countries from outside Europe

A. Methods

Three tools were used for investigations: NEO Five-Factor Inventory (NEO-FFI), Formal Characteristics of Behaviour – Temperament Inventory (FCB-TI), General Self-Efficacy Scale (GSES).

1) *NEO Five-Factor Inventory*. It is used for diagnostics of the personality trait, taken into account in the popular NEOAC five factor model. The model, according to the Inventory authors, Costa and McCrae (1992; Zawadzki et al, 1998) comprises five core personality dimensions: Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), Conscientiousness (C). The notion of core means in the authors' understanding that these features have the character of the most general types of behaviour, and therefore, according to the Eysenck's hierarchical model of personality, they occupy the highest level. Moreover, they demonstrate the temporal stability, are observable, universal (which means that one may isolate the particular dimension irrespective of the investigated culture, age, sex, and race), and biologically determined (the highest heritability coefficients were obtained for Neuroticism, Extraversion, Openness). Factors making the Big Five model up characterize normal personalities, each of them has its advantages and drawbacks, and the extreme results may be connected both with the positive and negative behaviours.

Neuroticism is the factor reflecting the emotional adaptation versus the emotional disequilibrium, way of reacting to the psychological stress, frequency of experiencing the negative emotions (fear, feeling of guilt, anger). The high result is not an evidence of distemper, this is how Costa's and McCrae's Neuroticism differs from Eysenck's Neuroticism, with whom the high result meant susceptibility to neurosis. Neuroticism (as well as Agreeableness) makes it possible to forecast satisfaction from life. High results are obtained by persons susceptible to experiencing the negative emotions (fear, embarrassment, discontent, anger, feeling of guilt, sensitivity to psychological stress). Low results are obtained by persons

which are emotionally stable, composed, relaxed, coping with stress, who do not experience restlessness, tension, irritation.

Extraversion is the personality trait characterising the quality and number of social interactions and levels of activity, energy, and ability to experience the positive emotions. High results are obtained by persons full of beans, friendly, full of optimism and joy. Low results are obtained by persons characteristic of lack of the extrovert behaviour, but not their reverse, i.e., lack of optimism does not signify depression, and tendency to be alone is not equivalent to social phobia or shyness.

Openness to Experience is the factor expressing tendency of an individual to search and assess positively life experiences, tolerance to novelties, cognitive curiosity. It is treated as the determinant of professional interests. High results are obtained by creative persons with the lively and creative imagination, demonstrating the cognitive curiosity, interest in art, high aesthetic sensitivity, unconventionality, detachment. Low results are obtained by persons professing traditional values, having pragmatic interests.

Agreeableness is the factor reflecting the positive versus negative attitude to other people, trust vs. distrust, cooperative vs. competitive attitude. High results are obtained by likeable persons, willing to help, cooperative. Agreeableness being too high may be the grounds to forming the subordinate personality. Low results are obtained by skeptical persons, egocentric, suspicious, competitive.

Conscientiousness is the factor reflecting, how well is the individual organized, what is his or her perseverance in goal oriented activities. It is treated as the predicate for school and professional success. High results are obtained by persons motivated to act, scrupulous, conscientious, demonstrating strong will, with big achievements. Too much conscientiousness may cause workaholism. Low results are obtained by persons with low motivation to achievements, with the hedonistic attitude to life, demonstrating lack of the explicit aims, laziness, and impulsiveness in taking up decisions.

The Inventory includes 5 scales making measurement of the core personality traits possible. Each scale consists of 12 statements (60 statements in total), and the person being examined assesses their truth in the 5-point scale. NEO-FFI was completed by 76 of Chopin Competition participants.

2) *Formal Characteristics of Behaviour – Temperament Inventory*. It is the tool designed by Polish psychologists (Zawadzki & Strelau, 1998) for testing the temperament features as specified by the Regulative of Theory of Temperament (RTT), comprising the temporal and energetic behaviour properties: Briskness (B), Perseverance (P), Sensory Sensitivity (SS), Emotional Reactivity (ER), Endurance (En) and Activity (Ac) (Strelau, 1996). Temperament features - according to RTT theory – occur in early childhood and are common for humans and animals. Strelau (2001) stresses that genetic factors have the decisive effect on temperament, albeit he also indicates also to the environmental factors, e.g., stimulation or deprivation kept up long. "Noise, food and beverage intake, climate in which a person lives for a long time, population density, and many other features of the environment may serve as examples of variables affecting forming the temperament" (Strelau, 2001, p. 267).

Briskness is the tendency to quick reaction, to maintaining a high activity tempo and easy change from one behaviour (reaction) to another one, correspondingly to changes in the environment. High results are obtained by persons acting with unusual agility, who can easily adapt to the environment, flexible in their behaviour and intellectually plastic. They react impulsively often, behave as if they would be in a hurry all time (contradiction of phlegmatism). They demonstrate high perseverance and conscientiousness in their activity, and significant endurance.

Perseverance is the tendency to continue and repeat behaviours after the stimulus (situation) discontinues, that induced this behaviour. High results are obtained by persons who have a tendency to brood over the past events, and also to their detailed analysis, and to the prolonged going through them emotionally. They are prone to excessive concentration on their own states of mind and problems.

Sensory Sensitivity is the ability to react to stimuli with low stimulation value. High results are obtained by persons being sensorially and emotionally sensitive, delicate and emotionally refined, and observant, vigilant, and open to the external environment - at the cognitive level.

Emotional Reactivity is the tendency to intensive reacting to stimuli provoking emotions, being expressed with high sensitivity and low emotional immunity. High results are obtained by the emotionally ebullient persons, who react easily and intensely to the most trifling events, shy. It is easy to hurt their feelings. They demonstrate low maturity, and low emotional immunity. They have the tendency to break down in difficult situations; therefore, they try to avoid them (along with withdrawing from social contacts). Suffering from stress they carry out their tasks below the level of their competences and capabilities. They experience the prolonged state of the emotional tension, they are suspicious and self-conscious.

Endurance is the ability to react adequately in situations requiring the prolonged or highly stimulating activity and/or in the state of the strong external stimulation. High results are obtained by persons able to endure the pains and inconveniences of the daily life. They can cope with the unfavourable environment conditions (e.g., noise) and work with the exceptional intensity, for a long time, with perseverance, and conscientiously. They demonstrate the high emotional immunity and high immunity to hazards.

Activity is the tendency to take up behaviours with the high stimulation value or to behaviours providing the external stimulation. High results are obtained by persons being very active professionally and socially, often also physically (e.g., going in for sport).

The Inventory includes 6 scales making measurement of the six core personality traits possible, each scale consists of 20 statements (60 statements in total), with the 2-point answers scale („Yes“ or „No“). Its intercultural version, used in the international investigations, was employed in the current research. FCB-TI was completed by 47 of Chopin Competition participants.

3) *General Self-Efficacy Scale*. The construct of the General Self-Efficacy Scale, referring to Bandura's theory, expresses the individual's subjective convictions as regards his or her

abilities and capability to manage difficult situations. These convictions are conditioned by personality to a great degree. The GSES scale was developed by R. Schwarzer in 1992, and to year 1998 it was adopted in 21 countries (Schwarzer, 1998; Schwarzer & Jerusalem, 1995; Schwarzer, Schmitz, & Daytner, 1999). Unlike in case of scales measuring the specific self-efficacy, GSES is intended for measurement of the general conviction strength of an individual as regards the effectiveness of managing the difficult situations. The general self-efficacy index correlates positively with the self-value feeling, with the internal location of control along with optimism. The scale is 1-point, consists of 10 statements, and the examined persons specify in 1-4 scale to which extent they agree with each statement. The totalled result is within the range of 10-40 points and features the general self-efficacy index (Juczynski, 2001). GSES was completed by 80 of Chopin Competition participants.

Test results of the XVI International Chopin Piano Competition participants were compared with the results of the normalization groups from various countries and results of groups investigated, among others, within the framework of MSc theses in our universities. Further, these groups will be referred to as the „control groups“, and the successive numbers will be assigned to the particular ones, as follows:

- group 1 - professional orchestra musicians (brass and string instruments) – N-80
- group 2 - graduates of the secondary music schools, studying currently at the non-musical directions – N-30
- group 3 - medical students - N-50
- group 4 - psychology students – N-50
- group 5 - students of the Warsaw School of Economics – N-100
- group 6 - students of the University of Technology – N-80
- group 7 - female students from various university faculties – N-80
- group 8 - students (female and male) of various directions – N-70
- group 9 - pupils of the last classes of the general secondary schools – N-40
- group 10 - pupils of the last classes of the secondary music schools – N-40

III. RESULTS

A. Formal Characteristics of Behaviour- Temperament Inventory

There are no statistically significant differences of the temperament traits between females and males participating in Chopin Competition. It turned out, after recalculating the raw results into the standard nine scale, that in the range of five temperament factors average and low results dominated, and the high ones were in the Sensory Sensitivity scale testing only (Figure 1). However, the Sensory Sensitivity level of the competition participants, similarly as of their endurance and activity, did not differ from the control groups' level. Nevertheless, significant differences were noted in the Briskness ($t = 2.80, p = 0.008$), Perseverance ($t = 7.72, p < 0.005$), Emotional Reactivity ($t = 4.43, p < 0.005$) range - pianists demonstrate the significantly lower intensity of these traits.

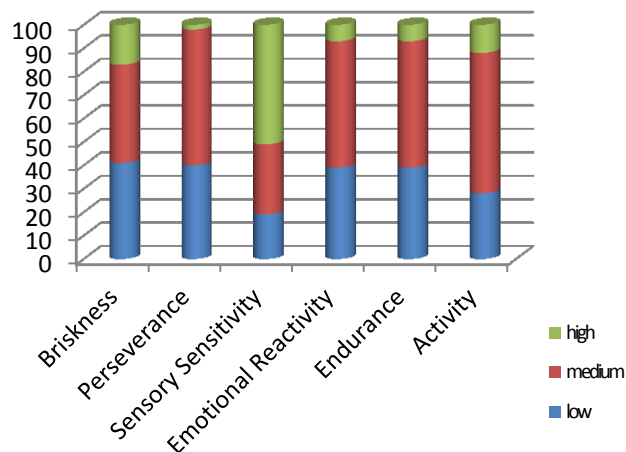


Figure 1. Percentage of participants that achieved the high, average, or low scores in FCB-IT. Data in %

B. NEO Five-Factor Inventory

There are statistically significant differences between females and males participating in Chopin Competition in the range of certain personality dimensions (Table 1).

Table 1. Comparison of average values for females and males from Chopin Competition obtained in the NEO personality trait testing.

NEO-FFI Scale	Men		Women		Differences	t	p
	M	SD	M	SD			
N	21.07	8.04	18.89	7.95	2.19	1.19	n.s.
E	26.12	6.86	30.69	5.98	-4.56	3.07	.003
O	29.98	5.17	31.00	5.47	-1.02	0.84	n.s.
A	28.15	4.88	32.94	5.71	-4.79	3.95	.000
C	30.21	6.70	34.28	5.96	-4.07	2.77	.007

Females participating in Chopin Competition demonstrate the significantly higher Extraversion, Agreeableness, and Conscientiousness. However, there are no intersexual differences in Neuroticism. After recalculating the raw data into the standard ten scale, it turned out that in the Neuroticism, Extraversion, and Openness dimensions average and high scores dominated, whereas in the Agreeableness and Conscientiousness dimensions - high and average ones did (Figure 2).

The scores of Neuroticism pianists from Chopin Competition are significantly lower compared to scores obtained in nearly all control groups (e.g., group 2: $t = 5.307, p < 0.001$; group 5: $t = 3.351, p < 0.001$; group 6: females: $t = 12.133, p < 0.001$; males: $t = 5.635, p < 0.001$; group 9: $t = 4.428, p < 0.001$; group 10: $t = 3.368, p < 0.001$). There are no statistically significant differences only in comparison with the orchestra musicians (group 1).

The pianists group achieved significantly lower scores in the Extraversion range in respect to three groups (group 4: $t =$

3.112, $p = 0.003$; group 9: $t = 3.368$, $p < 0.001$; group 5: $t = 5.526$, $p < 0.001$). However, compared with group 1 (orchestra musicians) pianists turned out to be more extrovert ($t = 2.33$, $p = 0.023$). In other cases differences were not statistically significant.

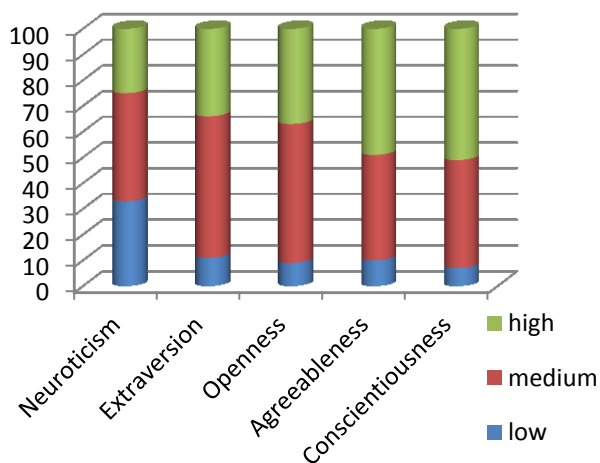


Figure 2. Percentage of participants that achieved the high, average, or low scores in NEO-FFI. Data in %.

In cases of Openness and Agreeableness the results were ambiguous. The pianists turned out to be more open in comparison with group 1 ($t = 2.956$, $p = 0.004$), group 8 ($t = 4.026$, $p < 0.001$) and group 9 ($t = 3.581$, $p < 0.001$). However, they obtained significantly lower scores in comparison with group 2 ($t = 4.939$, $p < 0.001$), group 4 ($t = 3.903$, $p < 0.005$) and group 5 ($t = 3.130$, $p < 0.002$). In respect to Agreeableness, pianists achieved higher scores in comparison with group 3 ($t = 3.38$, $p < 0.001$) and group 9 ($t = 5.285$, $p < 0.001$), and lower in comparison with group 5 ($t = 3.984$, $p < 0.001$). There were no significant differences between the score of pianists and scores of the orchestra musicians (group 1).

In dimension Conscientiousness pianists achieved significantly higher score in comparison with group 4 ($t = 2.060$, $p = 0.043$) and group 9 ($t = 5.979$, $p < 0.001$). There were no significant differences between the score of pianists and scores of the orchestra musicians (group 1).

C. General Self-Efficacy Scales

There are no statistically significant differences of the general self-efficacy between females and males participating in Chopin Competition. After recalculating the raw data into the standard ten scale it turned out that the high scores dominated absolutely (Figure 3). The Chopin Competition participants achieved the significantly higher score in General Self-Efficacy Scale in comparison with the average obtained in the international Schwarzer tests (1998). Pianists demonstrate very high self-efficacy regardless of their country of origin. This can be shown best in the list of scores of the Chopin Competition participants originating from the Asian (a) countries with the scores of the Asian population (b):

- (a) $M = 31.55$; $SD = 4.50$ (b) $M = 20.26$; $SD = 6.21$
 $t = 9.94$, $p < 0.001$

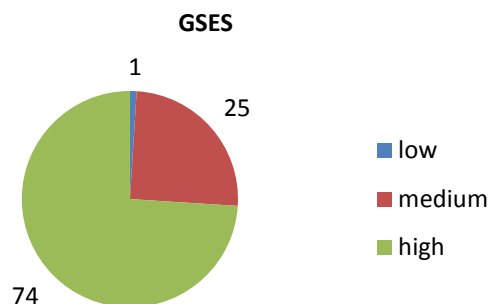


Figure 3. Percentage of participants that achieved the high, average, or low scores in GSES. Data in %.

IV. DISCUSSION

Pianists from Chopin Competition obtained the significantly lower scores both in Neuroticism (NEO-FFI) and in Emotional Reactivity (FCB-IT). These results do not confirm findings of Manturzevska (1969, 1974) and Kemp (1981, 1996, 1997) who discovered the higher level of Neuroticism among musicians in comparison with other non-musical groups. However, let us remind that Manturzevska indicated that musicians with better achievements have really a lower Neuroticism level in comparison with the weaker musicians. On the other hand, our analyses indicating that there are no statistically significant differences among the Chopin Competition participants (group with the high achievements) and orchestra musicians (group 1) do not correspond to it. Therefore, we can state that the obtained results do not confirm the thesis that Neuroticism would feature the trait of musicians.

It turns out from the review of investigations of various populations (Chmurzynska, 2011) that the significantly higher Neuroticism level is always demonstrated by females. However, as regards the Chopin Competition participants, there are no statistically significant differences in the Neuroticism level between females and males. It is vice versa (females: $M = 18.89$; males: $M = 21.07$), though this difference is not statistically significant.

Pianists turned out more introverted in respect to other control groups, which would confirm findings of Manturzevska and Kemp; nonetheless, in respect to the orchestra musicians they demonstrate a higher Extraversion level, which, again, confirms Manturzevska's conclusions regarding musicians with the higher level of achievements. However, it turns out from the review of investigations of various populations (Chmurzynska, 2011) that the average obtained from the entire group of pianists does not statistically differ from the averages obtained in different populations. Maybe the control groups are rather specific in this respect (e.g., for the future psychologists - group 4 - Extraversion seems to be indispensable to practicing their professions efficiently) and do not feature a good point of reference in this case.

A similar phenomenon occurs in case of Openness to Experience and Agreeableness dimensions. It turns out after comparing our results with results of various populations (Chmurzynska, 2011) that pianists - and especially females - achieve the significantly higher averages in these dimensions. Therefore, pianists turn out to be a group with the significantly

higher openness in comparison with the normalization tests results carried out in various countries.

Conscientiousness is the dimension, based on which one can forecast professional achievements. No wonder then that Chopin Competition participants are characteristic of the higher Conscientiousness in comparison with other groups. Participation in such prestigious and difficult competition is the effect of many decades of intensive and systematic exercises on the piano. Therefore, it calls for conscientiousness, diligence, sense of duty, and orderliness. Lack of the statistically significant differences between pianists and orchestra musicians seems to testify that acquiring the profession of a musician (musician of the Western classical tradition) calls for these traits in general. High scores of females from Chopin Competition (significantly higher than those of the males) deserve particular attention. In investigations of the Polish participants of several domestic piano competitions (Chmurzynska, 2011), females clearly outperformed males in respect to Conscientiousness. It is a paradox that in all those competitions males nearly solely advanced to the final (it was the Chopin Competition that was an exception to it - here 12 participants were qualified to the main final, with two females - as much as that - in the group).

Previous Polish research into instrument teachers (Chmurzynska, 2008) and piano teachers (Chmurzynska, 2009) demonstrated that these groups differ significantly in respect to the high general self-efficacy against the background of the Polish population. We asked ourselves a question then if with the high general self-efficacy is connected the fact that they are teachers (many Polish investigations testify that teachers have generally a high self-evaluation and high conviction regarding their competences, e. g., Czykwin, 1995), or that they are the professional musicians (and therefore, they had to pass successfully all levels of musical and professional education - 17 years - in parallel with the general education). According to Bandura's theory (1994, 1997, 2006), people evaluate their competences and build a conviction regarding their efficacy, based on their, among others, mastery experiences. Experiencing one's competences takes place when a person succeeds, however, reaching the success meeting the particular requirements. It may not come too easily - it has to be preceded by the persistent striving to reach the goal, overcoming difficulties. Reaching it should be connected with an effort and certain self-denial. Only in this case the deep faith in one's self-efficacy is formed. Experiencing difficulties, overcoming obstacles, exert the feeling of strength in a person - make him or her immune to defeats, teach how to cope with problems in various situations. In case of pianists who reached Chopin Competition it seems evident that years of hard work, self-denial, and overcoming obstacles must have had effect on their high general self-efficacy level.

V. CONCLUSION

Based on investigation results the personality profile of the statistical pianist participating in Chopin Competition appears to be as follows: high general self-efficacy, openness to experience, conscientiousness levels, moderate extraversion, agreeableness, sensory sensitivity, low - neuroticism, briskness, perseverance, emotional reactivity. It corresponds in broad outline with the personality profile worked out by Manturzevska in respect to musicians with high achievements.

Data from investigations of the piano students from various Polish musical universities are currently analyzed. Maybe these results will make it possible to determine in more detail the relationship between the artistic achievements of pianists and their personality traits.

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