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Index of Problematic Online Experiences: 
Item Characteristics and Correlation with Negative Symptomatology

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Abstract

This exploratory study aimed to develop and test a quick, easily administered instrument, the Index of Problematic Online Experiences (I-POE). The goal of the I-POE extends beyond assessing for Internet overuse to broadly assess problematic Internet use across several domains and activities. Data was collected from 563 college students from a Northern New England university using an online survey methodology. Results indicated the I-POE has adequate construct validity and is highly correlated with a variety of relevant constructs: depression, anger/irritability, tension-reduction behavior, sexual concerns, and dysfunctional sexual behavior as measured by the Trauma Symptom Inventory; as well as amount of Internet use and permissive attitudes toward engaging in a variety of sexual activities. Early flagging of online experiences could mitigate the negative effects associated with problematic use. The I-POE, as an easy-to-administer, short screening index, holds promise in this regard. Initial testing of the instrument points to its utility in identifying persons who are experiencing a broad range of Internet-related problems.

Introduction

Clinicians and educators are increasingly being called upon to offer advice and counsel to clients and families about problems stemming from Internet use. A wide variety of problems can arise from Internet use, including overuse in general and problems related to specific activities such as pornography, sexual exploitation, harassment, infidelity, fraud, and isolative-avoidant use.1 To our knowledge, no clinical instruments have been developed to specifically assess a broad range of problematic Internet use behavior. Existing instruments focus primarily on Internet addiction or overuse,2–5 with limited attention to other types of Internet-related problems. This exploratory study presents the Index of Problematic Online Experiences (I-POE) as one means of assessing a broad range of experiences.

This work introduces a short instrument, the I-POE, useful in assessing a broad range of problematic Internet experiences and behaviors. Problematic Internet use typically describes individuals who have problems with specific online activities, such as use of pornography and gambling.6 In reality, many online experiences covary with each other and also carry over to impact experiences and behavior offline.7,8–9 Therefore, we define problematic Internet experiences as encompassing a broad range of possible online behaviors and experiences that, together or individually, result in a disruption of relationships, values, daily obligations, and/or mental or physical well-being.

In a sample of college students, we examine the properties of this instrument as well as its relationship with indicators associated with problematic online experiences, including overuse or addiction,10–15 depression,16–18 loneliness,18–20 problems with impulse control,18,21 and problematic sexual behavior.22,23 Based on prior research, we hypothesize that higher total I-POE scores will be related to more Internet use as well as to higher negative symptomology scores (e.g., depression, sexual concerns) and permissive sexual attitudes.

Content development and theoretical foundation

Theoretical development for I-POE was conceptualized, in part, on Davis’s cognitive-behavioral model of generalized pathological Internet use (PIU)24 and designed in content

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from the Inventory of Problematic Internet Experiences. Generalized PIU involves spending abnormal amounts of time online. Procrastination also plays a role in the development and maintenance of generalized PIU in using the Internet to put off responsibilities. In turn, this time spent online results in significant problems with daily functioning. Such individuals would likely not be encountering such problems if the Internet did not exist, although prior conditions likely existed, including maladaptive cognitions and social isolation. The proposed index is not designed to directly test this theory but instead to serve as a foundation for its conceptualization, namely, the potential role of the Internet in the disruption of daily lives, obligations, and relationships.

The I-POE content was developed from identified markers of problematic Internet experiences that emerged in a large study of mental health providers’ experiences with this emerging issue. In that study, mental health providers’ reports of Internet-related problems were used to identify an inventory of 11 types of problematic Internet experiences:

1. Overuse of the Internet
2. Internet pornography use
3. Sexual exploitation and abuse
4. Online fidelity
5. Gaming, gambling, or fantasy role-play
6. Harassment
7. Isolative-avoidant behavior
8. Fraud, stealing, or deception
9. Failed online relationships
10. Harmful material
11. Risky or inappropriate use not otherwise specified

Such experiences and behaviors were labeled problematic by the clinicians in the study because of the negative impact they had on their clients’ lives in the areas of family and intimate relationship (e.g., divorce, parent-child conflict), work (e.g., loss of job), school (e.g., failing grades, disciplinary problems), the law (e.g., arrest), victimization, aggression, and mental health (e.g., depression, anxiety) issues.

Materials and Methods

Undergraduate students from a Northern New England public university were recruited through professors to participate in an anonymous online survey regarding Internet use and exposure to Internet pornography. As an incentive, participants could enter a raffle on a separate Web site to win 1 of 10 $100 checks. We gathered 594 responses: 12% of 4,992 students in the classes of 48 professors who voluntarily participated. The final sample totaled 563, of which 34% (n = 192) were male, the mean age was 19.86, 93.4% identified as White, and 72% identified as freshman or sophomore. Data collection occurred during the Spring semester of 2006.

Survey instruments included (a) the I-POE; (b) a modified version of Sexual Attitudes for Self and Others Questionnaire to ascertain sexual attitudes toward engaging in a variety of different sexual activities (e.g., mutual masturbation with someone of the opposite sex, engaging in sex with a partner in the presence of others); (c) five subscales of the Trauma Symptom Inventory (depression, anger/irritability, tension-reduction behavior [tendency to turn to external methods of reducing internal stress], sexual concerns [e.g., sexual dissatisfaction], and dysfunctional sexual behavior [dysfunctional because of its indiscriminate quality, its potential to self-harm, or its inappropriate use]) chosen on the basis of their associations with Internet-related problems in the literature as discussed earlier; and (d) the short version of the Marlow-Crowne Social Desirability Scale. In addition, we asked about Internet expertise, amount and type of Internet use, and importance and computed a factor score for Internet use.

The I-POE was developed to be used either as a total scale or to focus on specific domains of problematic Internet use on the basis of (a) Davis’s model of generalized PIU and (2) having been identified as presenting or secondary issues in clinical settings. Those domains are

1. Overuse (3 items)
2. Problems with family or friends (6 items)
3. Problems with daily obligations (6 items)
4. Problems related to interactions with people online (4 items)
5. Upset or concern about own Internet use (4 items)
6. Online behavior concerns (3 items)

As I-POE is both exploratory in nature and also intended to serve as a quick assessment tool, we specifically kept the number of items per domain small. Further refinement of the items among a national population of adolescents is ongoing. I-POE questions asked respondents to report on their own experiences and behavior in the past year.

The total I-POE score was obtained by summing the affirmative items. Twelve low-endorsement items, as they are likely more indicative of problematic Internet use, were weighted with a value of 2 for a positive response, while all other items were weighted with a value of 1 (see Table 1). A total score of 38 was possible with a mean of 2.47 (SD = 2.95; range: 0 to 21) using the weighted items.

Results

Frequency of reporting problematic Internet experiences with the I-POE varied from a high of 36% of all students saying they “use the Internet late at night fairly often” to a low of 0% who had been “arrested or in trouble with the law for something you did on or through the Internet” (see Table 1 for all items and frequencies). Significant gender differences were found with male students having a higher weighted mean score (M = 3.25, SD = 3.51) than female students (M = 2.07, SD = 2.53) (F = 4.59, p < 0.001).

Construct validity was provided by correlations and regressions that show the relationship of I-POE to related constructs. Specifically, the total I-POE score was found to be correlated with depression (r = 0.33, p < 0.001), anger/irritability (r = 0.34, p < 0.001), sexual concerns (r = 0.44, p < 0.001), dysfunctional sexual behavior (r = 0.44, p < 0.001) and tension reduction-behavior (r = 0.47, p < 0.001), permissive attitudes toward engaging in a variety of sexual activities (r = 0.24, p < 0.001), and amount of Internet use (r = 0.35, p < 0.001). A series of regressions showed that I-POE scores were significantly related to each of the above negative indicators, permissive sexual attitudes, and Internet use even after adjusting for age, sex, Internet use characteristics, and social desirability (see Table 2).
Findings suggest the I-POE is useful as a risk marker for problematic Internet experiences that could impact the lives of young adults. The theoretical foundation for I-POE was conceptualized, in part, on Davis’s cognitive-behavioral model of generalized PIU24 and designed in content from an inventory of a variety of problematic Internet experiences as reported by mental health professionals,32 which adds to the content validity of the I-POE.

While some of the items were more normative (e.g., using the Internet late at night), others focused on atypical Internet behavior among college students. These statistically atypical behaviors might be more indicative of Internet-related problems.
Similar construct) These associations remained significant (other research found a relationship with prolonged stress—a related to anger and irritability and tension-reduction behavior. This scale is necessary in clinical populations of adolescents daily lives and mental health. Future research on the utility of online as well as how those events may be impacting their problematic Internet use could mitigate the negative effects associated with problematic Internet use in previous studies. Specifically, higher I-POE scores were related to more Internet use, sexual concerns, dysfunctional sexual behavior and permissive sexual attitudes, and depression. The I-POE is also related to anger and irritability and tension-reduction behavior (other research found a relationship with prolonged stress—a similar construct). These associations remained significant even when controlling for social desirability and Internet use characteristics. Such associations indicate an intersection of both online and offline concerns. The directionality of online and offline concerns, however, is unclear. For example, longitudinal research is necessary to help determine whether persons with dysfunctional sexual behavior are more likely to encounter problems online, perhaps with risky or inappropriate sexual relationships or pornography; whether persons who seek out such experiences online develop dysfunctional sexual behaviors offline; or whether such online and offline behavior develops concurrently. The significant relationships among I-POE scores and all constructs documented in the development of clinical cutoff scores. Additionally, convergent validity should be documented by correlating I-POE scores to scores derived from other emerging measures of problematic Internet use. While this study established initial validity of the I-POE, testing of other items that target additional problems with Internet use is important, especially given the rapidity with which the technological environment changes.

**Limitations**

Although the current study provides useful insights about problematic Internet use, it is important to acknowledge the limitations of this study. First, the use of a convenience sample limits the generalizability of the findings. Testing of this instrument with the general population and clinical samples is needed in order to reaffirm its validity. Second, there was a low response rate among this population of college students. Third, as with many screening instruments, the retrospective self-reporting of behaviors could influence accuracy. Fourth, the current version of the I-POE does not specify enough detail to assess for some documented problematic Internet experiences, such as harassment. Nonetheless, the I-POE is an easy and straightforward way to identify clients who may need more thorough assessments around their Internet use.

**Conclusion**

An understanding of Internet-related problems and how they intersect with more traditional concerns coming to the attention of clinicians is necessary in this technological age. The I-POE, as an easily administered, short screening index, holds promise in this regard. Initial testing of the instrument points to its utility in identifying persons who are experiencing a broad range of Internet-related problems.

**Disclosure Statement**

No competing financial interests exist.

**References**


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