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The 18-item Problematic Pornography Consumption Scale (PPCS; Bőthe, Tóth-Király, Zsila, Griffiths, Demetrovics, & Orosz, 2018) assesses problematic pornography use (pornography use addiction) via six dimensions of addiction: salience, tolerance, mood modification, withdrawal, relapse, and conflict. These six dimensions describe the main components of behavioral addictions on the basis of Griffiths' (2005) addiction components model.

Development
As a theoretical framework, the well-established addiction components model (Griffiths, 2005) was applied to assess problematic pornography use. First, previous scales that had applied the addiction components model to assess other types of behavioral addiction were reviewed (e.g., Andreassen, Griffiths, Hetland, & Pallesen, 2012; Andreassen et al., 2015; Orosz, Bőthe, Tóth-Király, 2016; Orosz, Tóth-Király, Bőthe, & Melher, 2016; Terry, Szabo, & Griffiths, 2004) and the items of these scales were considered as a basis of the items for the PPCS. Following this, a focus group of four psychologists familiar with the theory and addiction research constructed four items for each component. The following guidelines were followed during item construction. Items should (a) be easy to understand; (b) be close to everyday language use; (c) not be double-barreled; (d) be concise; (e) clearly belong to one dimension but not to others; (f) not be suggestive; and (g) be adjusted to the scaling (Tóth-Király, Bőthe, Tóth-Fáber, Hága, & Orosz, 2017). After the focus group had created the items, two experts in the field of behavioral addictions revised them. In the final step, six individuals who were pornography users pretested and judged the level of understandability of each item. For the validation process, respondents were recruited to participate in the study via a popular public (but not pornography-related) social media site (*N* = 772; 51% females).

The construct validity of the PPCS was investigated with the examination of normality indices (i.e., skewness and kurtosis values), the corrected item–total correlations, the content validity of the items, the factor structure, and the measurement invariance of the scale. In order to construct a concise scale, three items per component were chosen. In the next step, confirmatory factor analysis was con- ducted and the hypothesized six-factor hierarchical model had excellent fit (CFI = .977, TLI = .973, RMSEA = .064 [90% CI .059–.070]). The PPCS provides the possibility to examine the role of each addiction component in problematic pornography use. Measurement invariance testing was conducted to ensure that gender-based comparisons were meaningful and not distorted by measurement biases (Tóth-Király, Bőthe, Rigó, & Orosz, 2017). The fit indices of the PPCS were adequate even after several equality constraints were added, indicating that gender-based comparisons were meaningful in the case of PPCS.

Latent profile analysis was employed to determine a cut-off score for the PPCS to identify potentially high-risk pornography users. A three-class solution was selected on the basis of several criteria. The first class comprised 79.5 percent of the respondents who were

characterized as non-problematic users. The second class comprised 16.8 percent of the respondents who were characterized as low-risk users. The third class comprised 3.6 percent of the respondents who were characterized as at-risk pornography users. Using the third class as a gold standard, sensitivity and specificity analyses were conducted, as well as calculation of the positive predictive value, negative predictive value, and accuracy. A possible cut- off score of ≥ 76 was identified with a sensitivity of 93 percent, a specificity of 99 percent, a positive predictive value of 70 percent, a negative predictive value of 100 percent, and an accuracy of 98 percent.

Response Mode and Timing
The PPCS can be completed using paper-and-pencil or online in approximately 3–5 minutes. Respondents indicate how often each statement applies to them regarding their pornography use in the past six months from 1 (*Never*) to 7 (*All the time*).

Scoring
There are no reverse-coded items on the PPCS. The items from each dimension are simply added together (*Salience* items = 1, 7, and 13; *Mood modification* items = 2, 8, and 14; *Conflict* items = 3, 9, and 15; *Tolerance* items = 4, 10, and 16; *Relapse* items = 5, 11, and 17; *Withdrawal* items = 6, 12, and 18). For a total score, the items from all dimensions are added together. Higher scores indicate higher levels of problematic pornography use. A score of 76 or higher indicates the possibility of problematic pornography use.

Reliability
The internal consistencies of the PPCS subscales and the total score were assessed using Cronbach alpha values. For PPCS total score ($\alpha = .93$), *Mood Modification* ($\alpha = .84$), *Relapse* ($\alpha = .86$), and *Withdrawal* ($\alpha = .86$) factors, the internal consistencies were excellent. For *Salience* ($\alpha = .77$), *Conflict* ($\alpha = .71$), and *Tolerance* ($\alpha = .78$) factors, the internal consistencies were adequate (Bőthe, Tóth-Király, Zsila et al., 2018). Adequate reliability was supported in subsequent studies (Bőthe, Tóth-Király, Demetrovics, & Orosz, 2017; Bőthe et al., 2019). These results demonstrate the reliability of the PPCS.

Validity
Convergent and divergent validity of the PPCS were established (Bőthe et al., 2017; Bőthe et al., 2019) in relation to hypersexuality (Bőthe, Bartók et al., 2018; Reid, Garos, & Carpenter, 2011), impulsivity (Billieux et al., 2012; Zsila, Bőthe, Demetrovics, Billieux, & Orosz, in press), compulsivity (First, Gibbon, Spitzer, Williams, & Benjamin, 1997; Szádóczky, Unoka, & Rózsa, 2004), relation- ship satisfaction (Bőthe et al., 2017), sexual satisfaction (Bőthe et al., 2017; Mark, Herbenick, Fortenberry, Sanders, & Reece, 2014), and beliefs about the changeability of sexual life (Bőthe et al., 2017). According to this rigorous examination, problematic pornography use had positive, moderate associations with hypersexuality (also known as compulsive sexual behavior or sex addiction), $r(13,776) = .57, p < .01$, and frequency of pornography use, $r(10,461) = .51, p < .01$). Problematic pornography use had weak, positive associations with impulsivity, $r(13,776) = .15, p < .01$, and compulsivity, $r(13,776) = .13, p < .01$, and weak, negative associations with relationship satisfaction, $r(10,461) = -.13, p < .01$, sexual satisfaction, $r(10,461) = -.18, p < .01$, and beliefs about the changeability of sexual life, $r(10,461) = -.18, p < .01$. These results provide support for the validity of the PPCS.

Regarding gender-based differences, males ($M = 2.26, SD = 1.07$) had significantly higher scores on problematic pornography use than females ($M = 1.66, SD = .87$), $t(729.77) = 8.52, p < .01$. Regarding sexual orientation-based differences on the PPCS using one-way ANOVA, no

significant differences were found between individuals describing themselves as (a) heterosexual, (b) heterosexual with homosexuality to some extent, (c) bisexual, (d) homosexual with heterosexuality to some extent and (e) homosexual, $F(4, 762) = 1.76$, $p = .14$ (Bőthe, Tóth-Király, Zsila et al., 2018).

Based on all of the psychometric testing to date, the PPCS is a robust multidimensional scale assessing problematic pornography use with a strong theoretical background that also has strong psychometric properties in terms of validity and reliability.

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Exhibit

Problematic Pornography Consumption Scale

Please, think back to the past six months and indicate on the following 7-point scale how often or to what extent the statements apply to you. There is no right or wrong answer. Please indicate the answer that most applies to you.

	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 All the Time
1. I felt that porn is an important part of my life.	O	O	O	O	O	O	O
2. I used porn to restore the tranquility of my feelings.	O	O	O	O	O	O	O
3. I felt porn caused problems in my sexual life.	O	O	O	O	O	O	O
4. I felt that I had to watch more and more porn for satisfaction.	O	O	O	O	O	O	O
5. I unsuccessfully tried to reduce the amount of porn I watch.	O	O	O	O	O	O	O
6. I became stressed when something prevented me from watching porn.	O	O	O	O	O	O	O
7. I thought about how good it would be to watch porn.	O	O	O	O	O	O	O
8. Watching porn got rid of my negative feelings.	O	O	O	O	O	O	O
9. Watching porn prevented me from bringing out the best in me.	O	O	O	O	O	O	O
10. I felt that I needed more and more porn in order to satisfy my needs.	O	O	O	O	O	O	O
11. When I vowed not to watch porn anymore, I could only do it for a short period of time.	O	O	O	O	O	O	O
12. I became agitated when I was unable to watch porn.	O	O	O	O	O	O	O
13. I continually planned when to watch porn.	O	O	O	O	O	O	O
14. I released my tension by watching porn.	O	O	O	O	O	O	O
15. I neglected other leisure activities as a result of watching porn.	O	O	O	O	O	O	O
16. I gradually watched more "extreme" porn, because the porn I watched before was less satisfying.	O	O	O	O	O	O	O
17. I resisted watching porn for only a little while before I relapsed.	O	O	O	O	O	O	O
18. I missed porn greatly when I didn't watch it for a while.	O	O	O	O	O	O	O