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## Temperament and early maladaptive schemas as correlates of sexual satisfaction

### Osobowość i wczesne nieadaptacyjne schematy jako korelaty satysfakcji seksualnej

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#### Abstract

**Introduction:** This paper presents the correlates of sexual satisfaction, i.e. early maladaptive schemas and personality factors. **Aim:** The aim of the present study was to identify which early maladaptive schemas are associated with sexual satisfaction, and to clarify the role of temperamental dimensions in determining its level. In other words, the study analyses the significance of early human experience and personality determinants for the level of sexual satisfaction. **Methods:** The study group consisted of 104 people aged 18 to 40 years who were recruited from the general non-clinical population. Sexual Satisfaction Questionnaire (Kwestionariusz Satysfakcji Seksualnej, KSS), Temperament and Character Inventory (TCI) Young's Schema Questionnaire 3, Short Form (YSQ-S3-PL), were used in the analysis. **Results:** Of all the personality variables, only Harm Avoidance was found to have a predictive value ( $\beta = -0.246$ ;  $p = 0.036$ ): all temperamental and characterological variables that entered the regression model were found to account for only about 12% of the variability. Among the maladaptive schema domains analysed, Over-vigilance and Inhibition and Other Directedness have predictive values, together explaining about 26% of the variability of the results ( $\beta = -0.311$ ,  $p = 0.006$ ;  $\beta = -0.247$ ,  $p = 0.029$ ). **Conclusion:** The most significant determinants of sexual satisfaction are cognitive schemas, i.e. early childhood experiences based on the long-term satisfaction of one or several core needs, or failure to do so. In contrast, personality factors, including temperamental and character factors, play a slightly lesser role.

**Keywords:** sexual satisfaction, schema therapy, temperament

#### Streszczenie

**Wprowadzenie:** W artykule podjęto próbę przeanalizowania związków wczesnych doświadczeń człowieka oraz uwarunkowań temperamentalnych z odczuwanym poziomem satysfakcji seksualnej. **Cel:** Celem prezentowanych badań była odpowiedź na pytanie, które z wczesnodziecięcych schematów poznawczych wiążą się z satysfakcją seksualną oraz jaka jest rola temperamentu w wyznaczaniu poziomu analizowanej zmiennej. W analizach uwzględniono również wybrane zmienne socjodemograficzne. **Metody:** Grupa badana składała się ze 104 osób w wieku od 18 do 40 lat pochodzących z ogólnej populacji nieklinicznej. Zastosowano Kwestionariusz Satysfakcji Seksualnej (KSS), Kwestionariusz Temperamentu i Charakteru Cloningera (Temperament and Character Inventory, TCI), Kwestionariusz Schematów Younga, wersję skróconą (Young's Schema Questionnaire 3, Short Form, YSQ-S3-PL). **Wyniki:** Spośród wszystkich zmiennych temperamentalnych w ujęciu Cloningera jedynie Unikanie Szkody miało wartość predykcyjną ( $\beta = -0,246$ ;  $p = 0,036$ ) i wyjaśniało tylko około 12% zmienności. Natomiast wśród analizowanych domen schematów wartości predykcyjne mają Nadmierna Czujność i Zahamowanie oraz Nakierowanie na Innych, wyjaśniając łącznie około 26% zmienności wyników ( $\beta = -0,311$ ,  $p = 0,006$ ;  $\beta = -0,247$ ,  $p = 0,029$ ). **Wnioski:** Najistotniejszymi determinantami satysfakcji seksualnej są schematy poznawcze, czyli doświadczenia wczesnego dzieciństwa oparte na długotrwałym niezaspokojeniu jednej lub kilku podstawowych potrzeb. Natomiast czynniki osobowościowe, w tym temperament i charakter, odgrywają mniejszą rolę.

**Słowa kluczowe:** satysfakcja seksualna, schematy według Younga, temperament

## INTRODUCTION

Sexual satisfaction is an vital element of human sexuality, and one that is considered an important component of the overall quality of life and the subjective assessment of physical and mental health. Many authors emphasise that sexual intercourse is not only a biological process, but also an intrapsychic and interpersonal one associated with the cultural context (Neto, 2012; Plopa, 2017; Schwartz and Young, 2009; Shahvari et al., 2015). Sexual satisfaction is also bidirectionally linked to various aspects of everyday life, such as health, general well-being, and satisfaction with relationships (Dolińska-Zygmunt and Nomejko, 2011; Dundon and Rellini, 2010; Janowski and Czyżkowska, 2013; Rosen and Bachmann, 2008; Scott et al., 2012).

Sexual satisfaction is typically evaluated based on the subjective perception of the individual, and such assessment encompasses the entire course of the sexual contact, including both desire and sexual realisation. The degree of satisfaction also influences human self-esteem in terms of sexual functioning, meeting one's own expectations, and the possibility of fulfilling one's desires. However, as sexual satisfaction has such a multitude of aspects, it lacks a single universal and generally accepted definition.

Sexual satisfaction is sometimes defined as the degree to which a person is happy with their intimate relationship (Sprecher and Cate, 2004). It is interpreted in the Lawrance and Byers (1995) model of sexual satisfaction (Interpersonal Exchange Model of Sexual Satisfaction) as the balance of benefits and costs resulting from remaining in a sexual relationship with another person. Alternatively, Zihler and Masten (2010) describe it as an emotional state that occurs when the desires of an individual regarding their sexual life are satisfied, while Nomejko et al. (2012) define it as subjective satisfaction with one's sexual life that is associated with a positive attitude towards sex, and with one's own sexual attractiveness, relationships, and sexual partners. This attitude is expressed through the emotions, thoughts, and behaviours of the individual.

Davis et al. (2006) interpret sexual satisfaction as a combination of three components: physical satisfaction, emotional satisfaction, and satisfaction resulting from a sense of control. Physical satisfaction is regarded as a subjectively-felt pleasure of sexual intercourse, and the assessment of the partner's sexual skills and physical satisfaction; emotional satisfaction refers to the feelings towards one's partner; and satisfaction resulting from a sense of control derives from the assessment of one's own influence on when, how and if a sexual contact occurs.

As previously indicated, sexual satisfaction is associated with many factors, including relationship satisfaction, frequency of sexual activity, and the use of pornography (Yucel and Gassanov, 2010), as well as the age and religious beliefs of the individual, the use of sex toys, and the frequency of experiencing orgasm (Haavio-Mannila and Kontula, 1997).

Sexual satisfaction is enhanced by similarity between personalities (Farley and Davis, 1980), higher self-esteem and a positive perception of one's body (Pujols et al., 2010), and the defined type of gender role (Pedersen and Blekesaune, 2003). It has also been found that depression, anxiety, stress and irritability also play important roles, similarly to the level of sex education, sexual attitudes in the generational family, and the degree of communication between partners and their attachment style (Butzer and Campbell, 2008; Clymer et al., 2006; Meston and Trapnell, 2005).

When analysing these factors and their significance, it is worth noting that the vast majority do not present a full picture of the most primary determinants of the level of sexual satisfaction, especially considering that anxiety, depression, stress, self-esteem, and perception of one's own body or one's undertaken behaviours appear to play a lesser role than the biological or early childhood determinants.

A model that may prove useful in explaining the deeper sources of life satisfaction, including those of a sexual nature, may be that based in C. Robert Cloninger's concept of personality. According to this paradigm, personality consists of a genetically-conditioned temperament and an environmentally-determined character. The biological basis for the development of personality traits is temperament, which can be understood as being largely genetically conditioned, while personality itself is composed of a unique set of emotional responses and skills derived through interactions with the surrounding environment (Hornowska, 2003).

In addition, the early maladaptive schemas of Young's schema theory (Jabłoński and Chodkiewicz, 2017; Young et al., 2014) may be of value. The theory emphasises the special role played by early childhood experiences in the development of adaptive or non-adaptive patterns which later affect adulthood. Young et al. (2014) characterise the cognitive schema as a main, multi-threaded motif running through many levels of the individual's life, including the individual herself and her interpersonal relationships. Such childhood schemas can be maintained throughout life; however, the temperament and environment of the individual will determine which of them develop into adulthood.

The aim of the present study was to identify which early maladaptive schemas are associated with sexual satisfaction, and to clarify the role of personality in determining its level. In other words, the study analysed the significance of early human experience and personality determinants for the level of sexual satisfaction. The analysis also included a number of selected sociodemographic variables.

## MATERIALS AND METHODS

The study group consisted of 104 people (74 female and 30 male) aged 18 to 40 years who were enrolled from the general non-clinical population. All subjects were volunteers recruited by the snowball method. All participants received comprehensive information about the purpose and

	Women		Men	
	<i>n</i>	%	<i>n</i>	%
<b>Place of residence</b>				
Urban	67	90.5	27	90.0
Rural	7	9.5	3	10.0
<b>Education</b>				
Secondary	36	49.3	16	33.3
Tertiary	37	50.7	14	46.7
<b>Professional status</b>				
Unemployed	2	2.8	0	0.0
Working	47	65.3	23	76.7
Student	23	31.9	7	23.3
<b>Marital status</b>				
Single	20	27.0	8	26.7
Formal relationship	17	23.0	15	15.7
Informal relationship	37	50.0	17	56.7
<b>Children</b>				
With children	14	18.9	1	3.3
Without children	60	81.1	29	96.7

*n* – the number of people who replied to particular questions.

Tab. 1. Characteristics of the study groups with regard to selected demographic data

course of the study. The study was approved by the University of Lodz Bioethics Committee (No. 6/KBBN-UŁ/I2019). The age distribution in the group demonstrated a small ortho-magnitude (0.767), indicating that those aged above the mean age of the studied group were over-represented in the group. The mean age of the women ( $M = 26.78$ ; standard deviation,  $SD = 5.69$ ) was slightly higher than that of the men ( $M = 25.30$ ;  $SD = 4.84$ ). The female participants reported an insignificantly higher mean relationship length ( $M = 5.22$ ;  $SD = 4.25$ ) than the men ( $M = 4.05$ ;  $SD = 2.41$ ), and a slightly higher, but insignificantly so, mean age at the beginning of sexual intercourse ( $M = 18.39$ ;  $SD = 2.15$ ) than the men ( $M = 18$ ;  $SD = 2.53$ ).

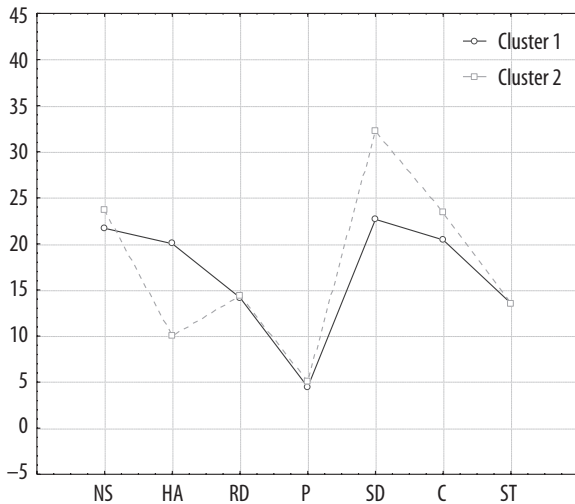
Other selected demographic data items are presented in Tab. 1.

The level of sexual satisfaction was evaluated using the Sexual Satisfaction Questionnaire (Kwestionariusz Satysfakcji Seksualnej, KSS) (Nomejko and Dolińska-Zygmunt, 2014), which interprets the notion of sexual satisfaction as cited above in the Introduction (see: Nomejko et al., 2012). The tool consists of 10 statements; the responses are given on a four-point Likert scale from 1 – “completely untrue” to 4 – “completely true.” A higher score indicates a higher level of sexual satisfaction. The method is characterised by good psychometric properties, with a Cronbach’s alpha coefficient of 0.89 (Nomejko and Dolińska-Zygmunt, 2014). Temperament was evaluated by Cloninger’s Temperament and Character Inventory (TCI) questionnaire (1987, 1992) adapted by Hornowska (2003), which is used to study temperament and character according to Cloninger’s psychobiological model of personality. The model assumes that personality consists of a genetically-determined temperament,

recognised as a trait of individual differences which can be used to differentiate individuals according to their automatic responses to external stimuli. Typically, the differences in temperament observed between individuals are assumed to be caused by structural differences in the amygdala, hypothalamus, striatum and limbic system structures, as well as the connections between them. Other authors have argued that differences in temperament between individuals may be associated with variation in neurotransmitter levels (Cloninger, 1997; Cloninger et al., 1993).

In Cloninger’s personality model, temperament is described by four dimensions, of which three have a specific relationship with monoaminergic neurotransmitters: 1. *Novelty seeking* (NS), understood as a tendency to actively respond to new stimuli, and associated with the activity of the dopaminergic system 2. *Harm avoidance* (HA), i.e. the tendency to inhibit actions in response to negative stimuli, and associated with the activity of the serotonergic system; 3. *Reward dependence* (RD), the tendency to continue acting in response to positive stimuli associated with the activity of the noradrenergic system; 4. *Persistence* (P), the ability to independently support a given activity (Hornowska, 2003).

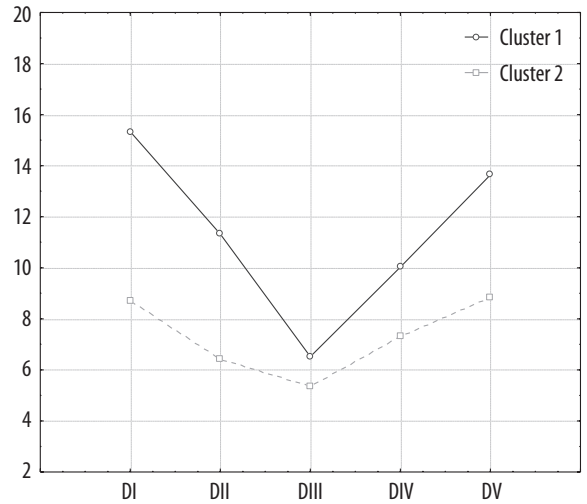
The questionnaire measures seven main dimensions and 24 personality sub-dimensions. Regarding the main dimensions, Novelty Seeking (NS), Harm Avoidance (HA), Reward Dependence (RD), and Persistence (P) are associated with temperament, while Self-directedness (SD), Cooperativeness (C), and Self-transcendence (ST) are associated with character. The method has good psychometric properties: internal coherence for each dimension was found to range from 0.66 (Cronbach’s alpha) for Reward Dependence to 0.83 for Novelty Seeking (Hornowska, 2003).



NS – Novelty Seeking; HA – Harm Avoidance; RD – Reward Dependence; P – Persistence; SD – Self-directedness; C – Cooperativeness; ST – Self-transcendence.

Fig. 1. Profile of mean personality dimension scores according to separate clusters

Early childhood schemas were determined by the Young's Schema Questionnaire 3, Short Form (YSQ-S3-PL) by Young et al. (2014) as adapted by Oettingen et al. (2018), used to study early non-adaptive schemas. The version used in the present study comprises 18 distinct schemas grouped into five domains: Disconnection/Rejection (deprivation of the need for security and acceptance), Impaired Autonomy and Performance (deprivation of the need for autonomy and independence), Impaired Limits (deficits in the sphere of internal borders, self-discipline), Other Directedness (deprivation of self-expression for fear of losing love and attention) and Over-vigilance and Inhibition (the result of failing to meet the need for spontaneity and play). The statements given in the questionnaire refer to the beliefs the respondents have about themselves, the world, and their relationships with others; they also include an emotional aspect (Maćik, 2016). The questionnaire consists of 90 statements; the respondents use a six-point Likert scale ranging from 1 – “completely untrue about me” to 6 – “describes me perfectly.” Each schema is scored from 5 to 30



Designations of domains: DI – Disconnection/Rejection; DII – Impaired Autonomy and Performance; DIII – Impaired Limits; DIV – Other Directedness; DV – Over-vigilance and Inhibition.

Fig. 2. Mean results for individual early childhood cognitive schemas according to cluster

points, and the questionnaire as a whole is marked as the total sum of all points awarded for all schemas. The questionnaire has satisfactory psychometric properties according to Cronbach's alpha – an analysis of reliability found the internal consistency of the subscales to range from 0.62 to 0.81 (Oettingen et al., 2018).

## RESULTS

The first stage of the analysis examined whether the sociodemographic variables included in the study differentiate the respondents in terms of their perceived level of sexual satisfaction; however, no significant relationships were observed.

The subjects were then assigned to two groups by cluster analysis using the k-means method. First, two clusters were determined based on the results obtained in the TCI questionnaire (i.e. the basic dimensions of temperament and character) and then again based on the domains in the YSQ-S3-PL questionnaire (i.e. five domains covering early

Temperament and character dimensions	Cluster 1 n = 56		Cluster 2 n = 48		df	F	p
	M	SD	M	SD			
Novelty Seeking	21.696	6.375	23.625	5.629	102	2.632	0.107
Harm Avoidance	20.017	5.107	10.04	4.443	102	111.040	0.000
Reward Dependence	14.160	3.691	14.395	3.928	102	0.098	0.753
Persistence	4.464	1.916	3.928	1.991	102	2.779	0.098
Self-directedness	22.660	5.686	32.250	5.192	102	79.598	0.000
Cooperativeness	20.428	4.471	23.395	4.175	102	12.094	0.000
Self-transcendence	13.553	5.001	13.479	6.922	102	0.004	0.949

df – degrees of freedom; F – F-statistic; p – level of statistical significance.

90 Tab. 2. Mean personality dimension scores according to separate clusters

Domain	Cluster 1 <i>n</i> = 30		Cluster 2 <i>n</i> = 74		<i>df</i>	<i>F</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
I. Disconnection/Rejection	15.333	3.480	8.710	1.798	102	162.567	0.000
II. Impaired Autonomy and Performance	11.320	2.473	6.416	1.473	102	155.813	0.000
III. Impaired Limits	6.520	1.034	5.372	1.0697	102	25.006	0.000
IV. Other Directedness	10.02	1.949	7.313	1.473	102	59.665	0.000
V. Over-vigilance and Inhibition	13.640	2.405	8.854	2.264	102	91.977	0.000

*df* – degrees of freedom; *F* – *F*-statistic; *p* – level of statistical significance.

Tab. 3. Mean results of the early childhood cognitive schema domains according to cluster

childhood cognitive schemas). The cluster profiles are presented in Fig. 1 and Tab. 2, and the mean scores in Fig. 2 and Tab. 3. The subjects thus assigned were compared in terms of their perceived level of sexual satisfaction (Tab. 4). It was found that the clusters identified based on temperamental traits differed the most in terms of Harm Avoidance ( $F = 111.042$ ;  $p = 0.000$ ) and its characteristics including Self-directed ( $F = 79.598$ ;  $p = 0.000$ ) and Inclination to Cooperation ( $F = 12.094$ ;  $p = 0.000$ ) (Tab. 2). For the clusters identified both on the basis of temperament and character traits, the first cluster included people ( $n = 56$ ) who could be characterised as more anxious and pessimistic, taking longer to return to balance after experiencing difficulties, remembering their failures, shameful, less resistant, and tiring faster. In addition, they appear to be less resolute, inner-directed, unable to defer gratification, passive, not accepting of themselves, weak-willed, and lacking initiative. Furthermore, they seem to be less willing to cooperate, more ego-centric, not accepting differences, more aggressive, vindictive, manipulative, not very empathic and not very sensitive to other people’s feelings. In contrast, those in the second cluster ( $n = 48$ ) are characterised by the opposite qualities. The clusters extracted based on early childhood patterns demonstrated significant differences in terms of all five domains. The first cluster included 74 people with significantly higher intensity of schemas: they displayed higher scores for deprivation of the need for security, acceptance and autonomy, as well as deficits in setting internal limits and self-discipline. They also scored higher for deprivation of self-expression for fear of rejection, and were characterised by a greater number of unmet needs for spontaneity and fun.

The second cluster (30 people) demonstrated a significantly lower severity of these deficits.

In the next step, the level of sexual satisfaction was compared between the clusters separated according to temperamental traits and the intensity of early childhood cognitive schemas (Tab. 4). The level of sexual satisfaction was found to be significantly lower among people from the I-group, i.e. the group that scored higher in the Harm Avoidance dimension, lower in the Self-directed dimension, and lower in Propensity to Cooperation ( $t = -2.799$ ,  $p = 0.006$ ). A moderately strong effect size was observed (Cohen’s  $d = 0.724$ ), indicating that personality is not the primary determinant in assessing sexual satisfaction (Cohen, 1988). Sexual satisfaction was also found to be significantly lower in the cluster of participants with more intense maladaptive early childhood schemas ( $t = -4.065$ ,  $p = 0.000$ ), with large differences found between the clusters when assessing the analysed variable and the significance of the cognitive schemas (Cohen’s  $d = 0.883$ ).

The last stage of the presented analysis looked more closely at the role of individual variables in determining the level of sexual satisfaction. For this purpose, stepwise multiple regression was performed (Tab. 5). Of all the temperamental variables, only Harm Avoidance was found to have a predictive value ( $\beta = -0.246$ ;  $p = 0.036$ ): all temperamental and characterological variables included in the regression model were found to account for only about 12% of the variability. Among the domains analysed, DV (Over-vigilance and Inhibition) and DIV (Other Directedness) have predictive values, together explaining about 26% of the variability of the results ( $\beta = -0.311$ ,  $p = 0.006$ ;  $\beta = -0.247$ ,  $p = 0.029$ ).

Temperament and character								
	Cluster 1		Cluster 2		<i>df</i>	<i>t</i>	<i>p</i>	Cohen’s <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Sexual satisfaction	32.071	3.944	34.395	4.522	102	-2.799	0.006	0.724
Cognitive schemas – domains								
	Cluster 1		Cluster 2		<i>df</i>	<i>t</i>	<i>p</i>	Cohen’s <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Sexual satisfaction	30.600	4.005	34.175	4.005	102	-4.065	0.000	0.883

*df* – degrees of freedom; *t* – *t*-test value; *p* – level of statistical significance.

Tab. 4. Comparison of the level of sexual satisfaction according to cluster

Sexual satisfaction					
Temperament and character	B	s.e.	$\beta$	t	p
Constant			31.729	9.223	0.000
Harm Avoidance	-0.2465	0.116	-0.155	2.117	0.036
Persistence	-0.175	0.0943	-0.387	-1.855	0.066
Cooperativeness	0.080	0.1067	0.077	0.757	0.450
Self-directedness	0.137	0.114	0.082	1.201	0.232
Reward Dependence	0.105	0.105	0.121	1.004	0.3177
$R = 0.402; R^2 = 0.161; \text{adjusted } R^2 = 0.118; F(5.98) = 3.761$					
Domains of schemas					
Constant			31.729	9.223	0.000
Over-vigilance and Inhibition	-0.311	0.112	-0.428	-2.776	0.006
Other Directedness	-0.2472	0.112	-0.530	-2.205	0.029
$R = 0.507; R^2 = 0.257; \text{adjusted } R^2 = 0.242; F(2.101) = 17.481$					
<b>B</b> – coefficient <b>B</b> ; <b>s.e.</b> – standard error; <b><math>\beta</math></b> – beta coefficient; <b>t</b> – t-test value; <b>p</b> – level of statistical significance.					

Tab. 5. Predictors of sexual satisfaction – a summary of regression analysis

## DISCUSSION

The presented study set out to identify the fundamental determinants of the level of sexual satisfaction by determining the role of conditioned factors. Particular attention was paid to biological factors such as temperament, as understood by Cloninger, and the cognitive schemas of early childhood, which are shaped by the environment. It also examined the significance of sociodemographic factors, which turned out to be unrelated to sexual satisfaction in the study group.

Interestingly, our findings do not reveal any significant differences between men and women with regard to their declared sexual satisfaction; however, even though this is consistent with some earlier reports (McClelland, 2011), most previous studies find the opposite (see: Higgins et al., 2011; Nomejko and Dolińska-Zygmunt, 2015; Plopa, 2017). This result is also consistent with the contemporary position of human sexuality researchers, who argue that the differences that do exist between men and women are associated more with the conditions needed for sexual satisfaction rather than its level (Birnie-Porter and Hunt, 2015). No relationship was observed between age and sexual satisfaction in the studied group; however, this is not in line with the results of other studies, as some report a decrease in satisfaction with age (see: De Ryck et al., 2012; Plopa, 2017), which is associated with a lower frequency of sexual activity, increased sexual dysfunction or the occurrence of chronic diseases (Lindau and Gavrilova, 2010; Trompeter et al., 2012). Similarly, the literature has yielded contradictory findings regarding other sociodemographic variables and their relationships with sexual satisfaction (Nomejko and Dolińska-Zygmunt, 2015; Plopa, 2017).

Returning to the main aim of the study, it can be stated that individuals with higher levels of sexual satisfaction tend to be more optimistic, relaxed and carefree, are characterised by recovering more quickly from stress and easily adapting to change, and tend to be more self-confident, active, and

less adverse to risk (low Harm Avoidance); they are also more self-directed, reliable, resourceful, able to defer gratification, ingenious, initiative taking, accepting of themselves and disciplined (high Self-control); in addition, they tend to be more tolerant, empathic, supportive and caring (high Cooperativeness). It should be emphasised, however, that the differences in the level of sexual satisfaction observed between the two clusters, i.e. between the participants who demonstrate the features listed above more strongly and those who do not, are only characterised by a moderate Cohen's *d* value. Therefore, temperamental variables do not appear to be a major factor in assessing sexual satisfaction. Greater differences in the apparent level of sexual satisfaction were observed between the clusters divided according to non-adaptive early childhood schemas, with those with lower intensity schemas declaring greater sexual satisfaction. The results of regression analysis also suggest that a review of early childhood schemas allows more accurate prediction of the level of sexual satisfaction in the studied group. Two domains play an important role here: Over-vigilance and Inhibition and Other Directedness. Hence, individuals with less intense schemas in these domains (i.e. negativism/pessimism, emotional inhibition, excessive requirements/excessive criticism, absolute severity and submission, self-sacrifice, seeking acceptance and recognition) tend to display a significantly higher level of sexual satisfaction. In contrast, excessive focus on the negative aspects of life, inhibiting spontaneous feelings and reactions, engaging in excessive criticism of oneself and others, placing excessive demands on people, having difficulties in forgiving oneself and others, lack of tolerance and empathy (Over-vigilance and Inhibition), as well as in subjugation and approval seeking (Other Directedness) can be predictors of low sexual satisfaction. Although no studies to date have examined the relationship between cognitive schemas and sexual satisfaction, some have addressed its relationship with broadly-understood quality of life: a greater severity of early

childhood non-adaptive schemas was found to be associated with lower quality of life (Hashemipour et al., 2019). Of the temperamental dimensions, only Harm Avoidance can predict the level of sexual satisfaction, though to a much lesser extent than the early childhood schemas. When considering the significance of temperamental factors, it is important to note that the two clusters differed from each other in three dimensions: one temperamental (i.e. Harm Avoidance) and two associated with character (Self-directedness and Cooperativeness); interestingly, Cloninger himself underlined the importance of Self-directedness and, to a lesser degree, Cooperativeness in achieving life satisfaction (Cloninger and Zohar, 2011; Josefsson et al., 2011).

## CONCLUSIONS

It appears that the most significant determinants of sexual satisfaction are cognitive schemas, i.e. early childhood experiences based on the long-term satisfaction of one or several core needs, or failure to do so. In contrast, temperamental factors play a slightly lesser role.

The presented study has some limitations. Most importantly, due to the relatively small number of participants, it was not possible to carry out more complex statistical analyses that would allow for a more holistic approach to the issue. In addition, the small number of respondents makes it impossible to generalise the findings of the study to the general population.

### Conflict of interest

*The authors do not declare any financial or personal links to other persons or organisations that could adversely affect the content of this publication or claim rights thereto.*

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