Personality disorders diagnostics through the C.R.Cloninger`s theory

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Summary

Authors present clinically useful approach of personality disorder diagnostics on the base of low self-directedness (SD) in Cloninger´s Temperament and Character Inventory (TCI) and configuration of temperament traits of novelty seeking, harm avoidance and reward dependence. Temperament trait were assessed in male general population (N=543, age 19-28) and older population (N=91, age 48-76; N=125, age 22-68). We suggest to interpret SD under 1-2 standard deviations as a personality disorder trend and SD under 2 standard deviations as a personality disorder. We discuss relevance for military psychological selection.

Persons with specific personality disorders are subjects of common problems of general medical practice as well as of psychiatric practice. The classification of personality disorders belongs to the most difficult and controversial chapters of the psychiatric classification. Their general prevalence is stated between 6 and 9 % (according to Smolik, 1996) but sometimes the higher prevalence is also stated – between 10 and 15 % (according to Clarking, 1998). The same problem appears when some persons are selected (for example in the army).

Five versions of the American DSM (the Diagnostic and Statistical Manual of mental disorders) also includes personality disorders because of the practical reasons. There are lots of patients that suffer from personality disorders and that appear in medical offices. They represent a very problematical part of patients. The diagnosis of personality disorders is closely connected with slower treatment and higher noncompliance and also with more difficult establishment of the contact between a patient and a doctor or a therapeutist (according to Coolidge and Segal, 1998 and Mombour and Bronisch, 1998).

The clinical use of Cloninger`s theory of temperament and character (TCI) for the diagnostics of personality disorders is made possible thanks to several hopeful exploratory

findings that make this theory (TCI) suitable for the practical diagnostics. Any attempt of a clinical algorithm of using TCI for the diagnostics of personality disorders has not been recorded yet.

Normal personality characteristics can be very well described by means of four temperamental inborn dimensions that are regularly spread and they are genetically independent of each other. These dimensions reflect four cerebral systems. Every personality is a complex and gradual system according to Cloninger. This system consists of different psychobiological dimensions, temperament and character. Temperament and character can be measured and they enable to recognize differencies among people.

Temperament consists of four hereditary orthogonal personality dimensions that can be observed since the early childhood and that include preconceptual and unpurposed teaching. Subhuman animals have these dimensions too. They have a special denotation – novelty seeking (NS), harm avoidance (HA), reward dependence (RD) and persistence (PE).

Every personality farther consists of three character dimensions that are only partly influenced by temperament. Character is formed in the process of ontogenesis and it is influenced by teaching. The character dimensions are denoted as self-directedness (SD), cooperativeness (CO) and self-transcendence (ST).

The TCI questionnaire that has 240 items and that is called the Temperament and Character Inventory (in the Czech Republic Kozeny et al., 1989) has contributed to propagation of Cloninger`s ideas. This questionnaire had its former version in the Czech republic that was called TPQ and it was translated and validated by Kozeny and Tisanska in 1998. Clinical possibilities and some experience with healthy population have been described somewhere else (Preiss, 2000 a, Preiss et al., 2000 b).

The affinity to personality disorders has been confirmed several times in TCI (according to Cloninger et al. 1994 a, b; Svrakic et al., 1993; de la Rie et al., 1998; Bejerot et al., 1998; Mulder et al., 1997). The first relevant finding is based on low distribution of SD and CO in cases of all personality disorders. The other one is based on the relationship between subtypes of personality disorders and the specific profile of TCI that classified according to the temperament dimensions. The first finding is supported by many resources (Svrakic et al., 1993; de la Rie et al., 1998; Bejerot et al., 1998) while the other finding is confirmed only partly. The relationship between temperament and individual clusters of DSM personality disorders is often investigated (Mulder et. al., 1997; Svrakic et al., 1993). This is for example the high harm avoidance or the high reward dependence in the cluster A (this is the paranoid, schizoid and schizotypal personality disorder), the high novelty seeking in the

cluster B (this is the antisocial, extreme, histrionic and narcissistic personality disorder) and also the high harm avoidance and the low novelty seeking in the cluster C (this is the evasive, dependent and obssessivelly compulsive personality disorder).

Cloninger (1994 a, b) recommends to evaluate the personality disorder on the basic of substandard scores of SD and CO (less than 33%). Cloninger comes to this conclusion on the basis of work of Svrakic et al. (1993). Low scores of SD (less than 0,001 of percentile) and also of CO (less than 0,05 of percentile) predicate all types of personality disorders. The low score of SD indicates a persons` difficulty with a realization of his her responsibility. It also indicates a persons` difficulty with his or her adequate. The score of SD can be normal in some cases but the score of CO is substandard (this person is self-directed well but noncooperative, selfish, unemphatic and socially intollerant). If the score of SD reaches from 0 to 16,7 of percentile, the probability of personality disorder is 90%. If the score of SD reaches from 16,7 to 33 of percentile, the probability of personality disorder is between 40 and 50%. The risk of personality disorder is reduced when the scores of novelty seeking (NS) and harm avoidance (HA) are low and this risk is increased when the scores are high. The first author (M.P.) had the experience with the application of TCI in the extended psychological exploration when he examined more than 50 patients from the Prague Psychiatric Centre (PCP). A new computer program for the administration and evaluation of TCI has been developed on the basis of this experience. The dimension of persistance did not prove good when the clinical application of TCI was done. The reason for the failure is that the dimension of persistance has only 8 items and the clinical dispersion of results is not sufficient. The results of the Czech population in scores of the self-transcendence are much lower than the results in the American population. They are similar to the Swedish standards (according to Brandstrom et al., 1998) as well as to the Dutch standards (according to de la Rie et al., 1998). We must be very careful if we try to interpret scores of self-transcendence (ST) because there are no Czech standards in this field to day.

The aim of this work is to give a clinical instruction how to evaluate TCI results with regard to personality disorders and how to find links for different ages oh the basis of the exploration of the Czech general population.

The group

The group consisted of 975 men in the age between 19 and 28 years in the course of basic military service. Cloninger`s questionnaire (TCI) has been administered as a part of a

routine psychological exploration in this group of conscripts to find out their competence for the military service and their readiness to manipulate arms. The investigation was done in the beginning of the basic military service or in its course. The group was farther reduced to the persons that had reached at least IQ 90 in Otis intelligence test. The sample was then reduced to N=543. We eliminated the persons that had scored less that IQ 90 from the group in order to increase the probability of the adequate understanding of the individual items in the questionnaire.

We used three different groups of people of different age for the percentile standards. The first group that consists of 543 people / N = 543 / has been already described in the previous sentences. The second group is a non - psychiatric group. It consists of 34 women and 91 men / N = 125 /. The people in this group are in the age between 22 and 68 yrs. / M = 45, SD = 11 /. They underwent the psychological check - up in the Psychological Department of the Central Military Hospital in Prague. This check-up was carried out within the frame work of the safety tests. Clonninger's questionnaire /TCI/ has been administered as one of possible methods.

The third group is the oldest. It consists of the patients that suffer from the disorders of the mobile corporal system /the Parkinson disease and the essential tremor/. There are 60 men and 31 women in this group / N = 91 / and their age is between 48 and 76 years / M = 58, SD = 6/. This group was examined in the Neurological Clinic of the Central Military Hospital in Prague. This examination was carried out in the framework of the diploma work about temperament of the patients that suffer from the Parkinson disease. Cloninger's questionnaire /TCI/ was administered in combination with an interview.

The method

We used the questionnaire called the Temperament and Character Inventory /TCI/ Cloninger et. al.,1946 b/ that had been translated by Kozeny with the modification of two items in the translation. We have omitted Cloninger's validatory scales that are not used by Cloninger today. We have joined the modified scale of lies from the Eysenck's theory EPQIR where we had reformed the interrogative items to the informative items. The form of the TCI questionnaire stays the same. It consists of 238 items and each proband decides whether the particular item is valid for him or not. The method was administered on computer that had a written instruction.

Each proband had to evaluate different ways of behaviour and perception and state if the particular way of behaviour and perception is regular, normal or extreme.

We have evaluated each personality disorder on the basis of the dimension of self – directedness /SD/. If the score had been in a range between the first and the second standard deviations of the group, we interpreted the score like **a trend to personality disorder.** If the score had been 2 and more standard deviations of the group, we evaluated this fact **as a personality disorder**. We evaluate the different types of temperament on the basis of deviations that are above and under the average of dimensions in a group that is adequate in investigation because the relationships to personality disorders is usually lower than in case of the dimension of self-directedness /SD/. /Casey and Joyce, 1999/.

Cloninger defines and describes these dimensions like this:

Novelty seeking - NS, the behavioral system of activation

The hereditary basis of activation or initiation of behaviour /for example an explorational activity and a reaction to a new stimulus/. This is an inborn tendency to an intensive excitement as a response to new instigations. A high score means excitability, explorativity, curiosity, impulsivity, intolerance to monotony while a low score means indifference, reserve, systematization, thoughtfullness and a slow pace.

The studies prove that novelty seeking is independent of mood and anxiety and that it positively correlates with aggressivity, impulsivity, criminality, the second type of alcoholism and extroversion. Alcoholics often have high novelty seeking/NS/ and low harm avoidance /HA/. High novelty seeking /NS/ in the childhood combined with low harm avoidance /HA/ and reward dependence /RD/ predicts antisocial behaviour of adolescents, alcoholic and drug addiction as well as criminality in the adult age.

Harm avoidance – HA, the behavioral system of inhibition

The hereditary basis of suppression or changes in behaviour that appear like pessimistic worries in anticipation of future problems, passive and evasive behaviour and easy tendency to become tired. This is an inborn tendency to react intensively to unpleasant instigations. A high score in the dimension means caution, doubt, passivity, tension, uncertainty or pessimism. A low score means relief, courage, optimism and dynamism.

The studies have proved that harm avoidance /HA/ is influenced by depression and anxiety more than in case of novelty seeking /NS/. It correlates with shyness, Eysenck's neuroticism, introversion and venturesomeness. All types of agonizing disorders have high harm avoidance /HA/, /usually in the highest sixth of general population/. Depressive patients have higher harm avoidance/HA/ than general population before and after treatment.

Reward dependence - RD, the behavioral system of dependency.

The hereditary basis for socially sensitive behaviour, dependency on support of other people and social links. This is an inborn tendency to react intensively to rewarding instigations, to behave in a certain way when different situations appear that are connected with reward or that contrast with punishment. A high score in the dimension means sensitivity, affection, dependence and sociability. A low score means insensitivity, pragmatism, hardness and cold-bloodedness.

The studies have proved that reward dependence /RD/ is dependent on measure of social reserve and it correlates with extroversion and empathy. It is usually higher by women than by men.

Self – directedness – SD

Self-directedness is measure of maturity, responsibility, large intention and integrity of personality. A high score means social maturity, responsibility, self-respect, target orientation and personal integrity. A low score means immaturity, destructiveness, unreliability and deficit of internal organizational principles.

The studies have revealed that persons with low self-directedness often suffer from dysthymia and depression. Persons with low self – directedness /SD/ and cooperativeness /CO/ often suffer from personality disorders.

Results and discussion

Basic items in individual dimensions are shown in the charter. There are stated all basic dimensions except persistence /PE/ that was omitted because of its small clinical importance. On the other hand, we left the dimension of cooperativeness for a clinical use and also the dimension of self-transcendence because of important differencies between the Czech and the American population.

The number of probands that tend to personality disorder is 73 (13,95% of the group), the number of probands that suffer from the personality disorder is 36 (6,88%). The change of the structure of the temperamental types with intensifying personality disorder is obvious. We may observe the growth of the schizoid temperamental variant in cases of persons with personality disorder. The decrease of the schizoid and cyclothymic temperamental variant patients that tend to personality disorder is very difficult to interpret.

The similar trend was found out by Casey and Joyce (1999) and the explanation could be in lower correlation of self-directedness with these temperamental types. If we consider the patients that tend personality disorder we may say that the passively aggressive, explosive and schizoid temperamental type was the most frequent distribution. The explosive and schizoid temperamental type was the most usual in the category of the patients, that suffer from personality disorder. The percentual distribution of personality disorders approximates members in general population (according to Smolík, 1996).

The standards for the temperamental types

We used three different groups from different time for the percentile standards. We have already described the first group (N = 543) in the pervious sentences. The second, non-psychiatric group consists of 34 women and 91 men (N = 125). The age of the patients in this group is between 22 and 68 years (M = 45, SD = 11). The third group is the oldest. It consists of the patients who suffer from the disorders of the mobile corporal system (the Parkinson disease and the essential tremor). There are 60 men and 31 women (N = 91) in this group and their age is between 48 and 76 years (M = 58, SD = 6). The percentile standards are depicted in comparison with the Americans of the same age (according to Cloninger, 1994a, page 89). In those two groups there is lower distribution of novelty seeking and much lower distribution

if self-transcendence. On the other hand, there is much higher distribution of reward dependence and self-directedness. The last group of the neurological patients has much lower distribution with the American group. On the other, distribution of harm-avoidance is higher than in the American group.

A decrease in novelty seeking and a partial growth of the self-directedness and cooperativeness is more typical for Czech groups in the process of ontogeny. We haven't examined the differences in sex because of the absence of women in the first group (N = 532). Cloninger (1994a) gives the standard scores for TCI for both sex together. He states higher distribution of cooperativeness by women. Brandstrom et al. (1998) has not found any relevant differences in sexes in the group of 1330 persons.

The procedure for practical diagnostic of personality disorders is depicted in the chart. We understand a temperamental type in practice as a general tendency to behave in a specific way. As for the quality it also depends on the difference of individual divergences of the temperamental dimension from the average of the groups. The size of these divergences is very important for the interpretation of the finding. From the clinical point of view we must also consider many other important indicators - the scale of cooperativeness expressed by the dimension of cooperativeness (CO) can be a very important indicator how to predict success of psychotherapy, self-transcendence is related to psychosis and to the problem of perception of reality (Bayon et al., 1996). For the scale of validity of results it is also necessary to take into account the scores of lies. In this case we consider data that are higher than 7 points of the raw score as an irrelevant finding. Intelligence is also very important because individual items in TCI have a very difficult structure sometimes. It's not necessary that a proband with lower intelligence understands these items well.

The process of diagnostics of personality disorders according to TCI:

1. Administration of TCI
2. Detection of the level of self-directedness (SD) and the comparison of SD considering the age standards with regard to our three groups.
3. If there are 1 or 2 standard deviations from the average of the group we interpret it as tending to personality disorder. If SD is worse than 2 standard deviations we interpret this as personality disorder.
4. We evaluate the deviations of the temperamental dimensions of NS, HA and RD from particular temperamental type.

5. We confirm or refute the diagnosis of the personality disorder and the specific type of disorder on the basis of the other findings from the investigation and also on the basis of MNK–10 and DSM-IV investigation.

The instrumental casuistic

The man that was 19 years old and that was sent by his family because of the disputes as well as of the real physical attacks had the score of 21 points of raw score of self-directedness in the TCI questionnaire. This score is on the edge of the first standard deviation under the average of the referential group. The scale of novelty seeking was 29 points, of harm avoidance 15 points and the scale of reward dependence was 13 points. These data correspond with the percentile scores NS = 95, HA = 55 and RD = 25. We evaluate this temperamental type as the explosive one. The structure of his personality is described in the end of the psychological exploration. This tends to the personality disorder, he has the particular features of explosiveness, impulsivity, the small scale of self-directedness, the worse scale of cooperativeness and the worse scale of cooperativeness and the worse reward dependency.

The conclusions

1. We present a practical psychometric procedure how to define the trend to personality disorder or the personality disorder in connection with the general temperamental type by means of the TCI questionnaire.
2. The described procedure in connection with the percentile standards can be used in the Czech population for needs of clinical practice.
3. The results of this method must be always evaluated in connection with other findings, especially with other methods of questionnaire and projection.