



Problematic Pornography Use in China

Lijun Chen¹

Accepted: 22 March 2022 / Published online: 8 April 2022
© The Author(s), under exclusive licence to Springer Nature Switzerland AG 2022

Abstract

Purpose of Review China is a typical sexual conservative cultural context country; it is necessary to understand the problematic pornography use (PPU) in China, which may reflect the influence of the conservative culture on PPU. In this review, the pornography use motivation, prevalence, screening scales, diagnosing elements, and intervention situation in China were described.

Recent Findings The most preponderant pornography use motivations were self-exploration and seeking education. In line with the international situation in screening PPU, inconsistent assessment resulted in fluctuant prevalence in China. Fortunately, several screening scales were confirmed valid in Chinese sample. The symptoms of PPU among Chinese were similar with samples from other Western countries. More urgently, in China, it appeared there exists a supply–demand imbalance in regards to the prevalence of PPU and the limited treatment options available.

Summary Due to the conservative attitude toward sex and pornography, research on pornography use in China is scarce. The Chinese pornography motivations differ from the Western more permissive countries, but the core symptoms of PPU among Chinese are similar with the other Western participants. Actually, in the Chinese public, the prevalence of PPU is high; however, the demand for professional psychotherapy services exceeds the current available resources.

Keywords Problematic pornography use (PPU) · Sexual conservative cultural context · Permissive cultural context · Attitude toward pornography

Over the past two decades, the revolution in information and communication technology has altered sexual behaviors, as the internet becomes a highly sexualized environment, characterized by a seemingly endless supply of free and unprecedented variety of sexual materials. Of particular influence, the arrival of smartphones in 2007 has allowed consumers to have greater, more flexible access to pornography [1]. In most cases, pornography use is not associated with negative consequences; however, it can become problematic and carry out a range of negative effects, such as interpersonal difficulties, depression, and sexual functioning problems [2, 3]. With a growing number of individuals excessively involved in consuming pornography, its use may become dysfunctional and associated with addiction symptoms (e.g.,

withdrawal, tolerance). Excessive or problematic sexual behaviors have been studied and clinically significant mental health concern have been identified, which have informed the criteria for compulsive sexual behavior disorder (CSBD) [4•, 5], adopted by the World Health Organization (WHO) to be included as an impulse control disorder in the International Classification of Diseases (ICD-11) [6]. The use of Internet pornography, especially the problematic pornography use (PPU), has been a growing focus of academic study and public concern.

Although the symptoms proposed in diagnostic criteria for CSBD can be interpreted using an addiction framework [7], the conceptualizations and diagnostic category are still an issue of debate [8]. Given that addiction cannot be assessed on the basis of self-report alone without an in-depth clinical interview [9•], the term problematic pornography use (PPU) is therefore used in general, which covers a broader concept of the dysfunctional use. However, as other researchers proposed, current understanding of pornography and PPU has cultural limitations since previous studies mainly took place in Western, industrialized countries with

This article is part of the Topical Collection on *Sex Addiction*.

✉ Lijun Chen
qqkx159@126.com; t05097@fzu.edu.cn

¹ Department of Psychology, School of Humanities and Social Sciences, Fuzhou University, 2 Xueyuan Avenue, Fuzhou 400715, Fujian, China

predominately Christian samples [10•]. This is a significant limitation to consider for how PPU is defined and treated since the norms, value systems, and experiences of individuals from other cultural backgrounds may differ from the well-studied Western perspectives regarding pornography use and other sexual behaviors.

China is a typical sexually conservative cultural context country [11, 12]; the attitude toward sex, pornography, sexual behaviors, and sexual well-being are considerably different from a more permissive climate or culture. Furthermore, cultural characteristics may influence negative attitudes toward pornography use [13]. Some have proposed that conservative sexual cultures may influence self-perception of PPU as well [14]. Individuals in sexually conservative cultures (i.e., traditional Asian cultures that stress sexual conservatism) may feel more conflict and negative emotions about their use given that it may be in opposition to their sexual moral values, and may be more likely to label themselves as being addicted to pornography. Therefore, it is necessary to understand PPU in China, which may reflect the influence of the conservative culture on PPU. In this review, the motivations of pornography use in Chinese participants were compared with those in other countries, the screening tools and prevalence of PPU in China were summarized, the core symptoms of PPU in Chinese subjects were explained, and finally, interventions and treatment for PPU were discussed.

Pornography Use Motivations

Examining the motivations of pornography use may result in a more detailed understanding of pornography-viewing behaviors including PPU. Evidence have demonstrated that up to 40–50% of the variance in alcohol consumption and internet gaming disorder may be explained by drinking motives and gaming motives, respectively [15, 16]. It is worth emphasizing that the motivation to participate in internet pornography is complex, diversified, and variable. According to a survey conducted nearly 20 years ago, Chinese college students used pornography for four motivations: fresh feeling and curiosity and satisfaction of sensory stimulation (30.6%); eliminate loneliness, relieve pressure, and relieve sexual distress (27.4%); recreation and sex education (32.3%); satisfying psychological sexual needs; and improving sexual desire (9.68%) [17]. This finding was similar with results from western permissive culture. A recent review mostly based on western studies shows that pornography was most often consumed for pleasure-seeking purposes [18]. Studies from USA show that higher erotophobia predicts greater motivation to engage in internet pornography use [19], and are a common predictor of online sexual activities (OSA) in both men and women [18]. In 2020, during

the outbreak of the COVID-19, one unpublished reported showed that the characteristics of the pornography use motivations in both Chinese men and women were stress reduction, self-exploration, and fantasy, but men have stronger motivation to use porn than women (unpublished data).¹ This change may be associated to the fear of COVID-19, because these participants had a high fear of COVID-19 when they are watching news and stories about COVID-19 on social media. During the home quarantine restrictions, the Anonymity, Convenience, and Escape (ACE) characters of internet pornography may have promoted the public to use internet porn as a coping strategy, to alleviate the stress caused by the uncertainty of life and anxiety regarding the epidemic and threats to health [20]. This finding supported the hypothesis that problematic internet pornography use has a unique psychological mechanism based on the characters of internet.

Certain motivations may differentiate between types of engagement (i.e., problematic or non-problematic use). In American treatment-seeking men (seeking to reduce their pornography consumption) sample, the majority of significant endorsements were made for sexual pleasure (76%), followed by excitement seeking (58%), emotional avoidance (49%), and sexual curiosity (12%) [21]. These findings were similar with the undergraduate students (Paul, 2009). In a Chinese sample, investigated with the Pornography Use Motivations Scale (PUMS), the most significant motivation was self-exploration (unpublished data). There are two reasons for this discrepancy. First, the American participants were adults and most of them had sexual experience; in contrast, a significant number of the Chinese sample were adolescents. Second, the cultural difference may explain. Asians are considerably more conservative and traditional than Whites in sexual attitudes and behavior [22]. The permissive context highlights the importance of sexual pleasure. But in more conservative cultures, non-marital or recreational sexual activities are often stigmatized, and member's sexuality are controlled and tie the sexuality of an individual, especially a woman's, to family honor [23]. In the conservative Chinese context, it is not very comfortable talking openly about sex, and the sex education is lacking, which may lead adolescents to explore through pornography use.

¹ Jiang & Chen (2021). Characteristic of the motivation basis of pornography use and its impact on individual's online sexual activities among public population: a network approach, submitted.

Screening for Problematic Pornography Use and the Prevalence

The PPU prevalence rates range from 0.1 to 13%, which may be reflective of the challenges attributed to the inconsistencies in defining criteria due to not having a formal definition of the disorder [8]. Only 12.2% of women watched no pornography at all in a sample of German women [4•] and more than 90% of men reported viewing pornography in several studies [5–8]. Studies in Australia and Europe have reported that the prevalence of PPU ranges from 0.1 to 5% for women and from 2 to 13% for men. In China, according to a report in 2004, among the surveyed college students, 17.8% of them reported that they almost never browse pornographic websites on their own initiative, 56.8% admitted they usually participated in online sexual behaviors once a week, and the average time spent on internet pornography is about 1 h a week. In this survey, the Cybersex Screening Test [24] was used to screen for PPU and the results showed that 25.15% of college students were at risk of PPU [17]. Other recent surveys showed that more than 90% of adults and 80% of teenagers have reported experiences of online pornography [25, 26]. Among a community sample, screened by the PPCS-18 (the Problematic Pornography Consumption Questionnaire), about 9.14 percent of adult users are prone to PPU [27]. Consistent with other studies from western culture [5, 28, 29], compared with women, Chinese men engaged more in online pornography use [30] and had higher scores of PPU [31]. Together, these findings suggest that pornography use is prevalent, but the PPU rate varied extremely.

Most likely, the inconsistencies in the ranges of prevalence estimates regarding PPU are due to the heterogeneity of assessment tools. The fundamental reason is that the definition and diagnostic criteria of PPU are still unclear. In order to address these conceptual ambiguities, researchers have developed several scales that measure different aspects of pornography use. Corresponding with the debate on the conceptualization of PPU, over 20 psychometric instruments have been developed to assess various conceptualizations and aspects of PPU [7]. In conservative China, since pornography is seen as a difficult issue to talk about, the studies on PPU were lacking, which may contribute to the fact that there were not any original screeners. In order to know the occurrence of PPU in China, researchers have translated several scales, including the Short Internet Addiction Test Adapted to OSAs (s-IAT-sex) [32], the Problematic Pornography Use Scale (PPUS) [33], the Problematic Pornography Consumption Scale (PPCS-18) [34], and the Brief Pornography Screener (BPS) [27]. These screeners were confirmed valid in

Chinese context. In comparison with PPUS and s-IAT-sex, the PPCS-18 demonstrated stronger reliability and validity, including criterion validity, as well as greater sensitivity and acceptable specificity [27]. Moreover, the PPCS-18 was developed in Hungarian, and appearing invariance in Hungarian and Chinese community men, and the PPCS revealed different characteristics of sub-clinical and community Chinese sample [34].

Although debates continue regarding PPU being considered as a behavioral addiction, many researchers propose that PPU includes components of addiction (i.e., salience, compulsive use despite negative consequence) [7]. Several Chinese studies proposed that PPU may be distinguished with comprehensive screening tools [27]. One research showed the PPCS-18, PPUS, and s-IAT-sex score were robustly related to amounts of use (i.e., the duration of usage, frequency of engagement), pornography cravings, and sexual compulsivity [27]. PPU can appear under the umbrella of CSBD, similarly to frequent engaging in various forms of cybersex, intense craving for pornography, and compulsive sexual behaviors, insofar that co-screening instruments (i.e., pornography craving, frequency and duration of use, compulsive use) are expected to work as auxiliary screening indicators. Moreover, the BPS was used as a screen tool focusing on measuring the lack of self-control and overuse of pornography in order to identify individuals at risk of PPU. In a most recent study, BPS was in combination with PPCS-18, moral conflict to identify the individuals with self-perceived PPU, impaired control, and PPU [35].

Core Symptoms and Diagnostic Elements of PPU

To better assess, intervene, and treat PPU, it is essential to explore the characteristics of PPU. A network results displayed withdrawal as the most crucial factor in Hungarian and Chinese community samples, as well as among the Chinese sub-clinical men (out-of-control in porn use screened by the BPS); among sub-clinical participants, tolerance also contributed importantly, being second only to withdrawal [34]. These findings suggest that withdrawal and tolerance are particularly important in PPU diagnosing across Chinese-Hungarian community samples. It should be noted that the PPU of this study was measured using PPCS-18, which is a measurement tool based on the theoretical framework of six-factor model of addiction; the core symptoms and diagnosing elements may differ in different theoretical framework of PPU.

In the help-seeking sample, there are a section of individuals with self-perceived PPU without objective behavior dysregulation [36]; therefore, in order to improve the effectiveness of clinical interventions, it is important to

differentiate the symptoms of concern in order to successfully treat the presenting problems for each individual. Impaired control was proposed to play an important role in excluding the self-perceived individuals when screening PPU in help-seeking individual [10•]. According to a recent study from China, three groups of pornography users were identified in a sample of help-seeking men: men with self-perceived PPU, impaired control, and PPU group [35]. To explore the features of these potential groups in quantitative use (usage time and frequency of porn use) and qualitative use (porn craving, compulsive use, and mental health), as well as their core symptoms of PPU, it would be helpful to have identified evidenced-based interventions for each group in order to address the specific problems of concern.

One of our unpublished reports has displayed that frequency of pornography use was important for the identification of self-perceived problematic individuals, while severity of use such as porn craving, compulsive use, and mental health (negative consequence) were more effective in identifying individuals with disordered behaviors. The core characteristics of PPU were salience, withdrawal, and tolerance, while the impaired control group mainly endorsed salience as their core symptom. However, since these studies are still based on the participant's self-report, it is urgent to support the importance of these factors (i.e., impaired control, tolerance, withdrawal) in the diagnosis of PPU to also include other evidences such as behavioral reaction time and electrophysiological activities. An electro-encephalographic study provided event-related-potential (ERP) evidence suggesting that individuals with features of cybersex addiction were more impulsive in the two-choice oddball task than healthy participants and shared neuropsychological and ERP characteristics of individuals with substance or behavioral addictions [37].

Therapy and Intervention for PPU

Some individuals experience problems with pornography use. Although faced with a debate in the field on the conception, screening, and the diagnosis standards of PPU, some therapists and clinical psychologists have made various attempts to treat addictive or compulsive use on basis of the clients' characteristics and their own understanding of PPU [28, 38]. Acceptance and Commitment Therapy (ACT) was attested as an effective treatment intervention for self-perceived PPU [39]. However, since ACT is related to the clients' sexual attitude, gender, race, geographical region, and religious belief, the generalization is limited. Cognitive Behavioral Therapy (CBT) was used along with paroxetine, a serotonin reuptake inhibitor to reduce the pornography use [38].

In China, there are not enough psychotherapy providers to meet the treatment needs of those with PPU [40], due to very few therapists being trained to treat people experiencing pornography use related problems. As aforementioned, the Chinese culture is a conservative one where emotional and psychological readiness for exposure to pornography and sexual material might be low, given the fact that sexual disclosure and pornography lead to conflict with social attitudes toward sex. Consequently, pornography is viewed clandestinely and the impact it leaves (e.g., addictive behaviors) can be disregarded and underdiagnosed. Different from gaming addicts and shopping addicts, individuals who have problems with pornography use more likely feel shame and embarrassment; they are often reluctant to admit their problems to others and therefore are often reluctant to seek in-person treatment. Therefore, other than drug therapy and traditional psychotherapy, it is necessary to explore the new intervention methods, so as to meet the imbalance of "treatment supply and demand," to make up for the deficiency of the existing mental health service system.

The popularity of the internet makes it more feasible to conduct an online self-help program to assist the individuals with PPU. In Switzerland, a platform, Hands-off (www.hands-off.net), has been developed based on the principles of motivational interviewing, CBT, mindfulness techniques, and "wise" social-psychological interventions [41]. In China, there are still no professional programs to supply therapeutic treatment and intervention for PPU. Only some Non-Governmental Organizations (NGOs) have spontaneously provided a Network forum for those who feel they have problems with pornography use. The registered participants can communicate on these platforms, for instance, "sexual abstinence" forum (similar to the bulletin board system, BBS) on "Baidu," an online interactive platform for abstaining from masturbation, and "Reyboys," a "Mutual Aid" platform developed by a NGO, which aimed to help the adolescents who have problems with pornography use. The Reyboys mainly adopt a volunteer service system. The volunteer recruits the registered participants to self-control in porn use, encourages the registered members to participant in sports, and establish a regular life schedule; the participants are allowed to build small team to encourage and supervise each other. These online platforms may be of benefit for the users with pornography use problems by providing a network for them to communicate. However, these platforms did not screen the registered members at first, and are lacking in skillful guidance of professional psychotherapy facilitation. For example, a recent qualitative study reported that an internet organization tended to use Buddhist tenets to persuade the users to practice "abstinence" and stigmatized masturbation (which may accompany pornography use) as "evil sex" and "moral irrationality" [42].

Conclusion

In this review, the pornography use motivation, prevalence, screening scales, diagnosing elements, and intervention situation in China were described. In Chinese culture, elements derived from the teachings of Confucius have been previously cited as the distal historical basis of sexual conservatism [43]. Despite recent waves of sexual revolution in China [44], Chinese people tend to be more sexually conservative or restrictive compared to Western standards. Rather than sexual pleasure in permissive countries, their most significant pornography use motivations were self-exploration and self-education. The prevalence of PPU in China are fluctuant mostly resulting from the different assessment tools. Although there were not innovative screening scales in China, several scales including addiction factors were confirmed valid in Chinese samples. The core symptoms of PPU among Chinese adults and adolescents implied that impaired control was the crucial feature to exclude the purely subjective self-perceived PPU from the dysregulation in pornography use, and withdrawal and tolerance were the identifiable elements for PPU in the framework of addiction. China has a large population and a large base of people sought help for pornography use; nevertheless, there is still a significant lack of professional psychotherapy services and intervention systems, creating a supply–demand imbalance in PPU service.

Funding The research was supported by the National Social Science Foundation of China (Grant No. 19BSH117).

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

References

Papers of particular interest, published recently, have been highlighted as:

• Of importance

1. Wood H. The internet and its role in the escalation of sexually compulsive behaviour. *Psychoanal Psychother*. 2011;25:127–42. <https://doi.org/10.1080/02668734.2011.576492>.
2. Engel J, Kessler A, Veit M, Sinke C, Heitland I, Kneer J, et al. Hypersexual behavior in a large online sample: individual characteristics and signs of coercive sexual behavior. *J Behav Addict*. 2019;8:1–10. <https://doi.org/10.1556/2006.8.2019.16>.

3. Harper C, Hodgins DC. Examining correlates of problematic internet pornography use among university students. *J Behav Addict*. 2016;5:179–91. <https://doi.org/10.1556/2006.5.2016.022>.
4. Kraus S, Krueger R, Briken P, First M, Stein D, Kaplan M, et al. Compulsive sexual behaviour disorder in the ICD-11. *World psychiatry: official journal of the World Psychiatric Association (WPA)*. 2018;17:109–10. <https://doi.org/10.1002/wps.20499>. In this important study, the definition and diagnosis of compulsive sexual behaviour disorder were described.
5. Kafka MP. Hypersexual disorder: a proposed diagnosis for DSM-V. *Arch Sex Behav*. 2010;39:377–400. <https://doi.org/10.1007/s10508-009-9574-7>.
6. ICD-11: International Classification of Diseases 11th Revision. [Online] Available: <https://icd.who.int/en/>.
7. Fernandez DP, Griffiths MD. Psychometric instruments for problematic pornography use: a systematic review. *Evaluation & the Health Professions*. 2019;0163278719861688. <https://doi.org/10.1177/0163278719861688>.
8. Wéry A, Billieux J. Problematic cybersex: conceptualization, assessment, and treatment. *Addictive Behaviors*. 2017;64:238–46. <https://doi.org/10.1016/j.addbeh.2015.11.007>.
9. Bóthe B, Tóth-Király I, Zsila Á, Griffiths MD, Demetrovics Z, Orosz G. The development of the Problematic Pornography Consumption Scale (PPCS). *The Journal of Sex Research*. 2018;55:395–406. <https://doi.org/10.1080/00224499.2017.1291798>. In this important study, the problematic pornography consumption scale was developed in the framework of six factors addiction model. This scale was translated and used in Chinese participants, the data showed it was a higher accurate screener in China background.
10. Kraus SW, Sweeney PJ. Hitting the target: considerations for differential diagnosis when treating individuals for problematic use of pornography. *Archives of Sexual Behavior*. 2019;48:431–5. <https://doi.org/10.1007/s10508-018-1301-9>. In this important study, the different type of pornography use problems were described based on case reports. The authors believed that not all who seek treatment for problematic pornography use will meet criteria for CSBD. It is necessary to tease apart the nature of problematic pornography use for diagnostic clarification and appropriate treatment recommendations to be offered. Therefore, in this commentary, the authors proposed a treatment algorithm.
11. Brotto LA, Woo JST, Ryder AG. Original research—psychology: acculturation and sexual function in Canadian East Asian men. *J Sex Med*. 2007;4:72–82. <https://doi.org/10.1111/j.1743-6109.2006.00388.x>.
12. Dang SS, Gorzalka BB, Brotto LA. Dual control model in a cross-cultural context: role of sexual excitation in sexual response and behavior differences between Chinese and Euro-Caucasian women in Canada. *Arch Sex Behav*. 2019;48:2519–35. <https://doi.org/10.1007/s10508-019-01535-7>.
13. Vaillancourt-Morel M-P, Bergeron S. Self-perceived problematic pornography use: beyond individual differences and religiosity. *Arch Sex Behav*. 2019;48:437–41. <https://doi.org/10.1007/s10508-018-1292-6>.
14. Grubbs JB, Wilt JA, Exline JJ, Pargament KI. Predicting pornography use over time: does self-reported “addiction” matter? *Addictive Behaviors*. 2018;82:57–64. <https://doi.org/10.1016/j.addbeh.2018.02.028>.
15. Király O, Urbán R, Griffiths M, Ágoston C, Nagygyörgy K, Kökönyei G, et al. The mediating effect of gaming motivation between psychiatric symptoms and problematic online gaming: an online survey. *J Med Internet Res*. 2015;17:e88. <https://doi.org/10.2196/jmir.35152015.17>.
16. Kuntsche E. Tell me why do you drink? A study of drinking motives in adolescence. SFA ISPA Press 2007. 255 p

17. Yuan D. The study for cybersex behavior and cybersex addiction of the college student [D]. Hunan: Hunan Normal University; 2004.
18. Grubbs JB, Wright PJ, Braden AL, Wilt JA, Kraus SW. Internet pornography use and sexual motivation: a systematic review and integration. *Annals of the International Communication Association*. 2019;43:117–55. <https://doi.org/10.1080/23808985.2019.1584045>. In this important study, over 130 studies were reviewed, to examine personality, emotional, and attitudinal associates and predictors of pornography use, as well as behaviors, attitudes, and motivations that are associated with or predicted by pornography use.
19. Paul B. Predicting internet pornography use and arousal: the role of individual difference variables. *The Journal of Sex Research*. 2009;46:344–57. <https://doi.org/10.1080/00224490902754152>.
20. Mestre-Bach G, Blycker GR, Potenza MN. Pornography use in the setting of the COVID-19 pandemic. *J Behav Addict*. 2020;9:181–3. <https://doi.org/10.1556/2006.2020.00015>.
21. Reid RC, Li DS, Gilliland R, Stein JA, Fong T. Reliability, validity, and psychometric development of the pornography consumption inventory in a sample of hypersexual men. *J Sex Marital Ther*. 2011;37:359–85. <https://doi.org/10.1080/0092623X.2011.607047>.
22. Tong Y. Acculturation, gender disparity, and the sexual behavior of Asian American youth. *The Journal of Sex Research*. 2013;50:560–73. <https://doi.org/10.1080/00224499.2012.668976>.
23. Guo Y. Sexual double standards in White and Asian Americans: ethnicity, gender, and acculturation. *Sex Cult*. 2019;23:57–95. <https://doi.org/10.1007/s12119-018-9543-1>.
24. Robert Welss. Sexualrecovery. [Online] Available: <http://www.sexualrecovery.com/resources/selftests/csat.php>
25. Li D, Zheng L. Relationship quality predicts online sexual activities among Chinese heterosexual men and women in committed relationships. *Computers in Human Behavior*. 2017;70:244–50. <https://doi.org/10.1016/j.chb.2016.12.075>.
26. Chen L, Yang Y, Wang XM, Wang X. Relationship between academic self-efficacy and internet sexual addiction: a multiple mediation model. *Chinese Journal of Clinical Psychology*. 2018;26:706–15. <https://doi.org/10.16128/j.cnki.1005-3611.2018.04.017>
27. Chen L, Jiang X. The assessment of problematic internet pornography use: a comparison of three scales with mixed methods. *Int J Environ Res Public Health*. 2020;17:488. <https://doi.org/10.3390/ijerph17020488>.
28. Kraus SW, Martino S, Potenza MN. Clinical characteristics of men interested in seeking treatment for use of pornography. *J Behav Addict*. 2016;5:169–78. <https://doi.org/10.1556/2006.5.2016.036>.
29. Kraus SW, Potenza MN, Martino S, Grant JE. Examining the psychometric properties of the Yale-Brown Obsessive–Compulsive Scale in a sample of compulsive pornography users. *Compr Psychiatry*. 2015;59:117–22. <https://doi.org/10.1016/j.comppsych.2015.02.007>.
30. Chen L, Jiang X, Su W. Effect of sexual sensation seeking, the third person effect and gender on online sexual activity among university students *Chin J Public Health*. 2019;35:1552–6. <https://doi.org/10.11847/zgggws1119696>
31. Chen L, Wang X, Chen S, Jiang C, Wang J. Reliability and validity of the Problematic Internet Pornography Use Scale – Chinese version among college student. *Chin J Public Health*. 2018;34:1034–8. <https://doi.org/10.11847/zgggws115589>
32. Chen L, Ding C, Jiang X, Potenza MN. Frequency and duration of use, craving and negative emotions in problematic online sexual activities. *Sex Addict Compuls*. 2018;25:396–414. <https://doi.org/10.1080/10720162.2018.1547234>.
33. Chen L, Yang Y, Su W, Zheng L, Ding C, Potenza MN. The relationship between sexual sensation seeking and problematic Internet pornography use: a moderated mediation model examining roles of online sexual activities and the third-person effect. *Journal of Behavioral Addictions J Behav Addict*. 2018;7:565–73. <https://doi.org/10.1556/2006.7.2018.77>.
34. Chen L, Luo X, Bóthe B, Jiang X, Demetrovics Z, Potenza MN. Properties of the Problematic Pornography Consumption Scale (PPCS-18) in community and subclinical samples in China and Hungary. *Addictive Behaviors*. 2021;112:106591. <https://doi.org/10.1016/j.addbeh.2020.106591>.
35. Chen L, Jiang X, Luo X, Kraus SW, Bóthe B. The role of impaired control in screening problematic pornography use: evidence from cross-sectional and longitudinal studies in a large help-seeking male sample. *Psychol Addict Behav*. 2021. <https://doi.org/10.1037/adb0000714>.
36. Grubbs JB, Perry SL, Wilt JA, Reid RC. Pornography problems due to moral incongruence: an integrative model with a systematic review and meta-analysis. *Arch Sex Behav*. 2019;48:397–415. <https://doi.org/10.1007/s10508-018-1248-x>.
37. Wang J, Dai B. Event-related potentials in a two-choice oddball task of impaired behavioral inhibitory control among males with tendencies towards cybersex addiction. *Journal of Behavioral Addictions JBA*. 2020;9:785–96. <https://doi.org/10.1556/2006.2020.00059>.
38. Gola M, Potenza MN. Paroxetine treatment of problematic pornography use: a case series. *J Behav Addict*. 2016;5:529–32. <https://doi.org/10.1556/2006.5.2016.046>.
39. Sniewski L, Farvid P, Carter P. The assessment and treatment of adult heterosexual men with self-perceived problematic pornography use: a review. *Addictive Behaviors*. 2018;77:217–24. <https://doi.org/10.1016/j.addbeh.2017.10.010>.
40. Ren Z, Li X, Zhao L, Yu X, Li Z, Lai L, et al. Effectiveness and mechanism of internet-based self-help intervention for depression: the Chinese version of MoodGYM. *Acta Psychol Sin*. 2016;48:818–32. <https://doi.org/10.3724/sp.J.1041.2016.00818>.
41. Beáta B, Christian B, Michael PS, Zsolt D, Gábor O. Hands-off: study protocol of a two-armed randomized controlled trial of a web-based self-help tool to reduce problematic pornography use. *J Behav Addict*. 2020;9:433–45. <https://doi.org/10.1556/2006.2020.00037>.
42. Apei S. “Quit masturbation, change failure”: the process, essence, and reflection of the identity construction in the abstinence internet organization. *Sex Addict Compuls*. 2020;27:236–73. <https://doi.org/10.1080/10720162.2020.1856739>.
43. Ng ML, Lau MP. Sexual attitudes in the Chinese. *Arch Sex Behav*. 1990;19:373–88. <https://doi.org/10.1007/BF01541932>.
44. Lin Z. Individualizing the sexual revolution in China: staging, enjoying, and experiencing sexuality. *Asian J Women’s Stud*. 2018;24:446–62. <https://doi.org/10.1080/12259276.2018.1531538>.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.