



AKADÉMIAI KIADÓ

Journal of Behavioral Addictions

11 (2022) 2, 544–556

DOI:
10.1556/2006.2022.00024
© 2022 The Author(s)

Involvement in Sexaholics Anonymous and life satisfaction: The mediating role of meaning in life and hope

MARCIN WNUK^{1†*}  and EDYTA CHARZYŃSKA^{2†*} 

¹ Department of Work and Organizational Psychology, Adam Mickiewicz University in Poznań, Szamarzewskiego 89, 60-568, Poznań, Poland

² Faculty of Social Sciences, University of Silesia in Katowice, Bankowa 12, 40-007, Katowice, Poland

Received: November 17, 2021 • Revised manuscript received: February 10, 2022; March 31, 2022 • Accepted: April 15, 2022

Published online: May 17, 2022

FULL-LENGTH REPORT



ABSTRACT

Background and aims: Some people are preoccupied with their sexual urges and fantasies and lose control over their sexual behaviors, which can cause adverse consequences for their health and well-being. One of the options available for individuals seeking treatment for compulsive sexual behavior disorder (CSBD) is a self-help group based on the twelve-step program. The main purpose of the current study was to examine the direct and indirect (through meaning in life and hope) relationships between involvement in Sexaholics Anonymous (SA) and life satisfaction. *Methods:* The sample consisted of 80 Polish members of SA (72 men and 8 women) with a mean age of 38.96 years ($SD = 10.56$). The Sex Addiction Screening Test-Revised, the Meaning of Life Questionnaire, the Herth Hope Index, the Satisfaction with Life Scale, and items adapted from the Alcoholics Anonymous Involvement Scale were used to measure the study variables. *Results:* Path analysis showed a direct positive relationship between SA involvement and life satisfaction. Moreover, the relationship between these variables was mediated by the presence of meaning in life and hope. Simultaneously, more severe symptoms of CSBD were related to lower levels of the presence of meaning in life and higher levels of the search for meaning in life, which, in turn, predicted lower levels of life satisfaction. *Discussion and conclusions:* The results suggest that finding meaning in life and restoring hope partly underlie the relationship between SA involvement and life satisfaction.

KEYWORDS

compulsive sexual behavior disorder, life satisfaction, twelve-step program, self-help groups, meaning in life, hope

INTRODUCTION

Compulsive sexual behavior disorder

Over the last 25 years, there has been a proliferation of scientific examination of compulsive sexual behavior disorder (CSBD), also termed as sexual addiction, excessive sexual behavior, hypersexuality, or problematic sexual behavior (Griffin, Way, & Kraus, 2021; Grubbs et al., 2020). Despite many concerns regarding its appropriate diagnostic framework, criteria, assessment, and prevalence, CSBD was officially recognized by the World Health Organization (2018) in the 11th edition of the International Classification of Diseases (ICD-11). The ICD-11 defines CSBD as “a persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behavior,” which is manifested for at least six months and causes significant distress or marked impairment in the important areas of functioning (Kafka, 2010; Kraus et al., 2018; Wordecha et al., 2018). CSBD has been reported to affect 3%–6% of the adult population (Carnes et al., 2012; Sassover & Weinstein, 2022), but the data are inconsistent in this regard, with some studies showing estimates of

[†]Both authors contributed equally to this work and share first authorship.

*Corresponding author.
E-mail: marwnu@amu.edu.pl

**Corresponding author.
E-mail: edyta.charzynska@us.edu.pl



1% (Dickenson, Gleason, Coleman, & Miner, 2018) at one extreme, and 16% (Yoon, Houang, Hirshfield, & Downing, 2016) or even 18% (Walton, Cantor, & Lykins, 2017) at another extreme.

Self-help groups for CSBD

The review of therapeutic approaches for CSBD treatment identifies various methods such as cognitive-behavioral therapy, acceptance and commitment therapy, motivational interviewing, emotion-focused therapy, mindfulness-based therapy, and pharmacological treatment (Derbyshire & Grant, 2015; Efrati & Gola, 2018; Holas, Draps, Kowalewska, Lewczuk, & Gola, 2021). Besides professional therapeutic care, individuals with CSBD may seek support in self-help groups such as Sexaholics Anonymous (SA), Sex and Love Addicts Anonymous (SLAA), Sex Addicts Anonymous (SAA), Sexual Compulsives Anonymous (SCA), and Sexual Recovery Anonymous (SRA), which are based on the twelve-step program adapted from the philosophy and practice of Alcoholics Anonymous (AA, 1972, 2001). In Poland, individuals with CSBD can find support in two 12-step fellowships: SA and SLAA.

Similarly to other self-help groups of this type, groups for CSBD perceive addiction as an advanced-stage, chronic, progressive and incurable disease, which has serious consequences for physical, social, mental, moral, and spiritual functioning, and prescribe the twelve-step program as a remedy and chance for recovery and experiencing a spiritual awakening (Augustine Fellowship & SLAA, 1986; SA, 1989). According to the philosophy of self-help groups, admitting one's own inability to control the addiction and surrendering to a Higher Power are the requirements for the recovery process (AA, 1972, 2001; Dupont & McGovern, 1985). Self-help groups for CSBD have similar aims and values, including staying sober and helping other members achieve the same goal by sharing their own experiences, strength, and hope (Fernandez, Kuss, & Griffiths, 2021). The main difference lies in their approach toward sobriety, with SA being the most restrictive in this matter, allowing only one form of sexual activity, which is sex between heterosexual spouses (SA, 1989).

Life satisfaction as a recovery measure

Life satisfaction has been defined as a cognitive component of subjective well-being, which is based on the evaluation of one's life as a whole by comparing one's current life situation or accomplishment with the appropriate standards of comparison (Diener, Emmons, Larsen, & Griffin, 1985). Although subjective well-being has long been a neglected aspect of recovery from addictive and compulsive behaviors, there are several reasons why the topic of life satisfaction seems to be of high relevance for the treatment of CSBD.

First, CSBD may affect life satisfaction to a significant degree. Being unable to control one's own sexual thoughts, urges, and behaviors may produce serious problems in personal, medical, family, social, and occupational functioning,

which may diminish one's life satisfaction (Derbyshire & Grant, 2015; Dickenson et al., 2018; Grubbs et al., 2020; Kraus et al., 2018; Wordecha et al., 2018). Second, many addiction studies have shown that higher life satisfaction is associated with better objective treatment outcomes, such as the maintenance of abstinence, treatment adherence, and reduction of symptoms (Laudet, Becker, & White, 2009; Laudet, Morgen, & White, 2006; Smith & Larson 2003). Third, low life satisfaction may act as a motivational trigger for seeking treatment to recover one's own sexual and general quality of life and gain control over one's sexual thoughts, impulses, and behaviors by initiating behavioral change (see Derbyshire & Grant, 2015; Rose & Cherpitel, 2011; Wordecha et al., 2018).

The current study is focused on life satisfaction and the exploration of the role that SA involvement and the severity of CSBD may play in it directly and indirectly (through meaning in life and hope). It should be mentioned in this context that in addiction studies, the severity of symptoms is often treated as an outcome variable. This is a characteristic feature of research adopting a pathology-oriented framework that focuses on objective treatment outcomes. By contrast, in this study, we applied a strengths-based approach and a long-term recovery-oriented framework, which emphasize the need to holistically take care of a person's well-being to build their recovery capital (Laudet et al., 2006; White & Kurtz, 2005). Such an approach is consistent with the assumptions of self-help groups based on the twelve-step program, which recognize and acknowledge the role of subjective well-being in the recovery process, not merely by defining recovery as maintaining abstinence but rather by treating it as a long-term process of transforming one's whole life, including spiritual restoration, finding meaning in life, and cherishing values (Helm, 2019). The need to expand the overarching recovery goal beyond abstinence to encompass personal change and improvements in quality of life is also emphasized by the members of self-help groups for CSBD (Fernandez et al., 2021).

Because of the above reasons, our research focused on life satisfaction as a subjective recovery measure, and therefore, we treated it as an outcome variable. By contrast, the severity of CSBD was tested as a predictor variable that may predict life satisfaction. A similar solution was adopted in many studies involving patients with mental disorders and disabilities, in which life satisfaction was tested as an outcome variable, and the severity of symptoms was considered a predictor variable (Benrud-Larson, Sandroni, Schrag, & Low, 2005; Ditchman, Keegan, Batchos, Haak, & Johnson, 2017; Hamdan-Mansour, Al Abeiat, Alzoghbi, Ghannam, & Hanouneh, 2015).

Involvement in self-help groups and life satisfaction

Involvement in SA may be one of the important factors related to the life satisfaction of SA members. It should be noted here that involvement in self-help groups is often treated in the addiction literature as a construct distinct from meeting attendance. The former refers to activities suggesting engagement in the twelve-step program and fellowship (such



as being a sponsor, having a sponsor, or celebrating one's sobriety birthday; AA, 1972, 2001; SA, 1989) along with self-help group identification, whereas the latter simply relates to the frequency of attending self-help group meetings (Allen, 2000; Tonigan, Connors, & Miller, 1996). Interestingly, there is some evidence that involvement in a self-help group may be a better predictor of life satisfaction and sustained recovery than the frequency of attending meetings (Laudet et al., 2006; Laudet & White, 2008; Weiss et al., 2000). One of the reasons for this may lay in various possible motivations for meeting attendance, including curiosity, court requirement, or support for a friend, which do not imply actual involvement in the twelve-step program and fellowship (Tonigan et al., 1996).

There is some evidence that involvement in self-help groups is related to better treatment outcomes, including higher life satisfaction among their members. For instance, in a longitudinal study of 76 former residents of a Minnesota treatment program in England, AA involvement was positively associated with emotional and existential well-being (Gomes & Hart, 2009). In a more recent study conducted among 97 SA members, the SA step number (which is considered an indicator of SA involvement; Tonigan et al., 1996) correlated with lower levels of sexual-related overall sense of helplessness, avoidant help-seeking, overall CSBD, sexual suppression, and higher levels of self-control and mental well-being (well-being and distress; Efrati & Gola, 2018). Moreover, the SA step number was found to be indirectly related to mental health through sexual-related helplessness. The results of the study by Efrati and Gola (2018) suggest the importance of SA involvement for the recovery measures, including subjective well-being (see also Yamamoto, 2021).

Considering the above, in the present study, we expect a direct positive relationship between SA involvement and life satisfaction of SA members (Hypothesis 1; H1). Besides testing the direct relationship, we also aim to seek the indirect relationships that underlie the relationship between SA involvement and life satisfaction. Therefore, we considered two psychological constructs strictly related to the philosophy of twelve-step programs: meaning in life and hope (SA, 1989; AA, 2001).

The mediating role of meaning in life and hope

Meaning in life. Steger (2009) defined meaning in life as the “extent to which people comprehend, make sense of, or see significance in their lives, accompanied by the degree to which they perceive themselves to have purpose, mission, or overarching aim in life” (p. 682). A substantial amount of data suggest that the problem with finding meaning in life is related to substance use (Csabonyi & Phillips, 2020; Konkoly Thege, Bachner, Kushnir, & Kopp, 2009; Palfai & Weaver, 2006), substance dependence (Laudet et al., 2006; Martin, MacKinnon, Johnson, & Rohsenow, 2011), problematic smartphone use (Çevik, Çiğerci, Kılıç, & Uyar, 2020; Hu, Liu, & Wang, 2022), and problematic Internet use (Zhang

et al., 2015). Meaning in life has also been found to be an important factor for recovery and improved quality of life of individuals with drug dependence (Laudet et al., 2006; Lyons, Deane, Caputi, & Kelly, 2011; Krentzman, Strobbe, Harris, Jester, & Robinson, 2017; Martin et al., 2011).

Among individuals participating in self-help groups based on a twelve-step program, one of the most prevalent predictors of meaning in life is involvement in self-help fellowships (Gomes & Hart, 2009; Oakes, Allen, & Ciarrocchi, 2000; Tonigan, 2001). For example, Zemansky (2006) found a positive relationship between working all Twelve Steps and having a greater sense of meaning and purpose in life. In a study by Oakes et al. (2000), AA involvement was positively related to purpose in life. In another study, Carroll (1993) noticed a positive correlation between practicing Step 11 (“Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out”) and purpose in life.

Based on the aforementioned studies, indicating positive relationships between involvement in self-help groups, meaning in life, and life satisfaction, in the current study, we expect that SA involvement will be positively related to the presence of meaning in life, which in turn, will predict higher levels of life satisfaction (Hypothesis 2; H2).

Hope. Hope can be defined as a motivational and cognitive attribute that is characterized by a confident yet uncertain expectation of achieving a future good (Dufault & Martocchio, 1985; Herth, 1992). Like meaning in life, hope has been found to enhance abstinence (Mathis, Ferrari, Groh, & Jason, 2009) and the quality of life of individuals struggling with addictions (Gutierrez, 2019; Stevens, Guerrero, Green, & Jason, 2018). For instance, in AA members in Poland, hope was positively related to the positive evaluation of life and negatively to stress (Wnuk, 2017). In a sample of SLAA members, hope correlated positively with the desire to live, the passion for life and the feeling of happiness for the past few days, and satisfaction with various domains of life (Wnuk & Hędzulek, 2008).

Little is known about the involvement in self-help groups as a factor related to hope. In a sample of individuals with a dual diagnosis of mental and substance use disorders attending a mutual aid fellowship, self-help affiliation influenced health-promoting behaviors indirectly through hope (Magura et al., 2003). Moreover, AA involvement has been found to positively correlate with constructs similar to hope, such as gratitude, self-efficacy, social support, and constructive coping skills (Humphreys, 2004; Zemansky, 2006). In the light of these findings and the assumptions underlying the twelve-step program, which perceives gaining hope as a fundamental component of recovery (AA, 1972; SA, 1989), in the current study, we expect that hope will mediate the relationship between SA involvement and life satisfaction. Specifically, we hypothesize that SA involvement will be positively related to hope, which, in turn, will predict higher levels of life satisfaction (Hypothesis 3; H3).



Severity of CSBD, meaning in life, hope, and life satisfaction

In the current study, we also examined whether the severity of CSBD is directly and indirectly related to life satisfaction. As for a direct relationship, we expect that the severity of CSBD will be negatively related to life satisfaction (Hypothesis 4; H4). Experiencing more severe symptoms of CSBD and related adverse consequences may be linked to a higher discrepancy between one's real and ideal life, which may manifest itself in lower levels of life satisfaction (see Dickenson et al., 2018; Kraus et al., 2018; Wordecha et al., 2018). We also expect that the severity of CSBD will be indirectly related to life satisfaction through two dimensions of meaning in life: the presence of meaning in life (already described in this article) and the second dimension, namely, the search for meaning in life. The latter construct refers to the extent to which people are engaged in and motivated to establish and/or increase their understanding of the meaning, significance, and purpose of their lives (Steger, Kashdan, Sullivan, & Lorentz, 2008). Unlike the presence of meaning in life, which is related to positive functioning (Csabonyi & Phillips, 2020; Steger, Frazier, Oishi, & Kaler, 2006; Steger et al., 2008), the search for meaning in life usually correlates with worse functioning (Park, Park, & Peterson, 2010; Steger et al., 2008; Steger, Mann, Michels, & Cooper, 2009).

There have been no studies regarding the levels of the presence of meaning in life and the search for meaning in life among individuals with CSBD. However, the similarity between CSBD and substance addictions (Kafka, 2010; Kowalewska et al., 2018) suggests that having more severe symptoms of CSBD may be related to higher negative consequences in various domains of functioning, including the degradation of spiritual and moral functioning of individuals with CSBD, which may manifest itself in their lower levels of the presence of meaning in life and hope (AA, 1972, 2001; Augustine Fellowship & SLAA, 1986; SA, 1989). At the same time, among SA members, experiencing severe symptoms of CSBD and their adverse consequences may be related to

higher engagement in the search for meaning in life so as to change one's situation by satisfying the unmet need for a meaningful and purposeful life (Frankl, 1985). Therefore, we expect that higher levels of the severity of CSBD will be related to lower levels of the presence of meaning in life and higher levels of the search for meaning in life, which, in turn, will predict lower levels of life satisfaction (Hypotheses 5; H5). We also expect that the severity of CSBD will be negatively related to hope, which, in turn, will predict lower levels of life satisfaction (Hypotheses 6; H6). This hypothesis is also supported by the results of studies showing that experiencing more severe symptoms of mental disorder correlates with higher levels of hopelessness (Hayes, Herrman, Castle, & Harvey, 2017; Sari et al., 2021). A path model reflecting all the research hypotheses formulated in this study is presented in Fig. 1. Additionally, the model is controlled for age and subjective religiosity (defined as individual perceptions of being religious; Chatters, Taylor, Bullard, & Jackson, 2008), taking into account previous findings supporting their predictive role in life satisfaction, meaning in life, and hope (Bronk, Hill, Lapsley, Talib, & Finch, 2009; Koenig, McCullough, & Larson, 2001; López Ulloa, Møller, & Sousa-Poza, 2013).

METHODS

Participants

The sample consisted of 80 individuals attending SA meetings: 72 men (90%) and 8 women (10%). Table 1 presents the sociodemographic characteristics of the participants. The average age of the participants was 38.96 years ($SD = 10.56$; min. = 22, max. = 68). The majority of participants (78.8%) had graduated from universities. About half of the participants were in a formal or informal relationship (52.5%). All of these persons were in heterosexual intimate relationships. More than four out of five participants (82.5%) declared themselves Roman Catholic. At the time of the study, less

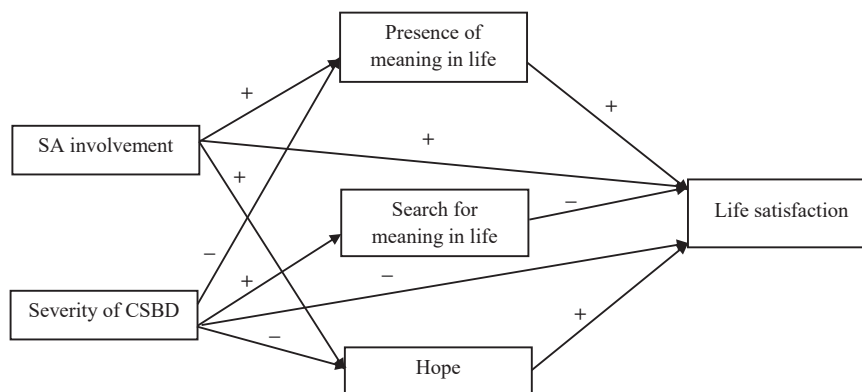


Fig. 1. Conceptual model for path analysis

Note. SA = Sexaholics Anonymous; CSBD = compulsive sexual behavior disorder. The hypothesized relationships between the study variables were marked using the plus (for a positive relationship) and minus (for a negative relationship) signs. The residuals for mediators were allowed to covary but are not shown for the sake of legibility. The model was controlled for age and subjective religiosity.

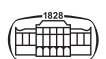


Table 1. Sociodemographic Characteristics of the Sexaholics Anonymous (SA) Sample

Variables	N	%
Gender		
Men	72	90
Women	8	10
Age (years; M ± SD)		39.0 (±10.6)
Educational level		
Vocational	2	2.4
Secondary	15	18.8
Higher	63	78.8
Having a partner		
Yes	42	52.5
No	38	47.5
Relationship		
Opposite-sex	42	100.0
Same-sex	0	0
Religious denomination		
Roman Catholic	66	82.5
Slavic religion	2	2.5
Jehovah's Witnesses	2	2.5
Without denomination	9	11.2
Agnostic	1	1.3
Current psychological or therapeutic support		
Yes	36	45.0
No	44	55.0
Duration of participation in SA (months; M ± SD)		47.48 (32.86)
Duration of abstinence (months; M ± SD)		20.95 (28.64)
Number of the Twelve Steps completed (M ± SD)		6.99 (4.17)
Other potential addictions		
Food	31	38.8
Internet	19	23.8
Alcohol	18	22.5
Nicotine	14	17.5
Work	11	13.8
Gambling	5	6.3
Prescription drugs	5	6.3
Drugs	3	3.8
Computer games	2	2.5
Shopping	2	2.5
Participation in other self-help groups		
Alcoholics Anonymous	12	15.0
Overeaters Anonymous	8	10.0
Adult Children of Alcoholics	4	5.0
Financial Underearners Anonymous	3	3.8
Narcotics Anonymous	1	1.3
Gamblers Anonymous	1	1.3

Note. M = mean; SD = standard deviation. N = 80.

than half of the participants (45%) were using psychological or therapeutic services. The average duration of attending SA meetings was 47.48 months ($SD = 32.86$), and the average duration of abstinence from acting out was 20.95 months ($SD = 28.64$). Moreover, the average number of the Twelve Steps completed was 6.99 ($SD = 4.17$). Most participants (63.8%) declared to have at least one other potential addiction as well. Besides attending SA meetings,

30% of participants also attended at least one other self-help group, Alcoholics Anonymous (15%) and Overeaters Anonymous (10%) most frequently.

Measures

SA involvement. SA involvement was measured with items adapted from the Alcoholics Anonymous Involvement Scale



(AAI; Tonigan et al., 1996). For the purpose of the current study, the “Alcoholics Anonymous” term from the AAI was replaced with the “Sexaholics Anonymous.” Items of the AAI measuring the involvement factor adapted in the current study pertain to (1) identification with SA, (2) having a sponsor, (3) being a sponsor, (4) experiencing a spiritual awakening or conversion experience since getting involved in SA, (5) celebrating one’s sobriety birthday in a self-help group. Item 5 was extended to encompass participation in feasts, conventions, and retreats organized by SA. We also included an additional item concerning reading the SA literature since this activity has been found to be an indicator of involvement in self-help groups based on the twelve-step program (Humphreys, Kaskutas, & Weisner, 1998). Participants responded “Yes” (0) or “No” (1) to all six items. The “Yes” responses were summed up; higher scores indicate greater involvement in SA.

Severity of CSBD. The severity of CSBD was assessed using the Sex Addiction Screening Test-Revised (SAST-R; Carnes, Green, & Carnes, 2010) in a Polish adaptation by Gola et al. (2017). The Polish version of the SAST-R consists of 20 basic test items, e.g., “Have you made efforts to quit a type of sexual activity and failed?”. The participants are asked to answer each item by responding “Yes” (0) or “No” (1). The total score is obtained by summing up all “Yes” responses. In this study, we included the 10 items of SAST-R that Gola et al. (2017) pointed out as both covering Kafka’s (2010) diagnostic criteria of hypersexual disorder and the key symptoms of sexual addiction according to Carnes et al. (2010). Due to statistical reasons (low reliability of the selected items: McDonald’s omega = 0.52), before testing the path model, we removed four items that negatively affected the reliability score. When selecting items, we also considered the content validity of the measure; thus, we retained items representing each of the four core diagnostic criteria of sexual addiction (Carnes et al., 2010): affect disturbance (1 item), relationship disturbance (3 items), preoccupation (1 item), and loss of control (1 item). Higher scores indicate higher severity of CSBD. The items of the SAST-R used in the present study were related to lifetime symptoms rather than to symptoms at the current point in time. This methodological reason supported our decision to treat the severity of CSBD as a predictor of life satisfaction.

Meaning in life. The meaning in life was assessed with the Polish version (Kossakowska, Kwiatek, & Stefaniak, 2013) of the Meaning of Life Questionnaire (MLQ; Steger et al., 2006). The MLQ is made up of two five-item subscales: the presence of meaning (e.g., “My life has a clear sense of purpose”) and the search for meaning (e.g., “I am looking for something that makes my life feel meaningful”). Participants respond to each item on a 7-point Likert scale (1 = “absolutely untrue”; 7 = “absolutely true”). The score for each subscale is derived by summing up the relevant items, with item 9 needing to be reverse-scored. Higher scores indicate higher levels of the presence of meaning in life or the search for meaning in life.

Hope. The Polish version (Wnuk, 2017) of the Herth Hope Index (HHI; Herth, 1992) was used to assess the level of hope. The HHI consists of 12 items (e.g., “I can see a light at the end of the tunnel”), grouped into three subscales: temporality and future, positive readiness and expectancy, and interconnectedness. Responses are given using a 4-point Likert scale ranging from 1 = “Strongly disagree” to 4 = “Strongly agree.” Items 3 and 6 need to be recoded before calculating the scores. In the present study, the total score for the HHI was calculated, with higher scores denoting higher levels of hope.

Satisfaction with life. Life satisfaction was assessed using the Polish adaptation (Jankowski, 2015) of the Satisfaction with Life Scale (SWLS; Diener et al., 1985). The SWLS is a unidimensional, five-item instrument measuring global cognitive judgments of satisfaction with one’s life. An example item of the SWLS is: “In most ways my life is close to ideal.” Each item is scored on a 7-point Likert scale, ranging from 1 (“Strongly disagree”) to 7 (“Strongly agree”). The total score ranges from 7 to 35, with higher scores indicating a higher level of life satisfaction.

Subjective religiosity. Subjective religiosity was measured with a single item: “To what extent do you consider yourself to be religious?”. Responses were given using a 5-point Likert scale ranging from 1 (“not at all religious”) to 5 (“very religious”). The reliability and validity of a single question measuring subjective religiosity have been supported in previous studies (see, e.g., Abdel-Khalek, 2007; Dollinger & Malmquist, 2009).

Procedure

To collect the sample, the research team member [M.W.] contacted by email six members of SA in Poland he was familiar with and asked them to disseminate the information about the study and the link to the questionnaires among other members of SA. The inclusion criteria involved being an adult (at least 18 years old) and attending SA meetings in Poland. The online questionnaires were preceded by an introductory note, which informed the participants about the aim of the study, the anonymous and voluntary nature of the study, and the right to withdraw from the study at any time without any consequences. No material incentives were offered to participants.

Statistical analysis

In the first step of the analysis, we checked the assumption of multivariate normality by calculating Mardia’s (1970) coefficient of multivariate kurtosis and its critical ratio (C.R.). The value of C.R. < 5.0 indicates that the coefficient of multivariate kurtosis is not significantly different from 0, i.e., data can be considered normally distributed (Bentler, 2005). Moreover, we checked whether there was a multicollinearity problem in our data by calculating variance inflation factor (VIF) values for the predictors (James, Witten, Hastie, & Tibshirani, 2017). Values of VIF higher than 5 suggest that the predictors are highly correlated with



each other (James et al., 2017). In the next step, we calculated the means, standard deviations, and bivariate correlations between the study variables. Then, path analysis based on maximum likelihood estimation was used to examine the mediational role of the presence of meaning in life and hope in the relationship between SA involvement and life satisfaction. Additionally, the indirect relationships between the severity of CSBD and life satisfaction through the presence of meaning in life and the search for meaning were tested. The model was adjusted for age and subjective religiosity.

Model fit was estimated using several fit indices, including the comparative fit index (CFI), Tucker-Lewis index (TLI), goodness-of-fit index (GFI), the root mean square error of approximation (RMSEA), and standardized RMR (SRMR). The values of CFI, TLI, and GFI ≥ 0.95 , RMSEA ≤ 0.06 , SRMR ≤ 0.08 , were deemed indicative of good model fit, and were deemed acceptable when the values of CFI, TLI, and GFI ≥ 0.90 , RMSEA ≤ 0.08 , and SRMR ≤ 0.10 (Hair, Black, Babin, & Anderson, 2009; Kline, 2005). Due to the relatively small sample size, the Bollen-Stine bootstrapping method was also used. This method allows for an adjusted simulated *P*-value of an empirical SEM model, correcting the problem of resampling error (Bollen & Stine, 1992).

The significance of the indirect effects was tested using the bootstrapping method, which is considered the best available option for estimating indirect effects (Hayes, 2013). We used $k = 5,000$ subsamples and a 95% bias-corrected confidence interval. An indirect relationship was deemed significant if the particular bootstrapped confidence interval did not contain zero. A completely standardized indirect effect was calculated to assess the effect size for indirect relationships (Kenny, 2021). All statistical analyses were conducted using IBM SPSS version 26.0 (IBM Corp., 2019) and AMOS version 26.0 (Arbuckle, 2019).

Ethics

The study procedures were carried out in accordance with the Declaration of Helsinki. The study protocol was approved by the Ethics Committee at the University of Silesia in

Katowice (KEUS 123/05.2021). All subjects were informed about the purpose and content of the study and all provided online informed consent.

RESULTS

Preliminary analysis

The C.R. value was 2.12, which indicates that the assumption of multivariate normality was met. The highest VIF value (2.32) was noted for the presence of meaning in life. Since there were no values of VIF exceeding 5, the multicollinearity problem was not likely to exist for our data. Descriptive statistics, internal consistency, and zero-order correlations between the study variables are presented in Table 2. Considering the cut-offs for the SWLS suggested by Diener (2006), 12.5% of the participants were dissatisfied or extremely dissatisfied with their lives; 28.7% were slightly below the average level of satisfaction with life; 36.3% had an average level of satisfaction with life; and 22.5% were satisfied or highly satisfied with their lives. According to Cohen's (1988) guidelines on interpreting the magnitude of correlation coefficients, SA involvement was moderately positively correlated with hope ($r = 0.38$; $P < 0.001$) and life satisfaction ($r = 0.44$; $P < 0.001$), and weakly positively correlated with the presence of meaning in life ($r = 0.29$; $P = 0.010$). The severity of CSBD was moderately negatively correlated with the presence of meaning in life ($r = -0.31$; $P = 0.005$), weakly negatively correlated with subjective religiosity ($r = -0.26$; $P = 0.022$), and weakly positively correlated with the search for meaning in life ($r = 0.22$; $P = 0.046$). The presence of meaning was strongly positively related to hope ($r = 0.66$; $P < 0.001$), moderately positively related to life satisfaction ($r = 0.45$; $P < 0.001$) and subjective religiosity ($r = 0.36$; $P = 0.001$), and weakly positively related to the search for meaning in life ($r = 0.27$; $P = 0.015$). The search for meaning in life was weakly positively correlated with hope ($r = 0.22$; $P = 0.048$) and subjective religiosity ($r = 0.23$; $P = 0.038$). Hope was strongly positively related to life satisfaction ($r = 0.52$; $P < 0.001$).

Table 2. Descriptive statistics and bivariate correlations in SA sample

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) SA involvement	1							
(2) Severity of CSBD	0.03	1						
(3) Presence of meaning	0.29*	-0.31**	1					
(4) Search for meaning	-0.03	0.22*	0.27*	1				
(5) Hope	0.38***	-0.11	0.66***	0.22*	1			
(6) Life satisfaction	0.44***	-0.03	0.45***	-0.05	0.52***	1		
(7) Subjective religiosity	0.06	-0.26*	0.36**	0.23*	0.21	0.13	1	
(8) Age	0.11	0.09	0.09	-0.09	-0.05	-0.15	-0.07	1
<i>M</i>	4.61	4.80	25.63	26.74	36.93	20.59	3.76	38.96
<i>SD</i>	1.37	0.92	6.47	5.03	4.78	5.30	1.22	10.56
Range	1–6	1–6	10–35	10–35	26–48	9–32	1–5	22–68
McDonald's omega	0.62	0.62	0.90	0.79	0.85	0.82	–	–

Note. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. *M* = mean; *SD* = standard deviation; SA = Sexaholics Anonymous; CSBD = compulsive sexual behavior disorder. *N* = 80.



Path model

The standardized parameters for the path model are presented in Fig. 2. The values of all model fit criteria indicated that the model fits the data well: $\chi^2(7) = 7.72$; $P = 0.36$; CMIN/df = 1.10; CFI = 0.99; GFI = 0.98; TLI = 0.98; RMSEA = 0.036 (90% CI [0.000, 0.146]); SRMR = 0.058. Although the confidence interval for the RMSEA exceeded the recommended value of 0.08, this is a common issue in models with low degrees of freedom and small sample size (Kenny, Kaniskan, & McCoach, 2015). Moreover, the good model fit was further supported by the results of the Bollen-Stine bootstrapping method ($P = 0.33$).

The direct relationship between SA involvement and life satisfaction was significant ($b = 0.95$, 95% CI [0.165, 1.680], $P = 0.015$, $\beta = 0.24$). Moreover, SA involvement was positively related to the presence of meaning in life ($b = 1.32$, 95% CI [0.433, 2.188], $P = 0.003$, $\beta = 0.29$) and hope ($b = 1.36$, 95% CI [0.755, 1.946], $P < 0.001$, $\beta = 0.39$), which, in turn, predicted higher levels of life satisfaction (presence of meaning: $b = 0.29$, 95% CI [0.062, 0.499], $P = 0.010$, $\beta = 0.35$; hope: $b = 0.29$, 95% CI [0.008, 0.572], $P = 0.045$, $\beta = 0.26$). As indicated by the values of the bootstrapped confidence interval, the indirect relationships between SA involvement and life satisfaction through the presence of meaning in life ($b = 0.39$, 95% CI [0.098, 0.841], $P = 0.006$) and through hope ($b = 0.40$, 95% CI [0.026, 0.976], $P = 0.035$) were significant. The completely standardized indirect effect for the former relationship was 0.10 (95% CI [0.025, 0.218]), and 0.10 (95% CI [0.007, 0.253]) for the latter; both effects can be deemed low to medium (Kenny, 2021).

The direct relationship between the severity of CSBD and life satisfaction turned out to be insignificant ($b = 1.15$, 95% CI [-0.661, 2.304], $P = 0.18$, $\beta = 0.20$). However, significant indirect relationships between these variables through the dimensions of meaning were noted. Specifically, higher

levels of the severity of CSBD were related to lower levels of the presence of meaning in life ($b = -1.79$, 95% CI [-3.127, -0.584], $P = 0.005$, $\beta = -0.26$) and higher levels of the search for meaning in life ($b = 1.70$, 95% CI [0.849, 2.816], $P = 0.001$, $\beta = 0.30$), which, in turn, predicted lower levels of life satisfaction (presence of meaning: $b = 0.29$, 95% CI [0.062, 0.499], $P = 0.010$, $\beta = 0.35$; search for meaning: $b = -0.29$, 95% CI [-0.491, -0.084], $P = 0.005$, $\beta = -0.28$). The indirect relationships between the severity of CSBD and life satisfaction through the presence of meaning in life ($b = -0.52$, 95% CI [-1.232, -0.091], $P = 0.010$) and through the search for meaning in life ($b = -0.49$, 95% CI [-1.028, -0.153], $P = 0.003$) were significant. The completely standardized indirect effects were -0.09 (95% CI [-0.214, -0.016]) and -0.09 (95% CI [-0.178, -0.027]), respectively, which can both be interpreted as small to medium effect sizes. The indirect relationship between the severity of CSBD and life satisfaction through hope turned out to be insignificant ($b = -0.11$, 95% CI [-0.711, 0.097], $P = 0.29$). The proportion of variance explained (R^2) was 0.24 for the presence of meaning in life, 0.19 for the search for meaning in life and hope, and 0.46 for life satisfaction.

DISCUSSION

This study aimed to explore the role of SA involvement in the life satisfaction of SA participants and examine the existential pathways potentially underlying this relationship. As expected, we noted a direct positive relationship between SA involvement and life satisfaction (H1 supported), which is consistent with previous studies on the relationship between involvement in self-groups and subjective well-being (Kaskutas, Bond, & Humphreys, 2002; Polcin & Zemore, 2004). Furthermore, the relationship between SA involvement and life satisfaction was mediated by the presence of meaning in life and hope (H2 and H3 supported). The more

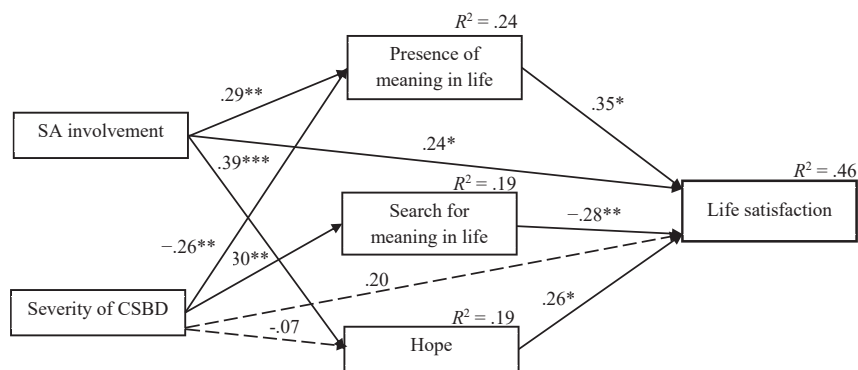


Fig. 2. Path analysis results

Note. The standardized regression coefficients are presented. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. R^2 = explained variance; SA = Sexaholics Anonymous; CSBD = compulsive sexual behavior disorder. Significant relationships were marked with a continuous line, whereas insignificant ones were marked with a dotted line. The residuals for mediators were allowed to covary but are not shown for the sake of legibility. There was a residual correlation between the presence of meaning in life and the search for meaning in life ($\beta = 0.35$; $P = 0.003$), the search for meaning in life and hope ($\beta = 0.25$; $P = 0.034$), and the presence of meaning in life and hope ($\beta = 0.61$; $P < 0.001$). The model was controlled for age and subjective religiosity. Age was negatively related to life satisfaction ($\beta = -0.24$, $P = 0.006$). Subjective religiosity was positively related to the presence of meaning in life ($\beta = 0.29$; $P = 0.021$) and the search for meaning in life ($\beta = 0.30$; $P = 0.035$).

involved in self-help groups the SA members are, the higher meaning in life and hope they feel, which, in turn, predicts higher levels of life satisfaction. These results correspond with previous findings showing that the involvement in self-help fellowships of individuals with drug dependence is an effective way to find meaning in life (Gomes & Hart, 2009; Oakes et al., 2000; Tonigan, 2001) and restore hope (Magura et al., 2003), and that fulfilling these existential needs facilitates abstinence maintenance and symptoms reduction (Gutierrez, 2019; Krentzman et al., 2017; Mathis et al., 2009) and is positively related to satisfaction with different domains of life (Wnuk & Hędzulek, 2008), health-promoting behaviors (Magura et al., 2003), and stress reduction (Wnuk, 2017).

The philosophy and practice of self-help groups underlying the twelve-step program may function as a meaning-oriented system, facilitating the finding of meaning and purpose in life (Gomes & Hart, 2009; Oakes et al., 2000; Zemansky, 2006). Additionally, based on the social learning theory (Bandura, 1986), it can be assumed that through role modeling, SA members learn from other members the effective ways of finding meaning in life and enhancing the belief expressed in the Big Book of AA (1972) that “there is a solution” (and thus, there is hope for a better future) (see also Laudet, Becker, & White, 2009; Laudet & White, 2008; SA, 1989). These pathways may initiate the more complicated process of “spiritual transformation” (Neff & MacMaster, 2005), which involves such additional elements as changing perceptions of God, openness to forgiveness, and improved self-acceptance, leading to positive perceptions of the self, the world, and one’s fit within the world. In the light of our results, this eudaimonic path (Seligman, 2002) seems to be efficient for improving the life satisfaction of SA members and may work better than the hedonic path (sexual activities), in which they have tended to seek life satisfaction hitherto (Blum, Chamberlain, & Grant, 2018; see also; Peterson, Ruch, Beermann, Park, & Seligman, 2007). Following Frankl’s (1985) “tragic optimism,” involvement in SA can be regarded as an opportunity to change an addiction or a compulsion, full of suffering, uncontrolled emotions, obsessions, and compulsions, into something meaningful and purposeful, giving back hope for a better life.

Contrary to our expectations, the direct relationship between the severity of CSBD and life satisfaction turned out to be insignificant (H4 not supported). However, we noted an indirect relationship between the severity of CSBD and life satisfaction through two dimensions of meaning in life. Specifically, more severe symptoms of CSBD were related to lower levels of the presence of meaning in life and higher levels of the search for meaning in life, which, in turn, predicted lower levels of life satisfaction (H5 supported). This result supports our expectations that experiencing severe symptoms of CSBD may be related to the degradation of the spiritual and moral sphere of functioning of SA members, manifested in lower levels of the presence of meaning in life (Augustine Fellowship & SLAA, 1986; SA, 1989). At the same time, the lack of meaning in life among those individuals may be accompanied by a high need to

fulfill their own “existential vacuum” with something meaningful and purposeful (Frankl, 1985), which is reflected in their elevated levels of the search for meaning in life (Steger et al., 2006). Both these paths are related to lower levels of life satisfaction and thus somewhat hamper the positive direct and indirect relationships between SA involvement and life satisfaction. These results are consistent with previous studies on substance addictions and some potential behavioral addictions (Çevik et al., 2020; Hu et al., 2022; Martin et al., 2011), which suggest that the existential mechanism of struggling to find meaning in life may be their common feature.

The mediating role of hope in the relationship between the severity of CSBD and life satisfaction was not supported in our study as the first path of the mediation was not significant (H6 not supported). Although this result was not consistent with our expectations, it gains support in the results of some previous studies on mental disorders and disabilities, in which a significant correlation between symptom severity and hope was not observed (Landeem, Pawlick, Woodside, Kirkpatrick, & Byrne, 2000; see also Davis et al., 2017).

From the practical point of view, the results of our study provide some important suggestions for therapists, clinicians, and priests by pointing to the need to encourage individuals with CSBD to engage in SA to help them enhance their life satisfaction by involving the existential resources of meaning and hope. Since studies suggest that people may have difficulties finding meaning in their lives despite the efforts they put into searching for it (Schippers & Ziegler, 2019; Steger et al., 2009), therapists and psychologists should prepare and implement evidence-based workshops, therapeutic programs, and interventions that focus on developing skills needed to induce or enhance meaning in life. Moreover, the results of the current study suggest that the restoration of one’s meaning in life through involvement in SA and its potentially beneficial role in life satisfaction may be more challenging for those SA members who have developed more severe symptoms of CSBD.

Limitations and future directions

Some limitations of the current study should be listed and addressed. First, the study was cross-sectional, and thus, no causal inferences can be unambiguously drawn from it. Although we based our model on theoretical premises and previous research, longitudinal studies are required to confirm the directions of the relationships noted. Second, the study was based on self-report data, and the usual weaknesses of such data (e.g., social desirability bias, common method bias, recall bias) should be considered. Third, due to snowball sampling, we cannot calculate the response rate, which limits the generalizability of the study. Moreover, the sample was quite homogenous, involving Polish members of SA who were predominantly male (90%) and Catholic (82.5%). Regarding gender, the percentage of men in our sample roughly reflects their prevalence among



treatment-seeking individuals with CSBD (see Kowalewska, Gola, Kraus, & Lew-Starowicz, 2020). Future studies should examine other twelve-step groups for individuals with CSBD and involve participants from other cultures (including secular ones) to support the replicability of the findings. Fourth, although our model was adjusted for age and subjective religiosity, we did not control another relevant variable in the context of CSBD, i.e., moral incongruence. Having said that, for many individuals, moral incongruence may stem from religiosity (Lewczuk, Glica, Nowakowska, Gola, & Grubbs, 2020), and since our sample was highly religious, we probably partly captured moral incongruence by controlling subjective religiosity. Fifth, in this study, we selected items from the SAST-R to limit the research participation burden and ensure acceptable reliability. Future studies may benefit from applying other measures of the severity of CSBD, such as the recently developed Compulsive Sexual Behavior Disorder Scale (CSBD-19; Bóthe et al., 2020) that assesses CSBD based on ICD-11 diagnostic guideline and also uses a Likert-type scale, which may increase the variability of scores.

Conclusions

Our study is the first to examine the relationship between the involvement in self-help groups and life satisfaction among SA members and explore the role of meaning in life and hope in it. It extends the literature on the social, cognitive, and spiritual-religious mechanisms of change in the members of self-help fellowships (Kaskutas et al., 2002; Lyons et al., 2011; Montes & Tonigan, 2017) by indicating the importance of finding meaning in life and creating hope. Importantly, we noted two separate pathways involved in the life satisfaction of SA members. The first one may be the recovery pathway that shows the benefits related to the involvement in SA for life satisfaction both directly and indirectly, through the presence of meaning in life and feeling hope. The second one works in the opposite way: the severity of CSBD is negatively related to the presence of meaning in life and positively to the search for meaning in life, which, in turn, predict lower levels of life satisfaction. Our study significantly contributes to the knowledge of the role of the twelve-step program in the life satisfaction of SA members and suggests the need to incorporate topics related to meaning in life and hope into the treatment of CSBD.

Funding sources: No funding was received for conducting this study.

Authors' contribution: The authors contributed equally to this work and share first authorship. The authors had full access to all data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Conflict of interest: The authors declare that they have no conflict of interest regarding this manuscript.

REFERENCES

- Abdel-Khalek, A. M. (2007). Assessment of intrinsic religiosity with a single-item measure in a sample of Arab Muslims. *Journal of Muslim Mental Health, 2*(2), 211–215. <https://doi.org/10.1080/15564900701614874>.
- Alcoholics Anonymous (AA) (1972). *Big Book*. New York: Alcoholics Anonymous World Services Inc.
- Alcoholics Anonymous (AA). (2001). *Alcoholics Anonymous*. New York: Alcoholics Anonymous World Services Inc.
- Allen, J. P. (2000). Measuring treatment process variables in Alcoholics Anonymous. *Journal of Substance Abuse Treatment, 18*, 227–230. [https://doi.org/10.1016/s0740-5472\(99\)00071-9](https://doi.org/10.1016/s0740-5472(99)00071-9).
- Arbuckle, J. L. (2019). *Amos*. Chicago, IL: IBM SPSS. (Version 26.0) [Computer Program].
- Augustine Fellowship, & Sex and Love Addicts Anonymous. (1986). *Sex and Love Addicts Anonymous*. Boston: Augustinian Fellowship S.L.A.A., Fellowship-Wide Services.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, N.J.: Prentice-Hall.
- Benrud-Larson, L. M., Sandroni, P., Schrag, A., & Low, P. A. (2005). Depressive symptoms and life satisfaction in patients with multiple system atrophy. *Movement Disorders, 20*(8), 951–957. <https://doi.org/10.1002/mds.20450>.
- Bentler, P. M. (2005). *EQS 6 Structural equations program manual*. Encino, CA: Multivariate Software.
- Blum, A. W., Chamberlain, S., & Grant, J. E. (2018). Quality of life of young adults with non-paraphilic problematic sexual behaviors: An exploratory study. *Addictive Behaviors Reports, 8*, 164–169. <https://doi.org/10.1016/j.abrep.2018.10.003>.
- Bollen, K. A., & Stine, R. A. (1992). Bootstrapping goodness-of-fit measures in structural equation models. *Sociological Methods & Research, 21*(2), 205–229. <https://doi.org/10.1177/0049124192021002004>.
- Bóthe, B., Potenza, M. N., Griffiths, M. D., Kraus, S. W., Klein, V., Fuss, J., & Demetrovics, Z. (2020). The development of the Compulsive Sexual Behavior Disorder Scale (CSBD-19): An ICD-11 based screening measure across three languages. *Journal of Behavioral Addictions, 9*(2), 247–258. <https://doi.org/10.1556/2006.2020.00034>.
- Bronk, K. C., Hill, P. L., Lapsley, D. K., Talib, T. L., & Finch, H. (2009). Purpose, hope, and life satisfaction in three age groups. *The Journal of Positive Psychology, 4*(6), 500–510. <https://doi.org/10.1080/17439760903271439>.
- Carnes, P., Green, B., & Carnes, S. (2010). The same yet different: Refocusing the Sexual Addiction Screening Test (SAST) to reflect orientation and gender. *Sexual Addiction & Compulsivity, 17*(1), 7–30. <https://doi.org/10.1080/10720161003604087>.
- Carnes, P. J., Green, B. A., Merlo, L. J., Polles, A., Carnes, S., & Gold, M. S. (2012). Pathos: A brief screening application for assessing sexual addiction. *Journal of Addiction Medicine, 6*(1), 29–34. <https://doi.org/10.1097/ADM.0b013e3182251a28>.
- Carroll, S. (1993). Spirituality and purpose in life in alcoholism recovery. *Journal of Studies on Alcohol, 54*(3), 297–301. <https://doi.org/10.15288/jsa.1993.54.297>.
- Çevik, C., Ciğerci, Y., Kılıç, I., & Uyar, S. (2020). Relationship between smartphone addiction and meaning and purpose of life



- in students of health sciences. *Perspectives in Psychiatric Care*, 56(3), 705–711. <https://doi.org/10.1111/ppc.12485>.
- Chatters, L. M., Taylor, R. J., Bullard, K. M., & Jackson, J. S. (2008). Spirituality and subjective religiosity among African Americans, Caribbean Blacks and non-Hispanic Whites. *Journal for the Scientific Study of Religion*, 47(4), 725–737. <https://doi.org/10.1111/j.1468-5906.2008.00437.x>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Csabonyi, M., & Phillips, L. J. (2020). Meaning in life and substance use. *Journal of Humanistic Psychology*, 60(1), 3–19. <https://doi.org/10.1177/0022167816687674>.
- Davis, M. P., Lagman, R., Parala, A., Patel, C., Sanford, T., Fielding, F., ... Rybicki, L. A. (2017). Hope, symptoms, and palliative care. *The American Journal of Hospice & Palliative Care*, 34(3), 223–232. <https://doi.org/10.1177/1049909115627772>.
- Derbyshire, K. L., & Grant, J. E. (2015). Compulsive sexual behavior: A review of the literature. *Journal of Behavioral Addictions*, 4(2), 37–43. <https://doi.org/10.1556/2006.4.2015.003>.
- Dickenson, J. A., Gleason, N., Coleman, E., & Miner, M. H. (2018). Prevalence of distress associated with difficulty controlling sexual urges, feelings, and behaviors in the United States. *JAMA Network Open*, 1(7), e184468. <https://doi.org/10.1001/jamanetworkopen.2018.4468>.
- Diener, E. D. (2006). Understanding scores on the satisfaction with life scale. Retrieved February 4, 2022, from <http://labs.psychology.illinois.edu/~ediener/Documents/Understanding%20SWLS%20Scores.pdf>.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13.
- Ditchman, N. M., Keegan, J. P., Batchos, E. J., Haak, C. L., & Johnson, K. S. (2017). Sense of community and its impact on the life satisfaction of adults with brain injury. *Rehabilitation Counseling Bulletin*, 60(4), 239–252. <https://doi.org/10.1177/0034355216661850>.
- Dollinger, S. J., & Malmquist, D. (2009). Reliability and validity of single-item self-reports: With special relevance to college students' alcohol use, religiosity, study, and social life. *Journal of General Psychology*, 136(3), 231–241. <https://doi.org/10.3200/GENP.136.3.231-242>.
- Dufault, K., & Martocchio, B. C. (1985). Symposium on compassionate care and the dying experience. Hope: Its spheres and dimensions. *The Nursing Clinics of North America*, 20(2), 379–391.
- DuPont, R. L., & McGovern, J. P. (1985). *A bridge to recovery: An introduction to 12-step programs*. Washington, DC: American Psychiatric Press.
- Efrati, Y., & Gola, M. (2018). Compulsive sexual behavior: A twelve-step therapeutic approach. *Journal of Behavioral Addictions*, 7(2), 445–453. <https://doi.org/10.1556/2006.7.2018.26>.
- Fernandez, D. P., Kuss, D. J., & Griffiths, M. D. (2021). Lived experiences of recovery from compulsive sexual behavior among members of sex and Love Addicts anonymous: A qualitative thematic analysis. *Sexual Health & Compulsivity*, 28(1–2), 47–80. <https://doi.org/10.1080/26929953.2021.1997842>.
- Frankl, V. (1985). *Man's search for meaning: Revised and updated*. NY: Washington Square.
- Gola, M., Skorko, M., Kowalewska, E., Kołodziej, A., Sikora, M., Wodyk, ... Dobrowolski, P. (2017). Polish adaptation of sexual addiction screening test – revised. *Psychiatria Polska*, 51(1), 95–115. <https://doi.org/10.12740/PP/OnlineFirst/61414>.
- Gomes, K., & Hart, K. E. (2009). Adherence to recovery practices prescribed by Alcoholics Anonymous: Benefits to sustained abstinence and subjective quality of life. *Alcoholism Treatment Quarterly*, 27(2), 223–235. <https://doi.org/10.1080/07347320902784874>.
- Griffin, K. R., Way, B. M., & Kraus, S. W. (2021). Controversies and clinical recommendations for the treatment of compulsive sexual behavior disorder. *Current Addiction Reports*, 8(4), 546–555. <https://doi.org/10.1007/s40429-021-00393-5>.
- Grubbs, J. B., Hoagland, K. C., Lee, B. N., Grant, J. T., Davison, P., Reid, R. C., & Kraus, S. W. (2020). Sexual addiction 25 years on: A systematic and methodological review of empirical literature and an agenda for future research. *Clinical Psychology Review*, 82, 101925. <https://doi.org/10.1016/j.cpr.2020.101925>.
- Gutierrez, D. (2019). Spiritus contra spiritum: Addiction, hope, and the search for meaning. *Spirituality in Clinical Practice*, 6(4), 229–239. <https://doi.org/10.1037/scp0000201>.
- Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hamdan-Mansour, A. M., Al Abeiat, D. D., Alzogaibi, I. N., Ghannam, B. M., & Hanouneh, S. I. (2015). Psychosocial and sociodemographic correlates of life satisfaction among patients diagnosed with cancer in Jordan. *Journal of Cancer Education*, 30(1), 31–36. <https://doi.org/10.1007/s13187-014-0678-y>.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hayes, L., Herrman, H., Castle, D., & Harvey, C. (2017). Hope, recovery and symptoms: The importance of hope for people living with severe mental illness. *Australasian*, 25(6), 583–587. <https://doi.org/10.1177/1039856217726693>.
- Helm, P. (2019). Sobriety versus abstinence. How 12-stepper negotiate long-term recovery across groups. *Addiction Research and Theory*, 27, 29–36. <https://doi.org/10.1080/16066359.2018.1530348>.
- Herth, K. (1992). Abbreviated instrument to measure hope: Development and psychometric evaluation. *Journal of Advanced Nursing*, 17(10), 1251–1259. <https://doi.org/10.1111/j.1365-2648.1992.tb01843.x>.
- Holas, P., Draps, M., Kowalewska, E., Lewczuk, K., & Gola, M. (2021). A pilot study of mindfulness-based relapse prevention for compulsive sexual behaviour disorder. *Journal of Behavioral Addictions*, 9(4), 1088–1092. <https://doi.org/10.1556/2006.2020.00075>.
- Hu, Q., Liu, Q., & Wang, Z. (2022). Meaning in life as a mediator between interpersonal alienation and smartphone addiction in the context of Covid-19: A three-wave longitudinal study. *Computers in Human Behavior*, 127, 107058. <https://doi.org/10.1016/j.chb.2021.107058>.
- Humphreys, K. (2004). *Circles of recovery: Self-help organizations for addictions*. Cambridge, UK: Cambridge University Press.
- Humphreys, K., Kaskutas, L. A., & Weisner, C. (1998). The Alcoholics Anonymous Affiliation Scale: Development, reliability,



- and norms for diverse treated and untreated populations. *Alcoholism: Clinical and Experimental Research*, 22(5), 974–978. <https://doi.org/10.1111/j.1530-0277.1998.tb03691.x>.
- IBM Corp. (2019). *IBM SPSS Statistics for Windows*. Armonk: IBM Corp Version 26.0.
- James, G., Witten, D., Hastie, T., & Tibshirani, R. (2017). *An introduction to statistical learning: With applications in R*. New York: Springer.
- Jankowski, K. S. (2015). Is the shift in chronotype associated with an alteration in well-being? *Biological Rhythm Research*, 46(2), 237–248. <https://doi.org/10.1080/09291016.2014.985000>.
- Kafka, M. P. (2010). Hypersexual disorder: A proposed diagnosis for DSM-V. *Archives of Sexual Behaviors*, 39, 377–400. <https://doi.org/10.1007/s10508-009-9574-7>.
- Kaskutas, L. A., Bond, J., & Humphreys, K. (2002). Social networks as mediators of the effect of Alcoholics Anonymous. *Addiction*, 97(7), 891–900. <https://doi.org/10.1046/j.1360-0443.2002.00118.x>.
- Kenny, D. A. (2021). *Mediation*. Retrieved October 25, 2021, from <http://davidakenny.net/cm/mediate.htm>.
- Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2015). The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research*, 44(3), 486–507. <https://doi.org/10.1177/0049124114543236>.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: Guilford.
- Koenig, H. G., McCullough, M. E., & Larson, D. B. (2001). *Handbook of religion and health*. New York: Oxford University Press.
- Konkoly Thege, B., Bachner, Y. G., Kushnir, T., & Kopp, M. S. (2009). Relationship between meaning in life and smoking status: Results of a national representative survey. *Addictive Behaviors*, 34(1), 117–120. <https://doi.org/10.1016/j.addbeh.2008.09.001>.
- Kossakowska, M., Kwiatek, P., & Stefaniak, T. (2013). *Sens w życiu. Polska wersja kwestionariusza MLQ [Meaning in life. A Polish version of the MLQ]*. *Psychologia Jakości Życia*, 12(2), 111–115.
- Kowalewska, E., Gola, M., Kraus, S. W., & Lew-Starowicz, M. (2020). Spotlight on compulsive sexual behavior disorder: A systematic review of research on women. *Neuropsychiatric Disease and Treatment*, 16, 2025–2043. <https://doi.org/10.2147/NDT.S221540>.
- Kowalewska, E., Grubbs, J. B., Potenza, M. N., Gola, M., Draps, M., & Kraus, S. W. (2018). Neurocognitive mechanisms in compulsive sexual behavior disorder. *Current Sexual Health Reports*, 10(4), 255–264. <https://doi.org/10.1007/s11930-018-0176-z>.
- Kraus, S. W., Krueger, R. B., Briken, P., First, M. B., Stein, D. J., Kaplan, ... Reed, G. M. (2018). Compulsive sexual behaviour disorder in the ICD-11. *World Psychiatry*, 17(1), 109–110. <https://doi.org/10.1002/wps.20499>.
- Krentzman, A. R., Strobbe, S., Harris, J. I., Jester, H. M., & Robinson, E. (2017). Decreased drinking and alcoholics anonymous are associated with different dimensions of spirituality. *Psychology of Religion and Spirituality*, 9(Suppl 1), S40–S48. <https://doi.org/10.1037/rel0000121>.
- Landeen, J., Pawlick, J., Woodside, H., Kirkpatrick, H., & Byrne, C. (2000). Hope, quality of life, and symptom severity in individuals with schizophrenia. *Psychiatric Rehabilitation Journal*, 23(4), 364–369. <https://doi.org/10.1037/h0095142>.
- Laudet, A. B., Becker, J. B., & White, W. L. (2009). Don't wanna go through that madness no more: Quality of life satisfaction as predictor of sustained remission from illicit drug misuse. *Substance Use & Misuse*, 44(2), 227–252. <https://doi.org/10.1080/10826080802714462>.
- Laudet, A. B., Morgen, K., & White, W. L. (2006). The role of social supports, spirituality, religiousness, life meaning and affiliation with 12-step fellowships in quality of life satisfaction among individuals in recovery from alcohol and drug problems. *Alcoholism Treatment Quarterly*, 24(1–2), 33–73. https://doi.org/10.1300/J020v24n01_04.
- Laudet, A. B., & White, W. L. (2008). Recovery capital as prospective predictor of sustained recovery, life satisfaction, and stress among former poly-substance users. *Substance Use & Misuse*, 43(1), 27–54. <https://doi.org/10.1080/10826080701681473>.
- Lewczuk, K., Glica, A., Nowakowska, I., Gola, M., & Grubbs, J. B. (2020). Evaluating pornography problems due to moral incongruence model. *Journal of Sexual Medicine*, 17(2), 300–311. <https://doi.org/10.1016/j.jsxm.2019.11.259>.
- López Ulloa, B. F., Møller, V., & Sousa-Poza, A. (2013). How does subjective well-being evolve with age? A literature review. *Population Ageing*, 6, 227–246. <https://doi.org/10.1007/s12062-013-9085-0>.
- Lyons, G. C. B., Deane, F. P., Caputi, P., & Kelly, P. J. (2011). Spirituality and the treatment of substance use disorders: An exploration of forgiveness, resentment and purpose in life. *Addiction Research & Theory*, 19(5), 459–469. <https://doi.org/10.3109/16066359.2011.555022>.
- Magura, S., Knight, E. L., Vogel, H. S., Mahmood, D., Laudet, A. B., & Rosenblum, A. (2003). Mediators of effectiveness in dual-focus self-help groups. *The American Journal of Drug and Alcohol Abuse*, 29(2), 301–322. <https://doi.org/10.1081/ada-120020514>.
- Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika*, 57, 519–530. <https://doi.org/10.1093/biomet/57.3.519>.
- Martin, R. A., MacKinnon, S., Johnson, J., & Rohsenow, D. J. (2011). Purpose in life predicts treatment outcome among adult cocaine abusers in treatment. *Journal of Substance Abuse Treatment*, 40(2), 183–188. <https://doi.org/10.1016/j.jsat.2010.10.002>.
- Mathis, G. M., Ferrari, J. R., Groh, D. R., & Jason, L. A. (2009). Hope and substance abuse recovery: The impact of agency and pathways within an abstinent communal-living setting. *Journal of Groups in Addiction & Recovery*, 4(1/2), 42–50. <https://doi.org/10.1080/15560350802712389>.
- Montes, K. S., & Tonigan, J. S. (2017). Does age moderate the effect of spirituality/religiousness in accounting for Alcoholics Anonymous benefit? *Alcoholism Treatment Quarterly*, 35(2), 96–112. <https://doi.org/10.1080/07347324.2017.1288487>.
- Neff, J. A., & MacMaster, S. A. (2005). Spiritual mechanisms underlying substance abuse behavior change in faith-based substance abuse treatment. *Journal of Social Work Practice in the Addictions*, 5(3), 33–54. https://doi.org/10.1300/J160v05n03_04.
- Oakes, K. E., Allen, J. P., & Ciarrocchi, J. W. (2000). Spirituality, religious problem-solving, and sobriety in Alcoholics Anonymous. *Alcoholism Treatment Quarterly*, 18(2), 37–50. https://doi.org/10.1300/J020v18n02_03.
- Palfai, T. P., & Weaver, J. (2006). College student drinking and meaning in the pursuit of life goals. *Psychology of Addictive Behaviors*, 20(2), 131–134. <https://doi.org/10.1037/0893-164X.20.2.131>.
- Park, N., Park, M., & Peterson, C. (2010). When is the search for meaning related to life satisfaction? *Applied Psychology: Health*



- and Well-Being, 2(1), 1–13. <http://doi.org/10.1111/j.1758-0854.2009.01024.x>.
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology*, 2(3), 149–156. <https://doi.org/10.1080/17439760701228938>.
- Polcin, D. L., & Zemore, S. (2004). Psychiatric severity and spirituality, helping, and participation in Alcoholics Anonymous during recovery. *The American Journal of Drug and Alcohol Abuse*, 30(3), 577–592. <https://doi.org/10.1081/ADA-200032297>.
- Rose, M. E., & Cherpitel, C. J. (2011). *Alcohol: Its history, pharmacology, and treatment*. Clayton. Center City, MN: Hazdden.
- Sari, S. P., Agustini, M., Wijayanti, D. Y., Sarjana, W., Afrikah, U., & Choe, K. (2021). Mediating effect of hope on the relationship between depression and recovery in persons with schizophrenia. *Frontiers in Psychiatry*, 12, 627588. <https://doi.org/10.3389/fpsy.2021.627588>.
- Sassover, E., & Weinstein, A. (2022). Should compulsive sexual behavior (CSB) be considered as a behavioral addiction? A debate paper presenting the opposing view. *Journal of Behavioral Addictions*, 11(2), 166–179. <https://doi.org/10.1556/2006.2020.00055>.
- Schippers, M. C., & Ziegler, N. (2019). Life crafting as a way to find purpose and meaning in life. *Frontiers in Psychology*, 10, 2778. <https://doi.org/10.3389/fpsy.2019.02778>.
- Seligman, M. E. P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.
- Sexaholics Anonymous (SA). (1989). *Sexaholics Anonymous*. Simi Valley, CA: SA Literature.
- Smith, K. W., & Larson, M. J. (2003). Quality of life assessments by adult substance abusers receiving publicly funded treatment in Massachusetts. *American Journal of Drug and Alcohol Abuse*, 29(2), 323–335. <https://doi.org/10.1081/ada-120020517>.
- Steger, M. F. (2009). Meaning in life. In S. J. Lopez, & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (pp. 679–687). Oxford: Oxford University Press.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, 53(1), 80–93. <https://doi.org/10.1037/0022-0167.53.1.80>.
- Steger, M. F., Kashdan, T. B., Sullivan, B. A., & Lorentz, D. (2008). Understanding the search for meaning in life: Personality, cognitive style, and the dynamic between seeking and experiencing meaning. *Journal of Personality*, 76(2), 199–228. <https://doi.org/10.1111/j.1467-6494.2007.00484.x>.
- Steger, M. F., Mann, J. R., Michels, P., & Cooper, T. C. (2009). Meaning in life, anxiety, depression, and general health among smoking cessation patients. *Journal of Psychosomatic Research*, 67(4), 353–358. <https://doi.org/10.1016/j.jpsychores.2009.02.006>.
- Stevens, E., Guerrero, M., Green, A., & Jason, L. A. (2018). Relationship of hope, sense of community, and quality of life. *Journal of Community Psychology*, 46(5), 567–574. <https://doi.org/10.1002/jcop.21959>.
- Tonigan, J. S. (2001). Benefits of Alcoholics Anonymous attendance: Replication of findings between clinical research sites in Project MATCH. *Alcoholism Treatment Quarterly*, 19(1), 67–77. https://doi.org/10.1300/J020v19n01_05.
- Tonigan, J. S., Connors, G. J., & Miller, W. R. (1996). Alcoholics Anonymous Involvement (AAI) scale: Reliability and norms. *Psychology of Addictive Behaviors*, 10(2), 75–80. <https://doi.org/10.1037/0893-164X.10.2.75>.
- Walton, M. T., Cantor, J. M., & Lykins, A. D. (2017). An online assessment of personality, psychological, and sexuality trait variables associated with self-reported hypersexual behavior. *Archives of Sexual Behavior*, 46(3), 721–733. <https://doi.org/10.1007/s10508-015-0606-1>.
- Weiss, R. D., Griffin, M. L., Gallop, R., Onken, L. S., Gastfriend, D. R., Daley, D., ... Barber, J. P. (2000). Self-help group attendance and participation among cocaine dependent patients. *Drug and Alcohol Dependence*, 60(2), 169–177. [https://doi.org/10.1016/S0376-8716\(99\)00154-4](https://doi.org/10.1016/S0376-8716(99)00154-4).
- White, W., & Kurtz, E. (2005). The varieties of recovery experience: A primer for addiction treatment professionals and recovery advocates. *International Journal of Self Help and Self Care*, 3(1–2), 21–61. <https://doi.org/10.2190/911R-MTQ5-VJ1H-75CU>.
- Wnuk, M. (2017). Hope as an important factor for mental health in alcohol-dependent subjects attending Alcoholics Anonymous. *Journal of Substance Use*, 22(2), 182–186. <https://doi.org/10.1080/14659891.2016.1177612>.
- Wnuk, M., & Hędzielek, M. (2008). Nadzieja jako pozytywny korelat szczęścia wśród Anonimowych Uzależnionych od Seksu i Miłości [Hope as a positive factor for happiness among Sex and Love Addicts Anonymous]. *Seksuologia Polska*, 6(2), 51–56.
- Wordecha, M., Wilk, M., Kowalewska, E., Skorko, M., Łapiński, A., & Gola, M. (2018). “Pornographic binges” as a key characteristic of males seeking treatment for compulsive sexual behaviors: Qualitative and quantitative 10-week-long diary assessment. *Journal of Behavioral Addictions*, 7(2), 433–444. <https://doi.org/10.1556/2006.7.2018.33>.
- World Health Organization (2018). *ICD-11*. Retrieved October 20, 2021, from <https://icd.who.int>.
- Yamamoto, M. (2021). Recovery from hypersexual disorder (HD): An examination of the effectiveness of combination treatment. *Sexual Addiction & Compulsivity*, 27(3–4), 211–235. <https://doi.org/10.1080/10720162.2020.1815267>.
- Yoon, I. S., Houang, S. T., Hirshfield, S., & Downing, M. J. (2016). Compulsive sexual behavior and HIV/STI risk: A review of current literature. *Current Addiction Reports*, 3, 387–399. <https://doi.org/10.1007/s40429-016-0121-z>.
- Zemansky, T. R. (2006). The risen phoenix: Psychological transformation within the context of long-term sobriety in Alcoholics Anonymous. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 66(8–B), 4506.
- Zhang, Y., Mei, S., Li, L., Chai, J., Li, J., & Du, H. (2015). The relationship between impulsivity and Internet addiction in Chinese college students: A moderated mediation analysis of meaning in life and self-esteem. *Plos One*, 10(7), e0131597.

