

The reasons of overextended studies: Relationship between temperament, character and procrastination

Ildikó Takács

Received 2010-07-14

Abstract

The aim of this study is to present the Cloninger's psychobiological model and student procrastinating behaviour. The analysis shows the relationship of the results of Temperament and Character Inventory (TCI) and procrastinating behaviour.

The sample included 110 students from the Budapest University of Technology and Economics.

Our expectation were confirmed: the personality features like self-directedness and self-relation have a big influence on the development of procrastinating behaviour.

The persistence as the temperament factor basically determines the avoidance of procrastinating, and fatigability generates this behaviour.

Keywords

character · temperament · procrastinating behaviour

1 Introduction

In the past few years teachers in the higher education can observe the trend that the studies of students are overextended. Students spend more years at the universities than would be expected by model-curriculum. There are several different reasons for this behaviour. Some reasons stem from their personality, some from their socialization.

The question is: what are the roots of this behaviour?

We had different examinations of students' personality, behaviour, and in this paper we would like to show some results of this research.

2 The features of procrastination

Why do students not finish their studies within the traditional limit of five years ?

One reason can be: procrastination.

The chronic procrastination is a tendency to postpone or delay in a variety of situations that seem necessary to reach goals [3].

Chronic procrastinator postpones usually the same, sometimes very important task. Other procrastinators postpone some tasks, which can depend on situations or tasks features.

But not all procrastinators are chronic procrastinators.

Why do people procrastinate?

What are the main reasons for this behaviour?

- Lack of relevance
- Lack of interest
- Perfectionism: having extremely high standards which are almost unreachable
- Evaluation anxiety: concern over other's responses to your work
- Ambiguity: uncertainty of what is expected for the completion of the task
- Fear of failure and self-doubt
- Inability to handle the task: lack of training or skill necessary to complete the task

Ildikó Takács

Department of Ergonomics and Psychology, BME, 1117 Budapest, Magyar tudósok körútja 2. building Q., Hungary
e-mail: takacsi@erg.bme.hu

- Lack of information needed to complete the task
- Anxiety over expectations that others have of you (e.g., high pressure to succeed; expectations that you will fail)
- The task seems overwhelming or unmanageable
- You are actually overburdened, trying to manage too much.

As it was mentioned, the causes of procrastination are different. They were measured in several ways [7], for instance the relationship of procrastinating behaviour with emotional intelligence, or educational system. The study below discusses the personality's reasons for procrastinations.

3 Cloninger's psychobiological model

Cloninger has developed a model which interprets personality as the interaction between temperament and character. This model tries to integrate the biological basis of personality with the development produced by experience and socio-cultural learning [1].

Temperament is not modified by learning processes, but it is considered as a biological predisposition, which remains stable throughout development. Temperament is largely genetically determined, independently manifested in early life, and configures automatic behaviour responses.

Character is a set of characteristics that is modified by learning processes, through learnt socio-cultural mechanisms resulting from experience, introspective learning or reorganisation of self-concept [1].

Character involves individual differences in higher cognitive processes.

The consequence of this point of view is that the method can be used on both clinical and non-clinical samples.

Our sample is non-clinical that is why we do not particularly consider brain mechanisms.

According to this, Cloninger's model has seven factors: four dimensions belong to Temperament and three to Character.

Novelty seeking is a disposition in the activation or initiation of behaviours such as exploratory activity in response to novelty, impulsive decision making, extravagance in approach to cues of reward, quick loss of temper and active avoidance of frustration.

The second factor of Temperament is Harm avoidance. Harm avoidance is a tendency to respond intensively to signals of aversive stimuli, thereby inhibiting behaviour. It includes pessimistic worry in anticipation of future problems, fear of uncertainty, shyness of strangers and rapid fatigability.

The third factor is Reward dependence, which is a tendency to respond intensively to signals of reward, especially social rewards, thereby maintaining behaviour. It appears as sentimentality, social attachment and dependence on approval of others.

And the fourth factor is Persistence which does not have sub factors. It is measured in terms of perseverance as opposed to frustration, and it was originally thought to be a part of Reward

Tab. 1.

Temperament factors	Character factors
Novelty seeking (NS)	Self-directedness (SD)
Exploratory excitability	Responsibility
Impulsiveness	Purposeful
Extravagance	Resourcefulness
Disorderliness	Self-acceptance
Harm avoidance (HA)	Enlightened second nature
Anticipatory worry	Cooperativeness (C)
Fear of uncertainty	Social acceptance
Shyness	Empathy
Fatigability	Helpfulness
Reward dependence (RD)	Compassion
Sentimentality	Pure-hearted conscience
Attachment	Self-transcendence (ST)
Dependence	Self-forgetful (ST1)
Persistence (PS)	Transpersonal identification (ST2)
	Spiritual acceptance (ST3)

dependence but later emerged as a distinct fourth dimension [2] [6].

As it was mentioned, the temperament factors are largely genetically determined, and not modified by either social, or cognitive learning processes.

As opposed to Temperament propositional learning has a big influence on the development of Character. Propositional learning has determinative role in shaping the picture of himself or herself, in controlling the behaviour and relationship with the surroundings.

The first Character factor is Self-directedness, which is the ability to control a person's behaviour by his/her principles, tasks and requirements.

The second factor of Character is Cooperativeness; which factor gives a possibility to measure a person's skills as helpfulness, acceptance, cooperation, compliance with other people.

Features of prosocial behaviour, social adaptation belong to this factor.

The third factor: Self-transcendence was an effort on Cloninger's side to express the unity of personality. This factor examines the features of transpersonal identification, and spiritual acceptance [1].

4 The results of TCI

4.1 Sample

The examination took place at the Budapest University of Technology and Economics. 110 students from several faculties (82 males, 28 females) voluntarily took part in the procedure.

4.2 The methods

- 1 Cloninger's Temperament and Character Inventory (TCI) (240 items)
- 2 Procrastinating behaviour was measured with the Questionnaire of Procrastination Types. Both questionnaires are self-reported.

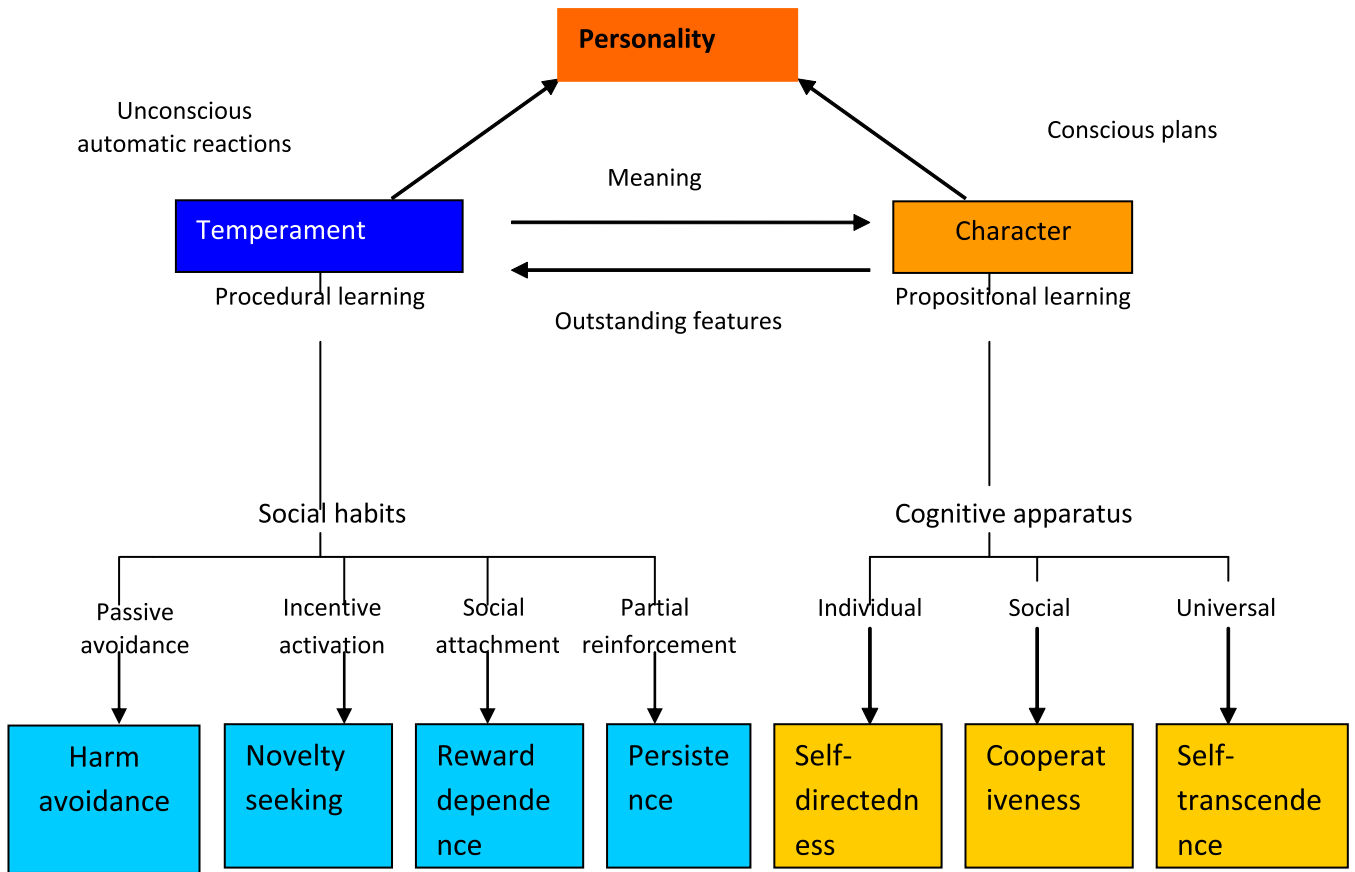


Fig. 1. The general psychobiological model of personality [2, p53].

Hypotheses of analysis to compare with Hungarian standard samples and gender differences:

- 1 There will be no discrepancy in several factors when compared with the Hungarian standard sample.
- 2 Possible discrepancy can be explained with age.
- 3 According to earlier examinations gender differences must show in Impulsiveness, Extravagance, and Harm avoidance and Reward dependence factor's subscales.
- 4 A discrepancy between Self-directedness and Empathy can be observed.

4.3 Results

The Hungarian standard sample's result was analysed and compared with our student sample; by the results the first hypothesis was partly realized [4, p127].

Such differences were found which can be explained with the age or the kind of education.

The participants of the standard sample were more diverse in terms of age and education. In Novelty seeking factor, in Extravagance the students' sample had lower scores (3.79 vs. 5.1).

The other factor where the differences are conspicuous is Harm avoidance; there every subscale is lower than in the standard sample.

In the course of analysis of standard sample the results showed age differences in Novelty seeking and Self-directedness. In the young group (15-25 years) the mean of Novelty seeking was higher than in the other age group (22.6), as opposed to in our sample the total mean was 19.65 points only.

Means in the Self-directedness factor are very close to each other (29.5 vs 28.8) but the young group's mean in the standard sample is lower than in our student group (27.8 vs 29.5). We can presume that the student group may show well-organized behaviour, higher than that their peers in other educational and life situations.

The Self-transcendence factor gives the highest differences between the two samples. The subscales as Transpersonal identification and Spiritual acceptance showed big differences. The standard sample mean in Transpersonal identification subscale is 2.8 and the students' mean is 2.18; Spiritual acceptance mean is 6.0 vs 4.45. We suppose it shows the influence of educational type behind the results, because engineering students are very close to the objective world, rationality and obvious effects from the surrounding. This attitude carries a big weight in these subscales results. On the contrary in this factor there is another subscale: Self forgetful, its mean has not got a big difference between the two samples (5.78 vs. 5.89)

The first and second hypothesis were realized partly only.

When we compare the gender differences we must take into

Tab. 2. The results of TCI by gender

Scales	Gender								
	Male			Female			Total		
	Mean	N	Std. deviation	Mean	N	Std. deviation	Mean	N	Std. deviation
Novelty seeking	19.40	82	5.685	20.39	28	6.297	19.65	110	5.833
Exploratory excitability	6.71	82	2.406	7.36	28	2.556	6.87	110	2.450
Impulsiveness	3.90	82	2.599	3.50	28	1.753	3.80	110	2.411
Extravagance	3.62	82	2.339	4.29	28	2.447	3.79	110	2.374
Disorderliness	5.61	82	4.362	5.25	28	1.974	5.52	110	3.890
Harm avoidance*	15.13	82	7.267	13.89	28	6.630	14.82	110	7.101
Anticipatory worry	4.18	82	2.944	3.75	28	2.429	4.07	110	2.818
Fear of uncertainty	2.91	82	1.989	2.96	28	2.202	2.93	110	2.035
Shyness	4.44	82	2.149	3.43	28	2.235	4.18	110	2.206
Fatigability*	3.60	82	2.388	3.75	28	2.661	3.64	110	2.448
Persistence*	4.16	82	2.692	5.11	28	1.833	4.40	110	2.528
Reward dependence	14.61	82	4.245	16.21	28	3.604	15.02	110	4.135
Sentimentality*	5.79	82	1.986	6.64	28	2.094	6.01	110	2.039
Attachment*	5.33	82	2.256	6.32	28	1.982	5.58	110	2.223
Dependence	3.49	82	1.451	3.25	28	1.266	3.43	110	1.404
Self-directedness*	28.93	82	12.810	31.18	28	7.379	29.50	110	11.679
Responsibility*	5.54	82	1.827	6.18	28	1.964	5.70	110	1.875
Purposeful*	5.10	82	2.181	5.71	28	2.034	5.25	110	2.152
Resourcefulness*	3.22	82	1.491	3.57	28	1.526	3.31	110	1.501
Self-acceptance	6.62	82	2.517	7.68	28	2.056	6.89	110	2.443
Enlightened second nature*	7.23	82	2.491	8.04	28	2.134	7.44	110	2.421
Cooperativeness	28.76	82	6.330	31.11	28	6.057	29.35	110	6.318
Social acceptance	6.11	82	1.918	6.57	28	1.752	6.23	110	1.880
Empathy	4.28	82	1.752	4.93	28	1.489	4.45	110	1.706
Helpfulness	5.76	82	1.504	5.89	28	1.449	5.79	110	1.484
Compassion	6.21	82	2.836	6.93	28	2.493	6.39	110	2.760
Pure-hearted conscience*	6.29	82	1.760	6.79	28	1.572	6.42	110	1.721
Self-transcendence	12.07	82	5.522	13.46	28	6.274	12.43	110	5.725
Self forgetful*	5.76	82	2.323	5.89	28	2.470	5.79	110	2.350
Transpersonal identification	2.09	82	1.874	2.46	28	2.099	2.18	110	1.931
Spiritual acceptance	4.23	82	2.847	5.11	28	3.143	4.45	110	2.936

*significant difference between gender

account the sample distribution (82 males - 28 females)(see Table 2).

In the third hypothesis we expected differences in Impulsiveness, Extravagance, and Harm avoidance and Reward dependence factor's subscales.

But by the Mann-Whitney test there were no differences in Impulsiveness and Extravagance subscales (see Appendix 1). This result is very interesting because we had other analysis in Baron Emotional Intelligent Inventory, and this inventory showed significant differences in Impulsiveness, impulsivity control scale between genders.

Two scales have different content: Baron EQI's Impulsiveness scale's items asked about the pace of action or reaction, as opposed to TCI, which asked about the dynamic features of decision behaviour.

Thus the third hypothesis is not realized.

There was one subscale Shyness in Harm avoidance factor, which showed significant difference between genders ($p < .05$).

There was no hypothesis about Persistence, but the females'

mean was significantly higher than that of the males'.

Sentimentality and Attachment subscales showed significant differences in Reward dependence factor ($p < .05$). The female group had higher means in both subscales than in the standard samples.

As we mentioned, the distribution of sample by gender is not equalized; may be this is the cause of this result; but it is very important to notice: the female sample members are engineering students.

Practising this professional field has necessitated to overshadow their "feminine" character, thus we can attribute the differences according to standard sample's results to this effect.

The third hypothesis' expectations were realized partly only in Harm avoidance and Reward dependence factors.

In the fourth hypothesis the differences in Self-directedness and Empathy in Character factors were presumed: We found significant differences between gender in the Self-directedness factor, but in Responsibility ($p = .054$) and Self-acceptance ($p = .059$) subscales there were only tendency-like differences be-

tween them. There was no difference in Empathy.

Thus the fourth hypothesis was realized in small part only.

Members of this part of research are 81 students who said “yes” in question: *Does it happen to you that you regularly postpone the realisation of your tasks?*

Some new hypothesis are defined about procrastinator and non-procrastinator students’ behaviour and results in TCI according to data of literature and our own data of earlier research.

In our earlier research – relationship between emotional intelligence and procrastination – there were data about self-efficacy, conscientiousness, orderliness; so it was a good opportunity to compare the data in the new research.

We formulated new hypotheses about procrastinating behaviour.

- 1 A discrepancy can be observed between procrastinators and non-procrastinators in Harm avoidance factor, especially in Fear of uncertainty and Fatigability subscales, as well as in Persistence factor.
- 2 The procrastinator students will show lower score in Self-Directedness factor’s Responsibility, Purposeful and Enlightened second nature subscales.
- 3 A discrepancy between procrastinators and non-procrastinators in Pure-hearted conscience subscale can be observed.

The results of comparison between procrastinators and non-procrastinators (see Tab. 3) supported the hypotheses and revealed the nature of procrastinating behaviour; we need to re-think to re-evaluate this relationship.

We presumed that the procrastinator student can characterize the Fear of uncertainty. The invisible consequences or indefinite outcome of a task are often the reason of postponing or delaying. As opposed to our expectation, the content of Fear of uncertainty subscale is closer to sensation seeking; the items are about dangerous activity (e. g. climbing cliff), unusual situations or unknown tasks.

Thus this content does not cover totally our expectations and results, there was no significant difference in this subscale by procrastination, and it was only tendency-like difference ($p=.088$).

We found significant differences ($p<.01$) in Fatigability subscale between procrastinator (mean: 4.04) and non-procrastinator (mean: 2.52), by Mann-Whitney test (see Appendix 2).

According to results non-procrastinator students feel less exhausted, and regenerate faster.

Between the two groups there are significant differences in Harm avoidance factor; this is remarkable, because except the Fatigability subscale any other scales in this factor do not show significant differences.

The Persistence factor’s items well-formulated express the procrastinating behaviour flavours: deficit of persistence to finish the tasks or the hard work.

This factor has very strong significance ($p=.00$), the mean of procrastinator is 3.96, non-procrastinator’s 5.62.

The requirements of the first hypothesis – in this part – met the results of Persistence factor, in Harm avoidance factor and in Fatigability subscale only.

The Self-directedness factor’s results have great importance. This factor itself has significant differences between procrastinator and non-procrastinator.

Features like forms of action and speciality, which are very important, were covered by this factor’s subscales.

But for Self-acceptance, every subscale has significant differences.

The items of the Responsibility subscale express accurately the behaviour, when the person takes responsibility for his/her own action. Or the person feels that he/she is the captive of the external circumstances and non-checked effects.

The results show, that non-procrastinators have a significantly ($p<.05$) higher rate (mean: 6,38) than procrastinators (mean:5.46) in Responsibility.

The non-procrastinator’s result is higher in Purposeful subscale, as well (6.34 vs. 4.86). The items of this subscale content are about aim orientation.

Beliefs in task solution and getting over the difficulties appear in Resourcefulness and confidence in ourselves and inventiveness.

There is high significance ($p>.01$) between procrastinators (4.00) and non-procrastinators (3.06).

The Enlightened second nature subscale’s items mainly express the formulated and practised automatic behaviour responses, which “work spontaneously, without any repressed conflict” differences of the two groups are significant (7.04 vs.8.55 $p<.01$).

The second hypothesis is totally realized: the procrastinator students showed lower score in Self-Directedness factor’s Responsibility, Purposeful and Enlightened second nature subscales, even in Resourcefulness.

According to earlier research, the consciousness was usually a very important fact in procrastinating behaviour; several references have arguments about this [5]; [9], [8]; [7]).

In the Pure-hearted conscience subscales there were significant ($p<.05$) differences between procrastinator’s groups (6.23 vs. 6.93). The third hypothesis was totally realized.

The examination of procrastination types was part of our research.

The question about procrastination types was:

Does it happen to you that you regularly postpone the realisation of your tasks?

²significant difference in procrastination

¹significant difference between gender

Tab. 3. The results of TCI by procrastination

Scales	Procrastinator			Procrastination Non-procrastinator			Total		
	Mean	N	St. dev.	Mean	N	St.dev.	Mean	N	St.dev.
Novelty seeking	20.15	81	5.588	18.28	29	6.369	19.65	110	5.833
Exploratory excitability	7.00	81	2.525	6.52	29	2.230	6.87	110	2.450
Impulsiveness	4.02	81	2.535	3.17	29	1.929	3.80	110	2.411
Extravagance	3.78	81	2.414	3.83	29	2.300	3.79	110	2.374
Disorderliness	5.79	81	4.344	4.76	29	2.047	5.52	110	3.890
Harm avoidance*	15.77	81	7.161	12.17	29	6.319	14.82	110	7.101
Anticipatory worry	4.37	81	2.985	3.24	29	2.116	4.07	110	2.818
Fear of uncertainty	3.12	81	2.040	2.38	29	1.953	2.93	110	2.035
Shyness	4.23	81	2.170	4.03	29	2.337	4.18	110	2.206
<i>Fatigability*</i>	4.04	81	2.457	2.52	29	2.081	3.64	110	2.448
Persistence*	3.96	81	2.643	5.62	29	1.678	4.40	110	2.528
Reward dependence	15.22	81	3.994	14.45	29	4.532	15.02	110	4.135
<i>Sentimentality*</i>	6.07	81	1.942	5.83	29	2.316	6.01	110	2.039
<i>Attachment*</i>	5.67	81	2.185	5.34	29	2.349	5.58	110	2.223
Dependence	3.48	81	1.433	3.28	29	1.334	3.43	110	1.404
Self-directedness*	27.20	81	6.532	35.93	29	18.733	29.50	110	11.679
<i>Responsibility*</i>	5.46	81	1.924	6.38	29	1.568	5.70	110	1.875
<i>Purposeful*</i>	4.86	81	2.161	6.34	29	1.738	5.25	110	2.152
<i>Resourcefulness*</i>	3.06	81	1.544	4.00	29	1.134	3.31	110	1.501
Self-acceptance	6.77	81	2.496	7.24	29	2.294	6.89	110	2.443
<i>Enlightened second nature*</i>	7.04	81	2.385	8.55	29	2.197	7.44	110	2.421
Cooperativeness	29.40	81	6.198	29.24	29	6.754	29.35	110	6.318
Social acceptance	6.28	81	1.755	6.07	29	2.219	6.23	110	1.880
Empathy	4.46	81	1.732	4.41	29	1.659	4.45	110	1.706
Helpfulness	5.89	81	1.475	5.52	29	1.503	5.79	110	1.484
Compassion	6.42	81	2.756	6.31	29	2.817	6.39	110	2.760
<i>Pure-hearted conscience*</i>	6.23	81	1.622	6.93	29	1.907	6.42	110	1.721
Self-transcendence	12.83	81	5.663	11.31	29	5.850	12.43	110	5.725
<i>Self forgetful*</i>	6.05	81	2.296	5.07	29	2.389	5.79	110	2.350
Transpersonal identification	2.15	81	1.817	2.28	29	2.250	2.18	110	1.931
Spiritual acceptance	4.63	81	2.960	3.97	29	2.860	4.45	110	2.936

significant difference between gender

If the answer was yes, the next question was: *Do you fit one of these types?* The types were the following: perfectionist, dreamer, worrier, crisis maker, defier, overdoer, relax procrastinator (see types in appendix 3).

In this sample the frequencies of the procrastination types are the follow:

The non-procrastinators represent 25.5% out of this sample. The most frequent procrastination types are the relax procrastinators (23.6 %) and the crisis makers (21.8 %). They are real procrastinators, because they avoid the situation with stress and duty. It is important to say it was the students' choice when they characterized themselves and they exactly knew these types.

One of these types is the perfectionist. We think it is sometimes a pseudo-procrastinator. The person often feels that work in itself is not enough for success, so he/she needs to work more and more, better and better, then the deadline is over and the person still has not done the job.

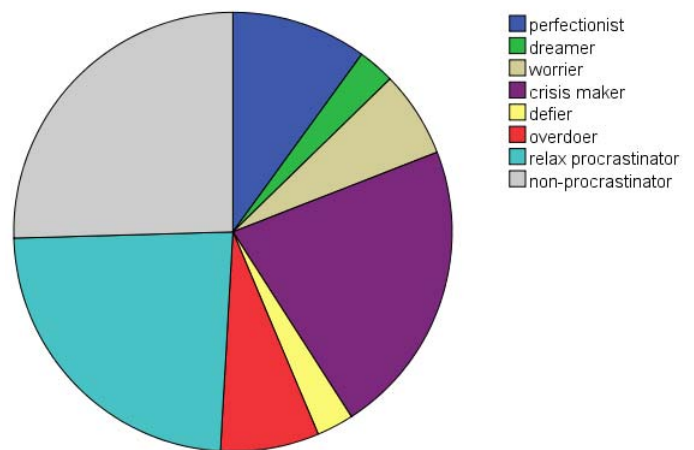


Fig. 2. The procrastination types

4.4 Summary

The results of Cloninger's Temperament and Character Inventory give the opportunity to show the personal background of

procrastinating behaviour.

Our expectations were confirmed: the personality features like self-directedness and self-reliance have a big influence on the development of procrastinating behaviour.

The persistence as the temperament factor basically determines the avoidance of procrastinating, and fatigability generates this behaviour.

References

- 1 **Adan A, Serra-Galubosa J, Caci H, Natale V**, *A reduced temperament and character inventory (TCI-56). Psychometric properties in a non-clinical sample*, *Personality and Individual Differences*, **46**, (2009.), 687–692, DOI 10.1016/j.paid.2009.01.023.
- 2 **Cloninger C, Svrakic D, Przybeck T**, *A psychological model of temperament and character*, *Archives of General Psychiatry*, **50**, (1993.), 975–990.
- 3 **Ferrari J, Johnson J, McCown W**, *Procrastination and task avoidance: Theory, research, and treatment*, Plenum Press, New York, 1995., ISBN 0306448424.
- 4 **Rózsa S, Kállai J, Osváth A, Bánki M**, *Temperament and character: Cloninger's psychobiological model. The Cloninger's temperament and character inventory, User's manual (in Hungarian)*, Medicina, Budapest, 2005.
- 5 **Schouwenburg H, Groenewoud J**, *Study motivation under social temptation: effects of trait procrastination*, *Personality and Individual Differences*, **30**, (2001.), 229–240, DOI 10.1016/S0191-8869(00)00034-9.
- 6 **Sovio U, King V, Miettunen J, Ek E, Laitinen J, Joukamaa M, Veijola J, Jarvelin M**, *Cloninger's temperament dimensions, socio-economic and lifestyle factors and metabolic syndrome markers at age 31 years in the Northern Finland Birth Cohort 1966*, *Journal of Health Psychology*, **12**(2), (2007.), 371–382, DOI 10.1177/1359105307074301.
- 7 **Takács I**, *The influence of the changing educational system on student behaviour. Procrastination: Symptom or...?*, *Periodica Polytechnica Ser. Soc.Man. SCI.*, **13**(1), (2005.), 77–85.
- 8 **Van Eerde W**, *A meta-analytically derived nomological network of procrastination*, *Personality and Individual Differences*, **35**, (2003.), 1401–1418, DOI 10.1016/S0191-8869(02)00358-6.
- 9 **van Eerde W**, *Procrastination: Self-regulation in initiative aversive goals*, *Applied Psychology: An International Review*, **49**, (2000), 372–389, DOI 10.1111/1464-0597.00021.

Test Statistics*				
	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Novelty seeking	1039.000	4442.000	-.749	.454
Exploratory excitability	970.500	4373.500	-1.228	.219
Impulsiveness	1097.500	1503.500	-.350	.727
Extravagance	960.000	4363.000	-1.304	.192
Disorderliness	1123.500	1529.500	-.170	.865
Harm avoidance	1082.500	1488.500	-.450	.653
Anticipatory worry	1088.000	1494.000	-.414	.679
Fear of uncertainty	1132.500	4535.500	-.107	.914
Shyness	849.000	1255.000	-2.071	.038
Fatigability	1120.500	4523.500	-.190	.849
Persistence	800.000	4203.000	-2.410	.016
Reward dependence	900.500	4303.500	-1.705	.088
Sentimentality	853.000	4256.000	-2.047	.041
Attachment	846.500	4249.500	-2.102	.036
Dependence	1030.000	1436.000	-.832	.406
Self-directedness	809.500	4212.500	-2.326	.020
Responsibility	871.500	4274.500	-1.931	.054
Purposeful	966.500	4369.500	-1.258	.208
Resourcefulness	973.500	4376.500	-1.227	.220
Self-acceptance	875.000	4278.000	-1.888	.059
Enlightened second nature	937.500	4340.500	-1.457	.145
Cooperativeness	867.000	4270.000	-1.931	.053
Social acceptance	973.000	4376.000	-1.235	.217
Empathy	906.000	4309.000	-1.685	.092
Helpfulness	1094.000	4497.000	-.381	.703
Compassion	977.500	4380.500	-1.179	.238
Pure-hearted conscience	980.000	4383.000	-1.174	.240
Self-transcendence	1033.000	4436.000	-.791	.429
Self forgetful	1147.000	1553.000	-.007	.994
Transpersonal identification	1028.000	4431.000	-.837	.402
Spiritual acceptance	968.500	4371.500	-1.239	.215

*Grouping Variable: gender

Appendix 2

Test Statistics*

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Novelty seeking	895.000	1330.000	-1.899	.058
Exploratory excitability	1008.500	1443.500	-1.136	.256
Impulsiveness	954.000	1389.000	-1.510	.131
Extravagance	1165.500	4486.500	-.062	.951
Disorderliness	962.500	1397.500	-1.454	.146
Harm avoidance	828.500	1263.500	-2.352	.019
Anticipatory worry	947.000	1382.000	-1.553	.120
Fear of uncertainty	926.000	1361.000	-1.704	.088
Shyness	1128.500	1563.500	-.315	.753
Fatigability	760.500	1195.500	-2.832	.005
Persistence	607.000	3928.000	-3.886	.000
Reward dependence	1062.000	1497.000	-.766	.444
Sentimentality	1098.500	1533.500	-.521	.602
Attachment	1082.500	1517.500	-.634	.526
Dependence	1072.000	1507.000	-.714	.475
Self-directedness	600.000	3921.000	-3.903	.000
Responsibility	838.000	4159.000	-2.323	.020
Purposeful	713.500	4034.500	-3.160	.002
Resourcefulness	757.500	4078.500	-2.898	.004
Self-acceptance	1061.000	4382.000	-.776	.438
Enlightened second nature	701.500	4022.500	-3.236	.001
Cooperativeness	1166.000	4487.000	-.058	.954
Social acceptance	1167.500	1602.500	-.049	.961
Empathy	1142.500	1577.500	-.220	.826
Helpfulness	1018.500	1453.500	-1.090	.276
Compassion	1158.000	1593.000	-.113	.910
Pure-hearted conscience	854.000	4175.000	-2.214	.027
Self-transcendence	920.000	1355.000	-1.730	.084
Self forgetful	875.500	1310.500	-2.046	.041
Transpersonal identification	1157.500	1592.500	-.117	.907
Spiritual acceptance	989.500	1424.500	-1.262	.207

Grouping variable: procrastination

«««< .mine

Appendix 3: Types of procrastinator

A Perfectionist

You are reluctant to start or finish a task because you might not achieve your unrealistically high standard.

B Dreamer

You have a tendency towards vagueness and lack of realism. You have great ideas but have difficulty transforming them into achievable goals.

C Worrier

You are afraid of things going wrong and of being overwhelmed by events. So you avoid risk or change and have little confidence in your ability to make decisions or tolerate discomfort.

D Crisis maker

You “enjoy” declaring that you can’t get motivated until the last moment, or that you do your best work then. You probably have a low threshold for boredom. Or perhaps you hope that your tasks will miraculously disappear or someone will come along and help you.

E Defier

Either you are aggressive and argumentative to others’ suggestions or instructions because it implies that others are trying to tell you what to do or control you.

Or you are passive-aggressive and tend to say “Yes” when you mean “No”. This can be a way of getting back at others if you are afraid to voice your true feelings.

F Overdoer

You are always working at something and often making extra work for yourself but you don’t focus on the important issues that need to be tackled. You have difficulty saying “No”.

G Relax procrastinator

You avoid the situation with stress and duty. You often postpone your tasks because you want to enjoy the entertainment or relax. You think several tasks can wait and momentary good things are more important.