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Is There Satisfaction Beyond Pleasure? Motivational, Demographic and Sexual Functioning Predictors of Life Satisfaction in Self-Perceived Sex Addiction

Abstract

There is a lack of studies on the life satisfaction of persons with sex addiction, although outcomes of sexual addiction and problematic online sexual activity (e.g. problematic pornography use) have been documented to influence a wide range of variables associated with sexual well-being, sexual health and overall well-being of individuals. Using a correlational, non-experimental design, the present study targeted the motivational (self-determination theory) and sexuality predictors of life satisfaction in a sample of 229 adults (age $M = 26$, $SD = 10.09$) with self-perceived sex addiction from Hungary and Romania. The design was elaborated based on Self-Determination Theory (SDT). Results obtained based on the multiple linear regression analysis indicated that self-determination, demographic variables (i.e. educational level and marital status), as well as sexuality related characteristics accounted for a significant percentage in the variation of life satisfaction of individuals with self-perceived sex addiction. Our study revealed that experiencing more self-determined motivations, having a higher educational degree, being married and having an increased sexual desire predicts a higher life satisfaction for this specific population. This effect was consistent throughout the sample, regardless of the self-reported biological sex of participants. Theoretical aspects and practical implications for educational and mental health programs are discussed.

Keywords: self-perceived sex addiction, self-determination, life satisfaction, problematic online sexual activity, sexual desire

Introduction

When addressing *sexual addiction*, the literature of the field uses different terms (e.g. problematic sexual behaviour, compulsive sexual behaviour, hypersexual disorder) to describe the main characteristics of this condition: sexual compulsivity, sexual impulsivity and behavioural addiction (PISTRE et al. 2023; KARILA et al. 2014). To this date, sexual addiction was not recognised by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) as a behavioural addiction, because of lack of peer-reviewed evidence to establish diagnostic criteria (American Psychiatric Association 2022). However, the International Classification of Diseases 11th Revision (ICD-11) has recently recognised the Compulsive Sexual Behaviour Disorder (CSBD) as an impulse control disorder. The condition was described as a persistent, repetitive engagement in sexual behaviours that results in impairment in one's life in addition to failed attempts to reduce or stop such behaviours (World Health Organization s. a.). The disorder showed significant clinical similarities with other behavioural addictions and substance use disorders concerning compulsivity, engaging in behaviours despite negative outcomes, craving and distress caused by the behaviour (KRAUS et al. 2016). Although the term "sexual addiction" has not been accepted, scientific studies are consistent on using this label for individuals experiencing compulsive, impulsive, addictive sexual disorder or hypersexuality as well as obsessive thoughts, behaviours or sexual fantasies (KARILA et al. 2014). The prevalence rate of sexual addiction-related disorders varies from 3% to 10% in the general adult population (BÓTHE et al. 2023; BÓTHE et al. 2020; BRIKEN et al. 2022). Regarding biological sex distribution, studies found that 3–10% of men and 2–7% of women might experience CSBD (BÓTHE et al. 2023), with men presenting higher sex addiction scores compared to women (SHIMONI et al. 2018; WÉRY-BILLIEUX 2017). Sexual addiction includes a wide array of problematic behaviours, including pornography use, cybersex, excessive masturbation, sexual behaviour with consenting adults, telephone sex, etc. (TÓTH-KIRÁLY et al. 2019; GRIFFITHS 2012; KARILA et al. 2014). Although problematic cybersex was considered a specific form of sexual addiction, Weinstein et al. (2015) reported that 65% of cybersex addicts have no history of sexual addiction. Due to the expansion of online sexual activities, problematic and addictive sexual behaviours have been extensively studied, with a large number of research using self-identified or self-perceived "sex addicts" (WÉRY-BILLIEUX 2017). The main demographics identified as

correlates for addictive sexual behaviour were biological sex, age, adverse childhood (KOTERA–RHODES 2019).

Self-Determination Theory (SDT) (DECI–RYAN 2000) posits that individuals have an inherent tendency to grow, and they engage in behaviours endorsing physical and mental well-being when their basic psychological needs for autonomy, competence and relatedness are socially supported (DECI–RYAN 2002). According to the Cognitive Evaluation Theory described within SDT, for individuals to reach a high level of intrinsic motivation, they need to feel competent (i.e. their activity leads to self-development and efficacy) and autonomous (i.e. their performance was self-determined and self-initiated) (DECI–RYAN 2000).

Life satisfaction was conceptualised as a cognitive evaluation of a person's life, using a set of personal criteria (SHIN–JOHNSON 1978; DIENER et al. 1985). It was considered an important motivational component of daily living activities and one of the most assessed indicators of a person's general well-being (DIENER et al. 2002). Recent studies concluded that basic psychological needs, motivation aspects (TANG et al. 2020) and well-being (HUANG 2022; RUGGERI et al. 2020) are among of the main correlates of life satisfaction.

Previous studies found that being more self-determined and having more autonomous and positive sexual motives can lead to higher levels of satisfaction with one's sexual functioning (GRAVEL et al. 2016), well-being and life in general (GRAVEL et al. 2019; TÓTH–KIRÁLY et al. 2019). In their early research regarding the relationship between self-determination and problematic sexual behaviour, Ingledew and Ferguson (2007) considered that autonomous motivation has a protective role in problematic and risky sexual behaviour. Later studies confirmed that self-determined motivations are connected to specific aspects of psychological well-being, suggesting that performing sex for autonomous reasons also relates to higher life satisfaction (BRUNELL–WEBSTER 2013; GRAVEL et al. 2019). More recently, Kotera and Rhodes (2019) explored the relationship between SDT and this specific condition. The researchers found that sex addiction was positively associated with external regulation (i.e. less autonomous, generated by external rewards) and amotivation, whereas internal regulation (i.e. more autonomous, generated by intrinsic motives) presented a negative association with the variable.

When analysing the relationships between *sexual function and life satisfaction*, research results reported a consistent link between constructs across age and biological sex (VASCONCELOS et al. 2023; BAHRAMI et al. 2023; ORNAT et al. 2013). However, demographic variables were found to influence the specifics of these relationships

(VASCONCELOS et al. 2023). For example, men with a low level of sexual desire reported lower levels of life satisfaction (JACKSON et al. 2019). In their study, Lu et al. (2020) concluded that men who had experienced more erectile and orgasmic complaints were less satisfied with their life, compared to participants with no complaints. Women's life satisfaction was found to be influenced by problems experienced in arousal and desire, a more elevated level of these components of problematic sexual functioning showed a tendency to decrease satisfaction with life (LEE et al. 2016). There is evidence that difficulties in sexual functioning (e.g. loss of sexual desire, erectile dysfunction, orgasm-related complaints) are also accompanied by higher levels of negative affect, regardless of the frequency in sexual activity (JACKSON et al. 2019).

Although numerous studies presented associations between self-determined and autonomous sexual motives, well-being (TÓTH-KIRÁLY et al. 2019; KOTERA-RHODES 2019) as well as sexual and life satisfaction (VASCONCELOS et al. 2023; BRUNELL-WEBSTER 2013; GRAVEL et al. 2019), there is a lack of research regarding the motivational and sexuality-related aspects of life satisfaction and the pathways leading to problematic behaviour in sex addiction.

Our objective was to contribute to the scientific literature regarding the life satisfaction of persons with sex addiction, and provide a more nuanced approach to the outcomes of sexual addiction and problematic online sexual activity. The present study targeted the motivational (self-determination theory), and sexuality predictors of life satisfaction in a sample with self-perceived sex addiction from Hungary and Romania.

Measurements and methods

Participants

The sample comprised $N = 229$ adults from Hungary and Romania, belonging to the Hungarian ethnic group. Mean age of the participants was 26 (range 19–80). Distribution by biological sex was balanced, 90% declared themselves as having heterosexual orientation. In terms of education level (highest frequency of high school graduates, 32%) and marital status (highest frequency of divorced, 49%) the sample was heterogeneous. All participants declared themselves sex addicts. Descriptive statistics of the participants are presented in Table 1.

Table 1: *Sample characteristics and baseline measures for main study variables*

(N = 229)		
Age Min.–Max. (M ± SD)		19–80 (26 ± 10.09)
Biological sex	Female	105 (54.1%)
	Male	124 (45.9%)
Country	HU	204 (89.1%)
	RO	25 (10.9%)
Education level	Primary school	19 (8.3%)
	Vocational secondary school	17 (7.4%)
	Vocational high school	50 (21.8%)
	High school	73 (31.9%)
	College/Faculty	67 (29.3%)
	PhD degree	3 (1.3%)
Marital status	Single	68 (29.7%)
	Stable relationship/life partner	19 (8.3%)
	Married	29 (12.7%)
	Divorced/separated	112 (48.9%)
Sexual orientation	Widowed	1 (0.4%)
	Heterosexual	206 (90%)
	Other (e.g. bi-homosexual)	23 (10%)
Online Sexual Activity Scale OSAS Min.–Max. (M ± SD)		Risk of problematic online sexual activity 1–12 (2.88 ± 2.34)
Sexual Function Questionnaire SFQ18-HU Min.–Max. (M ± SD)	Arousal subscale	0–25 (16.42 ± 6.39)
	Desire subscale	5–20 (16.73 ± 2.86)
	Pain subscale	0–15 (13.05 ± 2.55)
	Enjoyment subscale	0–15 (9.93 ± 4.21)
	Orgasm subscale	0–15 (11.08 ± 3.35)
Self-Determination Scale SDS Min.–Max. (M ± SD)		Self-determination 17–49 (34.79 ± 5.98)
Satisfaction with Life Scale SWLS Min.–Max. (M ± SD)		Life satisfaction 5–35 (19.80 ± 6.65)

Note: Values represent frequency and percentage, unless indicated otherwise. M: mean, SD: standard deviation.

Source: Compiled by the authors.

Measurements

Online Sexual Activity Scale (OSAS)

The Online Sexual Activity Scale (KOTTA et al. 2022) is a 12-item dichotomous scale designed to measure problematic cybersex activity in the general population. In line with the network approach of problematic online sexual activity, the scale also includes criteria for addiction and compulsive behaviour. The one-factor OSAS presented an adequate internal consistency, Cronbach's alpha was 0.74 (KOTTA et al. 2022).

The Satisfaction with Life Scale (SWLS)

The Satisfaction with Life Scale (SWLS) (DIENER et al. 1985) is an instrument developed to measure an individual's perceived global satisfaction with life. This instrument consists of 5 questions with a 7-point Likert type scale. A total score is calculated by adding up the scores for each item. The SWLS is shown to be a valid and reliable measure of life satisfaction, suited for use with a wide range of age groups and applications. The Hungarian version of the scale showed good reliability for both paper-based and online versions, $\alpha \geq 0.84$ (MARTOS et al. 2014).

The Self-Determination Scale (SDS)

The Self-Determination Scale (SDS) (SHELDON et al. 1996; SHELDON–DECI 1996) was designed to assess individual differences in the extent to which people tend to function in a self-determined way. The SDS is a short, 10-item scale. Subjects are asked to determine which of two statements feels truer, using a scale ranging from “only A feels true” (1) to “only B feels true” (9). The items are organised into two 5-item subscales. The first subscale is awareness of self (self-contact), the second is perceived choice in one's actions (choicefulness). The subscales can either be used separately or they can be combined into an overall score. In this study, we worked with the global score, the self-determination index. Cronbach's alpha was computed for both scales and was found to be moderate: $\alpha = 0.73$ for the personal control (choicefulness) scale and $\alpha = 0.71$ for self-awareness (self-contact) (MARSCHALKÓ – KÁLCZA-JÁNOSI 2019).

Sexual Function Questionnaire (SFQ18_HU)

The Sexual Function Questionnaire (SFQ18_HU) (KÁLCZA-JÁNOSI et al. 2022) consists of 18 questions, the answers are rated on a 5-point Likert scale. In the original scale higher scores indicate greater dysfunction; in this study, we reversed the scoring scheme, so that higher scores indicate better sexual functioning. The 5 domains of the 18-item SFQ18_HU are: arousal; desire; painless sexual intercourse; enjoyment; orgasm. The 18-item SFQ18_HU subscales showed good or moderate internal consistency: arousal subscale $\alpha = .80$, desire subscale $\alpha = .83$, pain subscale $\alpha = .80$, pleasure subscale $\alpha = .72$, orgasm subscale $\alpha = .70$ (KÁLCZA-JÁNOSI et al. 2022).

Procedure

Participants were recruited via convenience sampling on social networking platforms dedicated to pornography, sexual disorders and addiction. The study is in line with research ethical standards, ethical approval was obtained from the Babeş-Bolyai University (reference number 11.804 / 26.08.2020). Participants were given the opportunity to decide whether or not to take part in the study after reading a concise description of the study's nature, as well as the security and anonymity measures that the authors had committed to providing for the data and information provided by the participants. The estimated completion time for the questionnaires was a maximum of 15 minutes, with the option for participants to interrupt the process.

The sample was limited to those who met the inclusion criteria, which included self-reported sex addiction, with some degree of risk for problematic online sexual activity (1 point or more) measured by the Online Sexual Activity Scale (OSAS) and being at least 18 years old.

A correlational non-experimental research design was used in the study.

Data analysis

To investigate the established relations, SPSS (Statistical Package for the Social Sciences) version 23.0 was performed. For statistically appropriate sample size calculation, a priori power analysis was performed using G*Power3 (FAUL et al. 2007).

There were no variables with 5% or more missing values. In the regression models, categorical variables were introduced as dummy variables. Based on Tabachnick and Fidell's (2013) guidelines, data screening analyses were conducted to ensure no violation of the assumptions of normality of residuals, linearity, multicollinearity and homoscedasticity. The assumptions were tested, data fitted the regression model.

Results

A priori power analysis

A priori power analysis via G*Power3 (FAUL et al. 2007) for multiple linear regression based on type I error with a p-value of 0.05 and statistical power of 0.80 with a total number of 14 tested predictors showed that for a medium effect size ($f^2 = 0.15$) the required sample size is $n = 135$. Thus, our sample $N = 229$ is suitable for detecting medium effect sizes.

Multiple linear regression analysis

Descriptive statistics of the Self-Determination Scale, Sexual Disfunction Questionnaire subscales and Satisfaction with Life Scale are presented in Table 1.

To examine the predictive value of demographic, sexuality and sexual health related variables and self-determination, a multiple linear regression analysis was performed. The model was significant $F(15,168) = 5.655$, $p < .001$, accounting for 33.6% in the variation of life satisfaction, with adj $R^2 = .276$. The total effect size of the regression Cohen's $f^2 = 0.50$ was large.

Results suggest that education ($\beta = 0.227$, $p < .001$), marital status (being married) ($\beta = .213$, $p < .001$), self-determination ($\beta = .390$, $p < .001$) and sexual desire ($\beta = .153$, $p < .05$) have a unique statistically significant contribution to the model predicting life satisfaction. Higher education level, being married, high self-determination and increased sexual desire predict higher life satisfaction (Table 2).

Table 2: *Multiple regression with life satisfaction as dependent variable*

	<i>Model</i>		
	B	SEB	β
(Constant)	-1.501	4.106	
Age	-.111	.060	-.167
Education	.604	.180	.227**
Country_Hungary	.719	1.400	.034
Marital status_married	4.061	1.744	.213**
Marital status_widowed	-4.217	6.986	-.048
Marital status_separated/divorced	1.886	1.122	.145
Marital status_in stable relationship/life-partnered	.056	1.661	.003
Biological sex_Male	-.104	.961	-.008
Sexual orientation_Heterosexual	.138	1.464	.007
Self-Determination	.426	.080	.390**
Arousal	-.001	.116	.000
Desire	.401	.199	.157*
Pain	-.279	.190	-.104
Enjoyment	-.062	.177	-.030
Orgasm	.190	.163	.090
adjR ²	.276**		
F _(df)	5.655 _{(15,168)**}		

Note: *p < .05 **p < .01; categorical variables were introduced in the model as dummy variables; dependent variable: Satisfaction with Life (SWLS).

Source: Compiled by the authors.

Discussion and conclusion

As the rate of online sexual activities increases so does the interest of professionals researching the mechanisms and mental health aspects of risky and problematic sexual behaviour. The objective of our study was to identify the motivational, sexual and personal predictors of life satisfaction in individuals with self-perceived sex addiction, based on Self-Determination Theory (SDT).

Our study revealed that experiencing more *self-determined motivations* predicts a higher satisfaction with life for this specific population. This result is in line with previous outcomes on non-problematic population, where being more self-determined and having more autonomous and positive sexual motives led to elevated levels of well-being and higher life satisfaction in general (GRAVEL et al. 2019; TÓTH-KIRÁLY et al. 2019). Similar results were obtained in individuals reporting problematic internet use (i.e. unsatisfied basic psychological needs predicted lower life satisfaction) (OKUR-ÖZEKES 2020) and problematic pornography use (i.e. low levels of self-determination, lower life satisfaction) (TÓTH-KIRÁLY et al. 2019). Although there is a lack of evidence on the effects of SDT on self-perceived sexual addiction and satisfaction with life in this population, our current knowledge leads us to several conclusions. First, results suggest that self-determination is an important predictor of satisfaction with life in self-perceived sex addiction. Second, self-determination might influence problematic sexual behaviour through the mediation of life satisfaction (OKUR-ÖZEKES 2020). Third, the outcomes of cognitive evaluation on one's behaviour or life (e.g. satisfaction, beliefs, mindset, etc.) could affect addictive sexual behaviour also independently (PETER-VALKENBURG 2011; BÖTHE et al. 2017).

Regarding *demographic aspects*, higher educational level and being married predicted an elevated life satisfaction in individuals with self-perceived sex addiction. The condition was previously found to be associated with age, biological sex and certain personal antecedents (e.g. adverse childhood, living alone or with parents, etc.) (KOTERA-RHODES 2019; PRIVARA-BOB 2023). Symptoms of sexual addiction were also found to be mediated by gender and personality traits (SHIMONI et al. 2018). To our knowledge, to this date no research has addressed the role of education and marital status-related variables in predicting well-being or life satisfaction in sex addiction. However, studies assessing individuals with compulsive sexual behaviour or sexual addiction symptoms presented a prevalence of 47.1% to 62.4% for higher education (bachelor's and master's degree), respectively 14.2% for marriage (WEINSTEIN et al. 2015; WÉRY et al. 2016; BÖTHE et al. 2020) in their samples. Our results suggest that the main characteristics of sexual addiction do not alter the effect of education and marital status on life satisfaction. The association between higher education and life satisfaction in the general population has been previously documented (CHEUNG-CHAN 2009; SALINAS-JIMÉNEZ et al. 2011). The predictive role of education was partially explained by the relative position of one's educational level, specifically individuals are considered to show higher levels of life satisfaction as less people attain their educational level. However, the assessment tools used in these studies for measuring life satisfaction

ask for a cautious interpretation and generalisation of results, especially to our specific population. Regarding marriage, status was reported to lead to higher life satisfaction through the positive self-perception induced by more self-determined and autonomous motives for marriage (THOMPSON et al. 2022). Although this explanation has been supported in the general population, given the variety of motives for marriage, the hypothesis should be tested on individuals experiencing problematic sexual behaviour.

In our research, *sexual desire* was found to be the only sexual function-related variable which explained an important percentage of the variance in the model. This effect is in line with previous research results emphasising that sexual desire is a relevant predictor of sexual satisfaction and life satisfaction in both women and men (VASCONCELOS et al. 2023; LEE et al. 2016; JACKSON et al. 2019; LU et al. 2020).

In conclusion, our results suggest that the life satisfaction of individuals with self-perceived sexual addiction is predicted by their self-determined motives, the evaluation of their relative educational position, the degree of self-determination and autonomous motives regarding marital status, and to a lesser degree by their level of sexual desire. Although we would have expected sexual function to play a more important role in the life satisfaction of sexual addicts, it seems that self-determined and autonomous motives play a more important role in influencing their satisfaction both directly and indirectly. Based on these findings we advocate for educational and mental health programs which consider self-determined and autonomous motivations. Creating mental health programs which promote and support self-determination, the sense of autonomy, competence and relatedness would help individuals to manifest and endorse behaviours sustaining their mental and physical health.

Limitations and future research

Our main limitation is the lack of a clinical sample, which would have provided us useful information about the role of self-determination in the life satisfaction of individuals diagnosed with compulsive sexual behaviour disorder or other sexuality related disorders. Participants were sampled from the general population and assessed on a self-report basis. Because of the nosological dispute regarding sexual addiction and the lack of a clinical sample, we were not able to address this shortcoming in the present research. However, future studies could examine the underlying mechanisms of self-determination in samples of individuals diagnosed with sexual disorders related to addictive sexual behaviour (e.g. CSBD, etc.). Furthermore, a conceptual differentiation

between sexual addiction, cybersex addiction and problematic pornography use should be considered. Although “sexual addiction” is used as an umbrella concept which also includes cybersex addiction and problematic pornography use (KARILA et al. 2014), the literature of the field reveals inconsistent results when concept definitions and assessment instruments overlap (WEINSTEIN et al. 2015). Future research should explore the role of covariates mediating the relationship between education, marital status and life satisfaction of individuals experiencing problematic sexual behaviour within and outside the SDT framework.

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