Problematic Internet Use

Description/Etiology
Since its introduction in 1989 the internet has grown rapidly: in 2019 there were an estimated 4.1 billion users worldwide (International Telecommunication Union [ITU], 2019). During this time there has also been a tremendous expansion in the types of online activities available to users and in the types of devices with which users can access the internet. As the internet has come to play an increasingly prominent role in daily life, some persons report levels of internet use that are high enough to have a negative impact on other areas of their lives. Problematic internet use (PIU), also referred to as internet addiction, compulsive internet use, pathological internet use, and internet use disorder, was first identified as a concern in 1996 and is an emerging field of research and clinical practice.

PIU is characterized by preoccupation with online activities, decreased control over internet use to the extent that responsibilities and basic drives are neglected, and continued use despite experiencing distress and/or other negative consequences. Various theoretical models for PIU have been proposed, with some researchers including additional criteria such as craving, tolerance, withdrawal, and use as a means of managing negative moods. However, at this time, there are insufficient data to support inclusion of PIU in the Diagnostic and Statistical Manual of Mental Disorders, with the exception of one subset of PIU, internet gaming disorder, which is included in the DSM-5 as a condition that warrants more research before being classified as a formal disorder (American Psychiatric Association, 2013).

In the absence of established diagnostic criteria, some self-reporting tests and scales have been developed to identify and measure the prevalence of PIU. Although the characteristics of PIU are similar to those of other behavioral and substance-related addiction disorders, currently there is no standard definition and there are no criteria or procedures for assessment. Some researchers have proposed that problematic use may not be focused on the internet itself, but rather on specific activities delivered through the internet, such as gaming, social media, email and texting, and/or sexual activities such as online pornography or cybersex (i.e., sexual activity with a partner over internet). One proposed term for problematic internet activities is specific problematic internet use (SPIU), with the activity (e.g., gaming, sex, gambling, shopping) specified; for example, SPIU shopping. Respondents in one study indicated that they would reduce their internet use greatly or not use the internet at all if their preferred activity was no longer available (Pontes et al., 2015). The SPIU model of PIU includes generalized problematic internet use (GPIU), defined as the overuse of several different types of internet activity without a focus on any one area of internet use.

PIU is predominantly understood as being similar to addictive, obsessive-compulsive, and impulse control disorders. Some scholars argue that PIU is a symptom of an existing disorder such as anxiety, depression, or ADHD (Gmel et al., 2017). For some individuals, internet use may serve as a maladaptive strategy for coping with boredom, loneliness, low self-esteem, stressors, or general dissatisfaction with life. On a global level, prevalence rates of PIU are higher in countries in which persons have lower levels of self-reported life satisfaction (Cheng & Li, 2014).

PIU is linked with several negative consequences, including sleep deprivation, mental distress, diminished performance at school and work, withdrawal from other activities,
relationship problems, social isolation, and lower quality of life. No evidence-based treatment for PIU is currently identified, in part due to insufficient research. Coexisting mental health conditions are fairly common, including depression, social anxiety, generalized anxiety disorder, ADHD, and impulsive/compulsive disorders. PIU may be treated with individual and family therapy, multi-family group therapy, cognitive behavioral therapy (CBT), and psychosocial support. Harm-reduction techniques encourage individuals to select alternative activities, set time limits for use, and take regular breaks.

**Facts and Figures**

Almost 54% of the world’s population was using the internet in 2019 (ITU, 2019); 97% of the world’s population lives where there is mobile phone coverage; access to the internet ranges from 19% of households in the least developed countries to 87% of households in the developed world (ITU, 2019). Ninety percent of U.S. households reported internet use in 2019, compared with 52% of U.S. households in 2000 (Pew Research Center, 2019). Responses to the 2016 American Community Survey indicated that internet use was more likely among the younger households, Asians, Whites, persons living in metropolitan areas, and persons with a bachelor’s degree or higher (Ryan, 2018).

Because there is no standardized definition of PIU, prevalence rates are based largely on individual self-report on various screening tools, and they vary widely depending on the instrument and cutoff scores used. In a meta-analysis of studies worldwide that used the Young Diagnostic Questionnaire or Internet Addiction Test (IAT) to assess PIU, researchers estimated the global prevalence rate of PIU to be 6% (Cheng & Li, 2014). The prevalence of PIU involving video gaming is estimated to be 3–4% (Ferguson & Colwell, 2020). Prevalence rates of PIU in individual studies vary widely, from 1% to 36.7% (Ioannidis et al., 2018).

Researchers in a Korean study reported that the prevalence of PIU in adolescents was 5.2%; rates for boys were higher than for girls (7.7% vs. 3.8%); gaming was the most common internet activity among boys, whereas messaging, chatting and blogging were the most prevalent among girls (Kim et al., 2020). In a 2017 study, investigators stated that the prevalence of mild PIU among adolescents who responded to the Chinese version of the IAT was 26.5%; 0.96% reported a severe level of problematic use. Internet use was higher among males and older students. The most commonly reported internet activities were social networking (95%), school assignments (87%), entertainment (82%), video games (73%), and online shopping (34%) (Xin et al., 2017). In surveys in the United States and South Africa, internet shopping, pornography, and general surfing had the strongest association with PIU. High PIU scores in young adults were associated with ADHD and social anxiety disorder, whereas high scores in older adults were associated with generalized anxiety disorder and obsessive-compulsive disorder (Ioannidis et al., 2018).

In a review of European studies, researchers found an average prevalence of PIU of 4–10% (Lopez-Fernandez & Kuss, 2020). In a German survey, 4.7% of parents reported PIU among adolescents; family problems and parent-child conflicts were linked with increased PIU (Warthberg et al., 2017). Researchers in another European study found that family factors accounted for approximately 14% of the variance in PIU; overprotection and less time spent with peers were associated with increased risk of PIU whereas parental warmth and a balance of monitoring adolescents’ use while allowing appropriate autonomy were associated with lower risk of PIU (Faltýnková et al., 2020).

In a United States study involving youth 7–15 years of age in a clinical setting, investigators found an association between PIU and depressive disorders, ADHD combined type, autism spectrum disorder, and sleep disturbances; individuals with co-occurring disorders were at increased risk for severe impairment (Restrepo et al., 2020). Investigators conducting a meta-analysis of 40 studies linked PIU with several significant deficits in cognitive functioning, including attentional inhibition, motor inhibitory control, decision-making, and working memory (Ioannidis et al., 2019). Researchers in an Australian study found an association between PIU and difficulties with identifying one’s emotions and pursuing goals (Donald et al., 2017). Researchers in a study of Chinese adolescents described 28.8% as moderate internet users and 2.2% as having severe internet addiction; they also found a complex relationship between PIU, sleep disturbance, and suicidal ideation and attempts in these adolescents (Guo et al., 2018).

In a study of U.S. college students who identified themselves as intensive internet users, researchers found that the students first accessed the internet at an average age of 9 years, and initially perceived their use as problematic at an average age of 16 years (Li et al., 2015). In a study involving 1288 adolescents, investigators found that students were at a higher risk of PIU who had maladaptive cognitions (e.g., preference to stay in virtual social life) and/or whose teachers displayed discriminatory and hostile behaviors to manage the classroom (Díaz-Aguado & Falcón, 2018). Among adolescents, PIU has been linked with higher rates of both victimization by and perpetration of cyberbullying and online sexual solicitation (Chang et al., 2015).

Although additional research is needed, investigators in a 2019 meta-analysis reported that CBT was a promising intervention for reducing internet gaming disorder and symptoms of depression (Stevens et al., 2019).
Risk Factors
Men and women who have depression, anxiety, and/or who have low self-esteem are at risk. Higher rates of PIU have been found for both adolescent and adult males compared to females, although this may be mediated by specific types of online activity, particularly online gaming and sexual activities. Parental depression, family conflict, limited mediation of internet use by parent, and high level of parental internet use; poor academic performance; poor social relationships, lack of self-efficacy, ADHD; and online gameplay have been linked with higher risk of PIU in adolescents.

Signs and Symptoms/Clinical Presentation
Signs and symptoms of problematic use include a preoccupation with the internet, use of the internet as a means of coping with mood states or stress, a need to spend increasingly long periods online, neglect of one’s basic needs and responsibilities, persistent and/or unsuccessful attempts to reduce use, tension, irritability, or depression when reducing internet use, impaired physical health (e.g., sleep disorders, obesity), time-management problems, withdrawal from relationships and activities, problems at work or in relationships with family and/or friends stemming from one’s internet use, deception regarding time spent online and types of activities pursued, and excessive fatigue (Li et al., 2016).

Social Work Assessment
› Client History
• A biopsychosocial-spiritual assessment will assist in understanding the nature of the PIU within the individual’s ecosystem and help direct interventions
  – Ask about the individual’s patterns of internet use, time spent on the internet, and possible negative consequences of internet use (e.g., impact on sleep quality, physical activity)
  – Assess for social supports, friendships, etc.
  – Screen for depression, anxiety, suicidal behavior
› Relevant Diagnostic Assessments and Screening Tools
• The Internet Addiction Test (IAT) has 20 items that measure mild, moderate, and severe levels of addiction
• The Internet Addiction Diagnostic Questionnaire (IADQ) consists of eight criteria for PIU
• The Compulsive Internet Use Scale (CIUS) has 14 items evaluated on a Likert scale
• The Internet Addiction Scale (IAS) is a 20-item questionnaire in which each item is rated on a 5-point scale; higher scores correspond with a higher degree of internet addiction
• The Chen Internet Addiction Scale (CIAS) is a 26-item self-report questionnaire
› Laboratory and Diagnostic Tests of Interest to the Social Worker
• There are no laboratory tests of interest

Social Work Treatment Summary
A complete biopsychosocial-spiritual assessment is helpful to understand the extent and nature of PIU and its interaction with other areas of life, which is essential for careful diagnosis, appropriate case management, and successful treatment. A comprehensive treatment plan may include psychotherapy (typically with a CBT focus), client education, family therapy, and group therapy. Introspective psychotherapy combined with CBT is beneficial to help clients understand what drives their behavior and learn coping skills and ways to reduce PIU. A harm-reduction model may be appropriate for clients, as eliminating internet use totally is not likely. School interventions involving peer education have had positive results with general PIU, although results have been mixed with internet gaming (Lopez-Fernandez & Kuss, 2020).

Social workers should be aware of their own cultural values, beliefs, and biases and develop specialized knowledge about the histories, traditions, and values of their clients. Social workers should adopt methodologies that reflect their knowledge of the cultural diversity of the communities in which they practice.

Social workers should practice with awareness of and adherence to the social work principles of respect for human rights and human dignity, social justice, and professional conduct as described in the International Federation of Social Workers (IFSW) Statement of Ethical Principles, as well as the national code of ethics that applies in the country in which they practice (IFSW, 2018). For example, in the United States, social workers should adhere to the National Association of Social Workers (NASW) Code of Ethics core values of service, social justice, dignity and worth of the person, importance of human relationships, integrity, and competence. They should become knowledgeable of the NASW ethical standards as they apply to PIU and practice accordingly (NASW, 2017)
## Problematic use of the internet

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<thead>
<tr>
<th>Problem</th>
<th>Goal</th>
<th>Intervention</th>
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<tbody>
<tr>
<td>Problematic use of the internet</td>
<td>Decrease internet use, increase individual’s self-esteem, increase alternative activities</td>
<td>Identify problematic internet activities. Explore the client’s motivation to change internet use. Explore any underlying issues driving the excessive use. Help the client identify situations or cognitions that trigger PIU and plan alternative strategies and activities. Assist the client in identifying appropriate time limits for internet use. Assess for depression, anxiety, and any other suspected disorders. Refer for mental health services if necessary</td>
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If PIU is related to a specific activity:

<table>
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<th>Intervention</th>
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<tr>
<td>Decrease internet use related to that activity</td>
<td>Determine appropriate treatment for specific activity and either start treatment or refer the client to a provider who can provide treatment</td>
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### Applicable Laws and Regulations

- Employees with PIU whose employment was terminated for internet abuse at work have sued for wrongful termination under the Americans with Disabilities Act.
- Each country has its own standards for cultural competence and diversity in social work practice. Social workers must be aware of the standards of practice set forth by their governing body (e.g., in the United States the National Association of Social Workers, in England the British Association of Social Workers) and practice accordingly.
- Social workers should practice with awareness of, and adherence to, the social work principles of respect for human rights and human dignity, social justice, and professional conduct as described in the International Federation of Social Workers (IFSW) Statement of Ethical Principles.

### Available Services and Resources

- The Network for Internet Investigation and Research Australia has information and resources available for professionals and the public, [https://www.niira.org.au/](https://www.niira.org.au/).
- Restart offers treatment and resources for PIU, [https://www.netaddictionrecovery.com/](https://www.netaddictionrecovery.com/).

### Food for Thought

- The American Psychiatric Association considers the research to be insufficient to diagnose PIU as an addiction conclusively and recommends more research.
- There is evidence that the use of computers can increase brain function in older adults (Klimova, 2016).
- Findings from various imaging studies have linked PIU with changes in brain structure and activity (Zhu et al., 2015).
- Educating adolescents and young adults in healthy use of the internet may be helpful in preventing PIU in these populations (Guo et al., 2018; Zhou et al., 2020).
- Heavy use of the internet is not necessarily problematic use.

### Red Flags

- Family members may rationalize an adolescent’s internet use as a “phase”.

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*References:*

- Klimova, 2016
- Zhu et al., 2015
- Guo et al., 2018
- Zhou et al., 2020
Completely stopping all internet use is especially difficult in a computerized society

DSM-5 discusses only internet gaming disorder as a condition warranting more research, but many researchers feel that cybersex, social media, online shopping, and information search should be included as areas of risk for PIU

PIU among adolescents can lead to leaving education early and unemployment (Diaz-Aguado & Falcón, 2018)

Discharge Planning

Make referrals for mental health services to address co-occurring mental health problems (e.g., depression, anxiety)

Assist client to develop a plan for healthy internet use, including providing psychoeducation regarding signs of PIU and using harm-reduction strategies to avoid problematic use

Assist client to identify and/or develop support system

DSM 5 Codes

[There are no applicable DSM-5 codes]


