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AFFECTIVE TEMPERAMENT IN STUDENTS OF MUSICAL PROFESSIONS. A PRELIMINARY REPORT

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Short title:
Temperament in students of musical professions.

Key words: affective temperament, professional predispositions, artistic professions

Introduction and aim of the study

Affective temperaments are associated with predisposition to affective disorders. In mild, sub-clinical form, they are widely distributed in the population and have adaptive qualities, for example, constitute the predisposition to perform specific professions. The aim of the present study was to assess the affective temperament among students of the vocal and acting department of a music university.

Material and methods

31 students aged 21-30 participated in the study. Affective temperament was assessed by means of the TEMPS-A questionnaire.

Results

Comparison of the intensity of particular affective temperaments showed higher, in comparison to other dimensions, intensity of hyperthymic temperament. The group also showed higher rates of hyperthymic, compared to irritable temperament. The rates of anxious temperament were negatively correlated with age.

Conclusions

Students of the vocal and acting department of the music university present a specific profile of affective temperament, which is associated with both predispositions to perform the singing profession and the risk of affective disorders.

Introduction

The concept of affective temperament assumes the existence of five temperaments, associated with a predisposition to the occurrence of affective disorders, and determining the relatively constant tendency to respond with specific emotions to different situations. Affective temperaments are widely distributed in the population, while in extreme cases they lead to the occurrence of symptoms of affective disorders - depression and bipolar disorder. In lower, sub-clinical form, they have adaptive qualities and can influence the style of functioning in social relations, the style of coping with stress, and professional predispositions. For example, anxious temperament is associated with a tendency to worry about one's future, but at the same time it subserves caring for other people. Depressive temperament is associated with a tendency to experience sadness and guilt, but also involves greater dedication to work and a tendency to cultivate close relationships with people. This in turn creates predispositions to perform professions requiring close contact with others. People with hypertymic temperament are energetic, and resilient to stress, which is associated with predispositions to work in occupations that require efficient operation under time pressure, social pressure and high responsibility. The cyclothymic temperament is associated with frequent mood swings and, consequently, experiencing of a wide range of emotional states. It is associated with the predisposition to perform artistic professions (Akiskal, Akiskal 2005). Hipotezy te zostały poparte przez wyniki badań nad temperamentem afektywnym w różnych grupach zawodowych. Akiskal i wsp. (2005) wykazali, że prawnicy oraz lekarze przejawiają wyższe nasilenie temperamentu depresyjnego. Przedsiębiorców wyróżnia wysokie nasilenie temperamentu hipertymicznego, natomiast artystów i architektów – temperamentu cyklotymicznego. Jaracz i wsp. (2014; 2017) wykazali, że temperament afektywny wiąże się z predyspozycjami do wykonywania różnych zawodów medycznych – ratownicy medyczni przejawiają wyższe nasilenie temperamentu hipertymicznego, natomiast pielęgniarki – temperamentu lękowego.

These hypotheses were supported by the results of studies on affective temperament in various professional groups. Akiskal et al. (2005) showed that lawyers and physicians display a higher level of depressive temperament. Entrepreneurs are distinguished by the high intensity of hyperthymic temperament, while artists and architects - cyclothymic temperament. Jaracz et al. (2014; 2017) showed that affective temperament is associated with predispositions to perform various medical professions - paramedics exhibit higher intensity

of hypertimic temperament, while nurses – of anxious temperament.

Studies on the specific profile of affective temperament in artists were inspired by reports of more frequent affective disorders in artists and their relatives, compared to the general population (Andreasen, Canter 1974). It has been shown that artists and artistic students show higher rates of cyclothymic and hyperthymic temperament (Vellante et al., 2011, Lolich et al 2015, Gostoli et al 2017). It was also proved that both of these temperaments are associated with higher creativity in artists and people performing other professions (Strong et al., 2007, Srivastava et al., 2012). So far, there have been no studies assessing affective temperaments among representatives of various artistic disciplines. Individual groups of artists may display different profiles of affective temperament, which is related to the different specificity of particular artistic professions. The aim of this study was to evaluate the affective temperament among students of the vocal and acting department of the music school.

Material and Methods

Subjects

The study included 31 students of the vocal and acting department (19 female and 12 male). Subjects were between 21 and 30 years of age, the average age was 24.06 ± 2.39 (mean ± standard deviation). All participants of the study are from the Polish population, they are students of the Vocal and Acting Department of the Feliks Nowowiejski Musical Academy in Bydgoszcz. Each participant was informed about the purpose and methodology of the study and gave written consent to participate in the study.

Methods

Psychometric assessment

TEMPS-A

Affective temperament was assessed by means of the Temperament Assessment of Pisa, Paris and San Diego Autoquestionnaire (TEMPS-A). The TEMPS-A is a 110-item yes-or-no self-report autoquestionnaire, designed to assess affective temperament in psychiatric and healthy subjects. It consists of five sub-

scales: depressive, cyclothymic, irritable, hyperthymic and anxious (Akiskal, Akiskal, Haykal, Manning, & Connor, 2005). In the present study, we used the Polish version of TEMPS-A, validated in the sample of 521 Polish undergraduate students, with satisfactory reliability, and internal consistency between scales being moderate to high (Borkowska et al., 2010).

Analiza statystyczna

Statistical analysis was carried out using the Statistica 12 program. Differences between variables were assessed using the Friedman ANOVA test. The Mann Whitney U test was used to assess the intergroup differences. Correlations between variables were evaluated using the Spearman rho test.

Results

Table 1.

Affective temperament in the studied sample.

TEMPERAMENT	Female		Male	
	Mean	SD	Mean	SD
Depressive	0,33	0,18	0,3	0,03
Cyclothymic	0,52*	0,22	0,37*	0,2
Hyperthymic	0,55	0,15	0,55	0,15
Irritable	0,28	0,19	0,24	0,13
Anxious	0,42	0,22	0,29	0,16

* - statistically significant, male vs. female, $p<0.05$

The results obtained by participants on particular scales of the TEMPS-A questionnaire with a gender distinction are presented in Table 1. Analyzes of differences between groups of women and men in terms of temperament traits showed that women exhibit significantly higher intensity of cyclothymic temperament traits, $U = 65.50$; $p < 0.05$. There were no significant differences between men and women in the range of other temperamental traits. The Friedman ANOVA test showed significant differences between the results obtained by vocalists on particular dimensions of affective temperament ($\chi 2$ ANOVA

= 104.53, p <0.05). Post-hoc analyzes showed that the intensity of hyperthymic temperament was significantly higher than all other dimensions of affective temperament, while the intensity of cyclothymic temperament was higher than that of the irritable temperament.

Correlational analyzes between age and affective temperaments revealed the negative correlation between age and the intensity of anxious temperament (rho = -0.40, p <0.05). The correlation between age and other dimensions of affective temperament turned out to be statistically insignificant.

Discussion

The present study has shown a specific profile of affective temperament among students of the vocal and acting department of a music school, with a dominant hyperthymic temperament. The intensity of hyperthymic temperament observed in students participating in this study (average score = 0.55) was also higher than in the group of students participating in the Polish validation study of the TEMPS-A scale, where they obtained an average score of 0.50. This result confirms previous reports about the properties of hyperthymic temperament, its relationships with professional predispositions, in particular to perform artistic professions. Hypertymic temperament is associated with a high level of energy, low demand for sleep, high motivation to achieve one's goals and resilience to stress. Subjects with hypertymic temperament are enthusiastic about the challenges and new situations, they also often experience positive emotions (Akiskal et al., 2005). For this reason, hypertymic temperament is a desirable feature of people performing professions related to exposure to high stress, unpredictability, the need to make quick decisions, and high performance despite the burden of stress and physical fatigue. Jaracz et al. (2014) demonstrated high hyperthymic temperament in medical rescuers who need to be effective despite high stress, time pressure and unpredictability. In addition, they have demonstrated that the intensity of hyperthymic temperament was positively correlated with intellectual performance under time pressure. Another group in which high intensity of hyperthymic temperament was observed, are the candidates for military pilots, in which hypertymic temperament was also positively associated with the chance of passing a cadet school exam, as well as the ability to maintain emotional balance following the emotionally challenging situation (Maremmani et al. 2010). Furthermore, Sakai et al. (2005) and Tei-Tominaga et al. (2009) proved, that hypertymic temperament is associated with higher resilience to occupational stress and is a protective factor against the negative effects of occupational stress, such as depression or burnout.

Vellante et al. (2011) and Lolich et al. (2015) observed higher intensity of hypertymic temperament among artists, compared to control subjects. Hypertymic temperament is likely to be a desirable feature also among subjects during education for performing on opera stages, such as students participating in the present study. This profession requires coping with the pressure of performing in front of a large audience, frequent and exhausting journeys, as well as the need to maintain a high level of performance despite the fatigue of a long performance, stress and sometimes reduced vocal fitness. Particularly, soloists meet the pressure caused by the assessment of the performance of difficult, mentally and physically exhausting vocal parts. Due to the fact that psychological factors affect the fitness of the vocal apparatus (Sinkiewicz et al., 2011), temperaments that facilitate coping with the previously mentioned stressors, can be treated as a predisposition to perform the profession of a singer.

Students participating in the present study also showed higher rates of cyclothymic temperament, compared to the group participating in the validation study of the TEMPS-A scale. While in the present study the average level of cyclothymic temperament was 0.46, the result obtained in the validation study was 0.36 (Borkowska et al., 2010). The cyclothymic temperament is manifested by frequent changes in mood, level of activity, self-esteem and social contacts. It also promotes the establishment of many intense interpersonal relationships, which is encouraged by interest in creative activity. The severity of cyclothymic temperament observed among the participants of this study confirms previous reports of a high level of these traits in artists and their relationship with creativity. The occurrence of high variability of mood among artists is indicated by a higher prevalence of bipolar disorder in this group, than in the general population. This also applies to relatives of artists (Andreasen, & Canter 1974; Andreasen, 1987; Jamison 1989; Ludwig 1994; Andreasen, 2008). People with bipolar disorder and their relatives also display a higher level of creativity, which is associated with predispositions to perform artistic professions (Andreasen, 1987; Richards et al., 1988. Simeonova, Chang, Strong, & Ketter, 2005, Kyaga et al., 2011; 2013). In line with these reports, Vellante et al. (2011) in a study involving a large group of students taking part in courses preparing for artistic professions observed greater intensity of cyclothymic, hyperthymic and irritable temperaments than in the control group. Srivastava et al. (2010) conducted a study of affective temperament and creativity, involving patients with recurrent depression, bipolar disorder, creative people and the control group of non-creative healthy subjects. Patients from both groups and creative subjects had higher cyclothymic temperament levels than those in the control group. The authors also observed a correlation

between the level of cyclothymic temperament and the performance in a creativity test. Similar results were obtained by Strong et al. (2007), who showed a relationship between cyclothymic and depressive temperament, and the level of creativity in patients with affective disorders and creative people. The authors hypothesize that cyclothymic temperament favors creativity, and thus is a predisposition for performing artistic professions. This is because cyclothymic subjects experience a wide range of emotions, which increases the variety of ways in which they experience different situations.

However, there are also risks associated with the overrepresentation of cyclothymic temperament among artists. During the artistic career there are periods of better and poorer performance. This may induce mood swings and variations in self-esteem, which can be additionally intensified by the cyclothymic temperament. In addition, the artistic profession is associated with the presence of high stress, the need to use intense emotions at work and irregular lifestyle. Research also points to a higher risk of substance abuse by artists. The above factors and the occurrence of cyclothymic temperament may be associated with a significantly higher risk of affective disorders (Murray, Johnson 2010).

Correlational analyzes showed a negative correlation between age and rates of anxious temperament. Anxious temperament is characterized by excessive worrying about own and close relatives' safety, as well as predicting negative events in the future. This is accompanied by somatic symptoms connected with strong stress, for example on the part of the digestive system. The above correlation allows to formulate an optimistic hypothesis about the positive impact of artistic studies on the ability to tolerate anxiety and stress. The higher age of the respondents is associated with a higher number of completed years of study, and the acquisition of greater artistic experience, which results in better psychological resilience.

The limitation of the above study is the low number of participants and the lack of a control group. Its ultimate goal, however, is to include a large group of artists representing various music disciplines, which will enable to comparing their profile of affective temperament and the level of creativity. The present study showed a specific profile of affective temperament in the students of the vocal and acting department of the music university. The hypertymic and cyclothymic temperaments constitute a predisposition to perform the artistic profession by promoting better coping with the challenges associated with artistic activity. They also can be associated with higher creativity. Both of these temperaments and the nature of artistic work are also associated with a higher risk of affective disorders. This underlines the importance of psychological support that artists should receive

at various stages of their careers.

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