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## **The Temperament Evaluation of Memphis, Pisa and San Diego Auto-questionnaire (TEMPS-A) – an important tool to study affective temperaments**

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### **Summary**

The aim of the paper is to describe the Temperament Evaluation of Memphis, Pisa and San Diego Autoquestionnaire (TEMPS-A) constructed by prominent researchers of affective disorders, under the direction of Hagop Akiskal, and functioning in full version since 2005. The article refers to the definitions of temperament, including the concept of affective temperament, related to the area of emotionality and conceptualized as the endophenotype of affective disorders. Based on clinical observations, initially four types of temperament had been delineated: hyperthymic, depressed, irritable and cyclothymic, and, subsequently, the anxious temperament was added. Full version of the scale contains 110 items for the five types of temperament, which were discussed in detail. The TEMPS-A has been translated into 32 languages and its verification was performed in many countries, including Poland. The scale has been widely used in epidemiological and clinical studies in general population, in patients with affective disorders, and in other diseases. In affective disorders, different types of temperament show, among others, a relationship to the type and symptomatology of bipolar disorder as well as to a predisposition to suicidal behavior. In Poznań centre, an association between several dimensions of temperament of the TEMPS-A, and prophylactic efficacy of lithium has been shown. Different types of temperament also play a role in other mental disorders and somatic diseases. In the final section of the article, the studies performed so far on the molecular-genetic determinants of temperament dimensions, measured by the TEMPS-A are presented.

**Key words:** affective temperament, TEMPS-A, bipolar disorder

### **The origin of TEMPS-A**

The concept of human personality, as a mixture of temperamental types, had been initiated by Hippocrates and Aristotle. Greek and Roman medicine employed the humoral theory, which assumed the temperament as a constitutional pattern of emotional reactivity [1]. Following this tradition, Kraepelin [2] put forward a theory of four types

of temperament (depressive, manic, cyclothymic and irritable) and conceptualized them as the subclinical forms of affective disorders.

Temperament has been contemporarily defined as a biologically determined, hereditary core of the personality, being stable and relatively unchangeable throughout life, which determines the basic level of reactivity, mood and energy of given individual [3]. Another German scholar, Ernst Kretschmer, postulated a correlation between the bodily structure and the kind of mental disorders, mediated by temperament. Thus, according to him, manic-depressive patients have pyknic (stout) stature, schizophrenia patients – leptosomatic or asthenic (body slender and high), and epileptic patients – athletic stature [4].

The concepts of temperaments, used by Hagop Akiskal, has been based upon those of Kraepelin and Kretschmer. Each temperament possesses both positive and negative aspects. The features of temperament as well as its intensity may exert a constructive or destructive impact on the quality of life.

Contemporary studies have shown that depressive temperament is connected with a tendency to rigid thinking, self-accusation, shyness and lack of assertiveness. Persons with such temperament are sensitive to criticism, but also manifest perseverance and reliability. They also prefer supervised jobs, do not like to supervise others, and are rather uncooperative in relations with others. Generally speaking, they are characterized by deficiency in energy, which makes them unable to engage in tasks requiring high activity.

People with hyperthymic temperament are characterised by the highest number of „positive” features, i.e. optimistic attitude toward life, they are merry, sociable, have wit, self-assurance, creativity, eloquence, mobility, decreased need for sleep, resilience and propensity to leadership. They manifest the highest amplitude of emotional intensity. On the other hand, they have a tendency to unilateral thinking, risk-taking and show a lack of insight concerning criticism of their own character.

Cyclothymic temperament is associated with a lability of mood, a tendency to rapid changes in the level of energy and sense of self-esteem and to changes in social relations. Patients with such temperament have a tendency to superficial thinking, but are ready to invest an intellectual effort for comprehending current situation. They experience intense emotions, are able for romantic effusion and ready to make new relationships. On a positive side of this temperament, one should also mention their high creativity.

Irritable temperament partly overlaps with the cyclothymic type. The main difference is a higher level of energy and a lower level of empathy, displayed by persons with irritable temperament. Such persons are also skeptical and have critical thinking, which may be considered as a positive intellectual feature. However, as far as the other factors are concerned, it is the gloomiest of all temperamental types. Such patients tend to be grumpy, complaining and dissatisfied, quick to be angry, violent and envious about their partners.

All these may stem from the basic feature, which is an increased reactivity to stimuli. People with anxious temperament have a tendency to worry and to ruminate. They experience a continuous mental and physical tension that can develop into somatic symptoms.

Affective temperament traits, described by Akiskal, have an impact on behavior, resulting in its being submissive, or – on the contrary – dominant, sometimes they

give it a romantic charm, and, when they present in high intensity, they may lead to pathological jealousy about sexual partner, also manifested by acts of violence. All these modes of functioning, have been observed among patients with both severe and moderate affective illness as well as in healthy subjects. This may indicate an evolutionary context of temperamental features. Presumably, mood disorders and social behavior are connected with the same mechanisms of brain functions, which have developed in the course of evolution. The same features that underlie affective disorders, make a very important part of human nature. However, in the case of extreme severity of the features associated with given type of temperament, they may become a risk factor for mood disorders, anxiety disorders and substance abuse [5].

The authors of this temperament scale, under the direction of Hagop Akiskal, have proposed the operationalized criteria for the identification of those types of temperament which are important for affective disorders [6,7]. They have suggested that the type of temperament can be conceptualized as a continuum of many conditions, starting with subthreshold affective characteristics at one pole to schizoaffective disorder on the other [8]. The instrument to assess four traditional types of temperament, had been first developed in the form of an interview [9,10] containing 84 questions, and subsequently as a self-assessment questionnaire [11]. Finally, anxious temperament scale, containing 26 questions was added.

### **Description of the tool**

TEMPS-A (Temperament Evaluation of Memphis, Pisa and San Diego Auto-questionnaire) contains 110 items (109 in the version for males), measuring affective temperament traits occurring throughout life of the subject, as represented by five dimensions: depressive, cyclothymic, hyperthymic, irritable, anxious. Questions about the various types are grouped together.

The area of depressive temperament comprises, among others, experienced sense of guilt, level of energy, sensitivity to criticism or ability of adaptation to a situation. Also, an attitude to duties and desires is taken into account. The questions about the level of cyclothymia, concern, among others, frequent changes in various areas of functioning: mood and energy, self-confidence, emotional involvement. The hyperthymic domain is assessed by emphasizing the force of emotions and extremal behaviors. The questions about irritability are mostly connected with deficits in control and reflection. Anxious temperament is described as constant worrying and a tendency to express psychological tension, in the form of psychosomatic symptoms.

Question numbers belong to the following categories:

1. depressive temperament: questions 1 to 21 (21 points)
2. cyclothymic temperament: questions 22 to 42 (21 points)
3. hyperthymic temperament: questions 43 to 63 (21 points)
4. irritable temperament: questions 64 to 84 (21 points in women version, 20 in men version)
5. anxious temperament : questions 85 to 110 (26 points)

The calculation of points for each temperament is done by dividing the sum of points obtained in a given subscale by the number of questions contained therein. TEMPS-A measures the severity of the traits of the temperament ranging from 0 to 1, and gives the ability of group comparison. However, it does not answer to the question about a person's temperament type, as there is no standard for "normal" temperament.

Polish version of the questionnaire developed at the Department of Adult Psychiatry, Poznań University of Medical Sciences, and approved by Professor Akiskal, after appropriate translation and back translation, is enclosed as the annex to this paper.

There are several reasons why the TEMPS-A appears to be a useful clinical tool. From a technical point of view, this is a questionnaire formulated in a very simple way. Thus filling it accurately, does not require a high level of reflectivity and mentalization, which, taking into account the risk of distortions, even unconsciously, due to the defense mechanisms of a person – seems to be very important. The questions do not interfere with self-esteem. They concern mainly the area of everyday behavior. Theoretically, they do not introduce any element of ethical evaluation, which could pose a risk of falsified answers. However, the experience gained with the use of the MMPI (Minnesota Multiphasic Personality Inventory) may suggest to consider the adequacy of self-image of patients with different types of temperament, and indicates a possibility of introducing some scales controlling objectivity of the results.

### **Verification of the TEMPS-A**

The TEMPS-A has been translated into 32 languages. The countries where verifying studies with the scale have been carried out, are culturally such diverse as: Japan, Lebanon, Portugal, Germany, Korea, Tunisia, Serbia, Brazil, Armenia or China. The earliest verification of the TEMPS-A was made in 2005 in Argentina, on the basis of a translation into Spanish, and then validated in a clinical population using Temperament and Character Inventory and NEO-Five Factor Inventory. The structure of the TEMPS-A has demonstrated high reliability and internal consistency [12].

A wide range of studies with TEMPS-A on a general population (using the language of the country), showed very similar results: women came out as more depressive, anxious and cyclothymic, while men achieved results indicating a higher level of hypertymia and irritability. Temperamental characteristics appear to be relatively stable over time. In addition, there are hardly any differences in the average scores and frequency of the dominant type of temperament between groups of young, middle-aged and elderly people.

In studies that investigated relationship between types of temperament and emotional expression, cyclothymic and irritable temperaments were positively correlated with a tendency to experience negative affects, including anxiousness, and risk-taking behavior. They were also negatively correlated with experiencing of positive emotions. As can be expected, hypertymic temperament, was positively correlated with a tendency to experience pleasant emotions, facility of generating new ideas, high levels of activity, positive self-esteem and sociability. Depressive temperament was associated

with a tendency to worry, and problems with concentration. Cyclothymic and irritable temperaments showed a correlation with an increased reactivity to stress [13].

Studies comparing the results obtained in the TEMPS-A, with the results obtained in the OPQ32 (Occupational Personality Questionnaire) indicate that depressive temperament is associated with a low ability to interact with others, and the hyperthymic temperament – with high levels of emotionality. A distinct feature of cyclothymic temperament is high creativity and ability to establish relationships with others. Characteristics of the irritable type are partly overlapping with the cyclothymic type. The main difference is the higher level of energy and lower level empathy in people with irritable temperament [14].

Comparing the results of TEMPS-A and MMPI showed that people with dominant depressive temperament, generally responded fairly honestly. “Hyperthymic group” showed a tendency to falsification in a positive direction. Persons with cyclothymic and irritable temperaments tended to exaggerate their symptoms. This study also demonstrated little association between abnormal personality traits and temperament type [15].

In 2012, Vazquez et al [16] compared six published studies using TEMPS-A performed in Argentina, Germany, Hungary, Korea, Lebanon and Portugal, and Spanish unpublished study, of total 5170 patients (3204 women and 1966 men). Significant gender differences were shown. In men, higher scores of hyperthymic temperament, and in women, higher scores of anxious, depressive and cyclothymic temperament were obtained. Correlation analysis showed a significant positive relationship between cyclothymic and irritable temperaments as well as and between depressive and anxious ones. In women, there was a significant negative correlation between irritable and hyperthymic temperaments while in men a positive correlation between cyclothymic and irritable ones.

In Poland, a verification of the TEMPS -A was performed on the group of 521 students (127 men and 394 women, aged 18-47 years). This group was not representative for the population. The strength of the study was selection of the subjects by a clinical psychologist, using a structured interview MINI plus. Only individuals without mental disorders and not having family history of affective disorders were included. The results showed substantial internal consistency between scales. Cronbach alpha coefficients and KR20 for temperament types: depressive, cyclothymic, hyperthymic, irritable and anxious were pretty high (0.69-0.83). Among the temperament scales, the highest positive correlation was obtained between depressive and anxious temperaments and between cyclothymic and irritable ones (0.63 and 0.57, respectively). Male subjects achieved higher scores on hyperthymia and women on cyclothymic and anxious temperament scales [17].

### **Studies using the TEMPS-A in affective and other psychiatric disorders**

Studies of healthy population using the TEMPS –A, can identify individuals at high risk of affective disorders. Premorbid temperament plays an important role in the development of affective disorders. The study performed in Argentina involving 114 first-degree relatives of subjects with bipolar disorder (BD), and 115 individuals without

a family history of affective disorders showed that the results in all TEMPS -A scales (except for hyperthymic one) were higher in the group of BD relatives. The quality of life was similar in both groups, except for interpersonal relations, where healthy subjects were more satisfied. These results may support a concept of subthreshold BD, associated with temperament, in healthy first-degree relatives of patients with BD. The most marked was the influence of cyclothymic and irritable temperaments [18]. Similar results were obtained by Turkish researchers, who have demonstrated that hyperthymic and cyclothymic scores on the TEMPS-A were significantly higher in healthy first-degree relatives of patients with BD type I compared with control group matched for sex and age [19].

In affective disorders, various types of temperament may be associated, among others with symptomatology and the course of disease. Atypical symptoms of mania or depression may occur as a result of the imposition of incongruent temperamental traits on the underlying disease, Temperament type is responsible for residual symptoms persistent during remission. It may be also an important determinant for the development of hypomania, either spontaneous, or drug-induced, in the course of unipolar depression. Turkish studies confirm the effect of temperament on the course of disease, showing that hyperthymic temperament is more common in people who have a tendency to a (hypo)manic „switches” and that irritable temperament may predispose to psychotic features. Cyclothymic temperament is associated with more psychiatric co-morbidity, mostly addictions. Patients with predominant irritable temperament, have more often mania as the first episode of the illness [20].

A relationship between temperamental features and suicide attempts in affective disorders has also been found. Such a relationship has been also observed in healthy persons, both adolescents and adults. Research performed by Rihmer et al [21] shows that suicidal behavior may be often connected with untreated bipolar disorder. Temperament types that can be considered subclinical manifestations of serious mood disorders have been also associated with a tendency to suicide attempts. In the study, which involved 509 people from six health care centers, a significant association between depressive and cyclothymic temperaments and personal history of suicide attempts was demonstrated, as well as between cyclothymic and anxious temperament and a history of completed suicide in first- and second degree relatives. It may show that the presence of cyclothymic temperamental characteristics (and to a lesser extent – depressive), in patients with family history of suicide, increases the risk of suicidal attempt.

In a study investigating the effect of temperament on the tendency to suicidal attempt, Pompili et.al [22] in a group of 150 psychiatric patients demonstrated, that hyperthymic temperament is a factor reducing the risk of suicide, whereas depressive, cyclothymic and anxious temperaments increase such risk. Also, in their study, irritable temperament and introversion were factors increasing the risk of a suicide attempt.

Temperament type may also influence a probability for developing metabolic syndrome in bipolar disorder. Such probability appears to be higher among bipolar patients with depressive type of temperament which tend to develop metabolic syndrome during winter [23].

In Poznań centre, the world's first study on the relationship between the type of temperament, measured by TEMPS-A, and prophylactic efficacy of lithium carbonate in BD was performed. The study included 70 patients with bipolar disorder (49 women and 21 men), aged 31-82 years ( $59 \pm 12$  years) who have received lithium carbonate for a minimum 5 years (5-37, mean 15 years). Correlation was done between dimensions of temperaments and lithium prophylactic efficacy, estimated by the Alda scale. Average values for individual dimensions of the scale, were similar in both sexes and showed no correlation with age and duration of lithium treatment. Prophylactic efficacy of lithium was significantly positively correlated with hyperthymic temperament ( $r=0.31$ ,  $p=0.009$ ), and negatively with anxious ( $r=-0.27$ ,  $p=0.022$ ), cyclothymic ( $r=-0.26$ ,  $p=0.032$ ) and depressive ( $r=-0.23$ ,  $p=0.052$ ) temperaments [24].

Positive correlation between prophylactic efficacy of lithium and hyperthymic temperament, corresponds with higher efficacy of lithium in euphoric mania, and lower in dysphoric mania. Negative correlation with cyclothymic temperament may explain worse effectiveness of lithium in rapid cycling BD, and a negative correlation with anxious temperament may be associated with a weaker effect of lithium in patients with BD and comorbid anxiety disorders.

In a study conducted in Lebanon, 1320 persons were assessed in the search for correlation between results obtained in the TEMPS-A and psychiatric diagnoses in the DSM-IV. The study demonstrated a relationship between temperaments and predisposition to mood disorders, anxiety disorders and impulse control disorders. Anxious temperament appeared to be a strong predictor of most diseases, especially those with anxiety and depression. Hyperthymic temperament had "protective" effect in this respect, but predisposed to bipolar disorder and impulse control disorders. [25].

Studies in adults with attention deficit hyperactivity disorder (ADHD) have shown that such persons achieve high scores in almost all (except hyperthymic) TEMPS-A scales. Especially common in that group was cyclothymic temperament which was characteristic for group with high intensity of symptoms. It probably reflects a basic emotional instability, similar to bipolar spectrum disorder. However, ADHD people have higher scores in irritability scale, than bipolar patients [26, 27].

Numerous studies confirm the link between bulimia and bipolar disorder, as well as indicate a higher probability of the bulimia and anorexia among people with cyclothymic temperament [28]. Patients with binge eating has also higher score on cyclothymic temperament compared with healthy population, however, compared with other types of eating disorder, they have higher scores on depressive and hyperthymic temperament [29].

It was found that subjects dependent on heroin achieve higher scores on depression, cyclothymic, anxiety and irritability scales [30]. Persons using cocaine, psychostimulants and alcohol often show higher scores on irritable temperament [31]. On the other hand, parents of adolescent psychoactive substance abusers frequently have depressive temperament [32].

### **Studies using the TEMPS-A in somatic diseases**

A study performed in Bydgoszcz centre including 41 women with functional aphonia, showed significantly higher scores on depressive and anxious temperament compared with control group [33]. In another study of this group which used the TEMPS-A in patients with obesity, high values of depressive and irritable temperament were shown: in women – depressive and anxious, in men – irritable and hyperthymic [34]. Scuderi et al [35] reported higher scores on cyclothymic, irritable and anxious temperaments in patients with glaucoma compared with the control group and such differences were not dependent on severity of glaucoma.

### **Other applications of the TEMPS-A**

The TEMPS-A has been also used to verify the candidates for given profession. The candidates to military service in the Air Force and the Navy showed a large percentage of dominant hyperthymic temperament. In men, this temperament was associated with good results of examination whereas in women with poorer one. On the other hand, cyclothymic temperament was more common in women who have passed the examination and in males who have not passed [36]. Japanese researchers using the TEMPS-A in a group of nurses showed that those who had high scores on anxious and depressive temperament scales were most vulnerable to stress and to its physical and emotional effects [37].

### **Studies on the genetic determinants of temperament types in the TEMPS-A**

Savitz et al [38], using the TEMPS-A in a large group (n = 241) of bipolar patients, demonstrated a correlation between the Met allele of Val66Met polymorphism of the brain-derived neurotrophic factor (BDNF) gene and hyperthymic temperament. However, Japanese researchers on the basis of study of 44 healthy subjects found no relationship between the TEMPS-A temperaments and polymorphism of the *BDNF* gene [39]. In a study performed in Poznan for the first time a possible relationship between the Met allele of this polymorphism and irritable temperament dimension was suggested. In that study, individuals with the Met allele also achieved higher score on hyperthymic temperament, but the difference compared to other genotypes did not reach statistical significance [40].

Several years ago, Hungarian researchers studying the 5-HTTLPR s/l polymorphism of serotonin transporter gene in the context of dimensions of temperaments of the TEMPS-A in 139 women, have demonstrated a correlation between allele s and cyclothymic temperament, and, to a lesser extent, depressive, irritable and anxious temperaments [41]. They proposed a personality phenotype based on the 5-HTTLPR polymorphism, characterized by pessimism, sensitivity, mood changes and propensity to anxiety and fear. [42] The relationship between this polymorphism and the dimensions of the TEMPS-A was not confirmed by Norwegian researchers on a large group of 691 healthy individuals (404 women, 287 men). [43] In our study, for the first time,



we have indicated a possible association between genotype s/s of this polymorphism and cyclothymic temperament in patients with bipolar disorder [40].

A recent study conducted in our centre, point to a possible association of temperamental dimensions measured by the TEMPS-A and polymorphisms of genes involved in circadian rhythms. That study showed a relationship between hyperthymic and anxious temperament and polymorphisms of ARNTL (aryl hydrocarbon receptor nuclear translocator-like) gene, the most important gene associated with the regulation of circadian rhythms, as well as between cyclothymic temperament and polymorphism of TIM (timeless circadian clock) gene [44].

Recently, the Akiskal's group from San Diego, published two papers in which temperamental dimensions of the TEMPS-A, were assessed in the context of genome-wide association studies (GWAS). They showed highest heritability for irritable temperament (52%) and lowest for hyperthymic temperament (21%). They also showed a possible coupling of hyperthymic temperament with chromosome loci 1q44, 2p16, 6q16 and 14q23, of depressive temperament with 3p21 and 13q34, and of irritable temperament with 6q24 [45, 46].

### Summary

The experience obtained so far with the TEMPS-A indicates, that it is a very useful tool for the assessment of affective temperaments. The scale allows for better definition of a phenomenon of bipolar disorder as well as to assess a significance of individual temperaments in symptomatology of BD (including suicidal behaviors) and in other mental and somatic diseases. Preliminary results of molecular genetic studies suggest a possibility for future definitions of temperament dimensions in the context of neurobiology of the brain.

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## APPENDIX

Imię i nazwisko:.....

Data:.....

Płeć: K M

Wiek:.....

SKALA TEMPERAMENTU MEMPHIS, PISA, PARIS AND SAN DIEGO  
Wersja do samouzupełniania (TEMPS-A)

Zakreśl T (Tak) we wszystkich przypadkach, w których dane zdanie jest prawdziwe dla większej części Twojego życia.

Zakreśl N (Nie) we wszystkich innych przypadkach, w których stwierdzenia nie odnoszą się do większej części Twojego życia.

1.	T	N	Jestem smutną, nieszczęśliwą osobą.
2.	T	N	Ludzie mówią mi, że nie potrafię dostrzec jasnej strony życia.
3.	T	N	Doświadczyłem/am wielu cierpień w swoim życiu.
4.	T	N	Myślę, że sprawy zwykle kończą się bardzo źle.
5.	T	N	Łatwo się poddaję.
6.	T	N	Odkąd pamiętam, zawsze czułem się jak przegrany/a.
7.	T	N	Zawsze obwiniałem się o coś, czego inni nie uważali za wielki problem.
8.	T	N	Wydaje mi się, że mam mniej energii niż inni ludzie.
9.	T	N	Jestem osobą, która nie za bardzo lubi zmiany.
10.	T	N	Gdy jestem w grupie, wolę słuchać, niż mówić.
11.	T	N	Często ustępuję innym.
12.	T	N	Czuję się bardzo skrępowany/a, spotykając nowych ludzi.
13.	T	N	Łatwo skrzywdzić moje uczucia poprzez krytykę lub odrzucenie.
14.	T	N	Jestem osobą, na której zawsze można polegać.
15.	T	N	Potrzeby innych osób przedkładam nad moje własne.
16.	T	N	Jestem osobą ciężko pracującą.
17.	T	N	Wolę pracować dla kogoś, niż być szefem.
18.	T	N	Naturalne dla mnie jest bycie uporządkowanym/a i zorganizowanym/a.
19.	T	N	Jestem osobą, która we wszystko wątpi.

20.	T	N	Mój popęd płciowy był zawsze niewielki.
21.	T	N	Zwykle potrzebuję ponad 9 godzin snu.
22.	T	N	Często czuję się zmęczony/a bez powodu.
23.	T	N	Miewam nagle zmiany nastroju i energii.
24.	T	N	Mój nastrój i poziom energii są bardzo wysokie lub niskie, rzadko znajdują się pośrodku.
25.	T	N	Moja zdolność do myślenia waha się znacznie, od dobrego skupienia do braku koncentracji, bez istotnych powodów.
26.	T	N	Mogę kogoś naprawdę lubić, a potem całkowicie stracić nim zainteresowanie.
27.	T	N	Często wybucham gniewem wobec ludzi i czuję się z tego powodu winny/a.
28.	T	N	Często zaczynam jakąś czynność i tracę nią zainteresowanie, nie kończąc jej.
29.	T	N	Mój nastrój często zmienia się bez powodu.
30.	T	N	Mój nastrój ciągle się zmienia: od żywotności po znużenie.
31.	T	N	Niekiedy kładę się spać czując się źle, ale budzę się w doskonałym nastroju.
32.	T	N	Niekiedy kładę się spać, czując się świetnie, ale budząc się rano czuję, że nie warto żyć.
33.	T	N	Często mówią mi, że mam pesymistyczne nastawienie do świata i zapominam o wcześniejszych szczęśliwych czasach.
34.	T	N	Waham się pomiędzy poczuciem nadmiernej pewności siebie i braku wiary w siebie.
35.	T	N	Waham się pomiędzy byciem człowiekiem towarzyskim i wycofanym z życia społecznego.
36.	T	N	Silnie odczuwam wszystkie emocje.
37.	T	N	Moja potrzeba snu różni się znacznie, od kilku godzin do ponad 9 godzin na dobę.
38.	T	N	Niekiedy postrzegam otoczenie w wesołych barwach, a niekiedy jako całkowicie bezbarwne.
39.	T	N	Jestem osobą, która potrafi być jednocześnie smutna i wesoła.
40.	T	N	Dużo marzę o rzeczach, które inni uważają za niemożliwe do osiągnięcia.
41.	T	N	Często odczuwam silną potrzebę dokonywania skandalicznych czynów.
42.	T	N	Jestem osobą, która szybko się zakochuje i odkochuje.
43.	T	N	Zwykle jestem w dobrym lub radosnym nastroju.
44.	T	N	Życie jest świętem, które obchodzę najweselej jak potrafię.
45.	T	N	Lubię opowiadać dowcipy, ludzie mówią mi, że mam poczucie humoru.
46.	T	N	Jestem osobą, która uważa, że wszystko w końcu skończy się dobrze.
47.	T	N	Mam duże zaufanie do siebie.
48.	T	N	Często mam dużo wspaniałych pomysłów.
49.	T	N	Jestem ciągle w biegu.
50.	T	N	Mogę wykonać wiele zadań i nawet wtedy nie jestem zmęczony/a.

51.	T	N	Mam dar przemawiania, przekonywania i inspirowania innych osób.
52.	T	N	Uwielbiam mierzyć się z nowymi projektami, nawet jeśli są one ryzykowne.
53.	T	N	Gdy zdecyduję, że czegoś dokonam, nic nie może mnie zatrzymać.
54.	T	N	Czuję się całkowicie pewnie, nawet z ludźmi, których niewiele znam.
55.	T	N	Lubię przebywać z dużą liczbą ludzi.
56.	T	N	Ludzie mówią mi, że często wtrącam się w nie swoje sprawy.
57.	T	N	Jestem znany/a z tego, że jestem hojny i wydaję dużo pieniędzy na potrzeby innych osób.
58.	T	N	Posiadam zdolności i doświadczenie w wielu dziedzinach.
59.	T	N	Czuję, że mam prawo i przywilej postępować tak jak mi się podoba.
60.	T	N	Jestem osobą, która lubi być szefem.
61.	T	N	Gdy się z kimś nie zgadzam, mogę używać siły fizycznej.
62.	T	N	Mój popęd płciowy jest zawsze duży.
63.	T	N	Zwykle nie potrzebuję więcej niż 6 godzin snu na dobę.
64.	T	N	Jestem zrzędlivą (drażliwą) osobą.
65.	T	N	Z natury jestem niezadowolony/a.
66.	T	N	Dużo narzekam.
67.	T	N	Jestem bardzo krytyczny wobec innych.
68.	T	N	Często czuję się nerwowy.
69.	T	N	Często odczuwam bardzo silne napięcie.
70.	T	N	Napędza mnie nieprzyjemny niepokój, którego nie rozumiem.
71.	T	N	Często jestem tak wściekły/a, że mógłbym/mogłabym zniszczyć wszystko wokół siebie.
72.	T	N	Gdy ktoś mi się sprzeciwia, mogę wdać się w bójkę.
73.	T	N	Ludzie mówią mi, że wybucham bez powodu.
74.	T	N	Gdy jestem zły, krzyczę na ludzi.
75.	T	N	Lubię droczyć się z ludźmi, nawet z tymi, których nie znam.
76.	T	N	Moje cięte poczucie humoru przysporzyło mi wiele kłopotów.
77.	T	N	Mogę być tak wściekły/a, że mogę zrobić komuś krzywdę.
78.	T	N	Jestem tak zazdrosny/a o moją/mojego żonę/męża (lub kochankę/a), że nie mogę tego znieść.
79.	T	N	Jestem znany/a z tego, że wiele przeklinam.
80.	T	N	Mówiono mi, że staję się agresywny/a zaledwie po kilku drinkach.
81.	T	N	Jestem bardzo sceptyczną osobą.
82.	T	N	Mógłbym/mogłabym być buntownikiem/buntowniczką.
83.	T	N	Mój popęd płciowy jest często tak nasilony, że jest to naprawdę nieprzyjemne.

84.	T	N	(Tylko kobiety): Tuż przed okresem mam nagłe ataki niekontrolowanego gniewu.
85.	T	N	Odkąd tylko pamiętam, zawsze dużo się martwiłem/am.
86.	T	N	Zawsze martwię się o jakąś sprawę.
87.	T	N	Ciągle martwią mnie codzienne sprawy, które inni uważają za mało istotne.
88.	T	N	Nie mogę przestać się martwić.
89.	T	N	Wiele osób mówiło, bym nie martwił/a się tak wiele.
90.	T	N	W sytuacjach napięcia mam często pustkę w głowie.
91.	T	N	Nie potrafię się odprężyć.
92.	T	N	Często czuję się wewnętrznie roztrzęsiony/a.
93.	T	N	W sytuacjach napięcia, często trzęsą mi się ręce.
94.	T	N	Często odczuwam dyskomfort w brzuchu.
95.	T	N	Gdy jestem zdenerwowany/a, miewam biegunkę.
96.	T	N	Gdy jestem zdenerwowany/a, często odczuwam nudności.
97.	T	N	Gdy jestem zdenerwowany/a, częściej chodzę do toalety.
98.	T	N	Gdy ktoś do późna nie przychodzi do domu, martwię się, że mógł mieć wypadek.
99.	T	N	Często martwię się, że ktoś w mojej rodzinie może zachorować na ciężką chorobę.
100.	T	N	Często myślę, że ktoś może powiedzieć mi złą wiadomość na temat członka mojej rodziny.
101.	T	N	Mój sen jest niespokojny.
102.	T	N	Mam często problemy z zasypianiem.
103.	T	N	Jestem z natury bardzo ostrożną osobą.
104.	T	N	Często budzę się w nocy, myśląc, że włamywacze są w moim domu.
105.	T	N	Gdy jestem zdenerwowany/a, często boli mnie głowa.
106.	T	N	Gdy jestem spięty/a, mam nieprzyjemne uczucie w klatce piersiowej.
107.	T	N	Mam małe poczucie bezpieczeństwa.
108.	T	N	Nawet niewielkie zmiany w codziennych zajęciach, powodują, że jestem bardzo spięty/a.
109.	T	N	Podczas prowadzenia samochodu, nawet gdy nie zrobię nic złego, obawiam się, że może zatrzymać mnie policja.
110.	T	N	Łatwo przestraszają mnie gwałtowne hałasy.