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**Problematic Internet Use, Psychological Distress, and Quality of Life: A Study Among Greek Adults**

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# Problematic Internet Use, Psychological Distress, and Quality of Life: A Study Among Greek Adults

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**Abstract**

Problematic Internet Use (PIU) has emerged as a critical public health concern in the digital age, characterized by compulsive and excessive engagement with online activities that disrupt daily functioning and well-being. This study investigates the relationship between PIU, psychological distress, and quality of life, focusing on demographic and social factors influencing its prevalence. Findings reveal that younger adults and individuals with pre-existing health conditions are particularly vulnerable to PIU, which exacerbates psychological distress, including symptoms of anxiety, depression, and emotional instability. The study highlights the detrimental impact of PIU on social relationships, as excessive internet use isolates individuals from meaningful offline interactions, reducing life satisfaction. Conversely, family status, particularly marriage, was identified as a protective factor, mitigating PIU and its associated psychological consequences through the stabilizing effects of social support and structured offline relationships. The findings underscore the importance of targeted interventions, such as cognitive-behavioral therapy (CBT), psychoeducation, and family-based approaches, to reduce PIU and promote mental health. This study contributes to a deeper understanding of PIU's multifaceted nature and emphasizes the need for demographic-specific prevention strategies to address its adverse

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effects on mental health and quality of life. Future research should explore the long-term efficacy of interventions and the role of emerging digital trends in shaping PIU behaviors.

## 1 Introduction

Problematic Internet Use (PIU) has emerged as a significant global issue in the digital age, characterized by excessive and compulsive engagement with online activities. The rapid proliferation of internet-based technologies has revolutionized communication, education, and entertainment. However, this digital expansion has also led to the emergence of behavioral patterns that disrupt personal, social, and occupational functioning. PIU is increasingly recognized as a behavioral addiction, akin to traditional forms of addiction, in its capacity to impair self-control, foster dependency, and result in negative psychological and social consequences (Kuss & Griffiths, 2017). The growing recognition of PIU stems from its association with psychological distress and other mental health outcomes.

## 2 Literature review

The concept of Problematic Internet Use (PIU) has attracted considerable attention in recent years due to the dual-edged nature of digital technologies. While the internet has enhanced life convenience, it has also become a source of psychological distress. PIU is considered a behavioral addiction that negatively impacts psychological well-being, often disrupting daily routines, relationships, and occupational responsibilities (Kuss & Griffiths, 2017; Przybylski & Weinstein, 2019).

Previous studies indicate that excessive internet usage is strongly linked to mental health issues such as anxiety, depression, and physical health problems (Przybylski & Weinstein, 2019). Researchers also emphasize the necessity of further research to better understand the triggers, demographic factors, and the psychological consequences of PIU.

Problematic Internet Use (PIU), commonly referred to as Internet Addiction, has become a significant public health concern globally, yet its epidemiology remains unclear due to varying definitions and assessment tools (Ho et al., 2014; Ko et al., 2012). The prevalence of PIU varies widely, ranging from 1% to 36.7%, reflecting differences in population samples

and methodological approaches. Multiple online behaviors, including online gaming, gambling (Griffiths, 2003), and compulsive social media use (Kuss & Griffiths, 2011), have been linked to impairments in daily functioning. Furthermore, problematic internet behaviors may be underpinned by impulsive and compulsive tendencies (Block, 2008; Cao et al., 2007) and have been associated with psychiatric conditions such as depression. Additionally, PIU has been shown to have negative implications for physical health (Király et al., 2015).

The demographic factors influencing PIU include age, gender, socioeconomic status, education level, and family dynamics. For instance, younger individuals, especially adolescents and young adults, are particularly vulnerable to PIU due to increased use of social media, online gaming, and educational platforms (Kuss & Griffiths, 2017). Gender differences also influence PIU patterns; males are often more likely to develop internet addiction due to gaming, while females may be more prone to excessive social media usage (Andreassen, 2015). Socioeconomic status and education levels also play significant roles in the development and impact of PIU, with lower SES often exacerbating digital dependency due to limited offline resources.

However, PIU among middle-aged and older adults remains underexplored, despite evidence suggesting that excessive online shopping and other problematic internet behaviors also occur in adult populations. Additionally, gender differences in PIU have been widely debated. While some studies suggest gender-specific patterns in PIU, others argue that once psychological and behavioral confounds are controlled, both genders are equally affected (Ioannidis et al., 2016; Király et al., 2014). Overall, there is a pressing need for further research to clarify how demographic factors such as age and gender moderate its effects.

Recent research has significantly advanced our understanding of the neurobiological and psychosocial underpinnings of problematic internet use and internet addiction. For instance, Cerniglia et al. (2017) provided a comprehensive review of internet addiction in adolescence, highlighting the complex interplay between neurobiological development, psychosocial factors, and clinical outcomes. Complementing this work, Seo et al. (2020) demonstrated that youth with internet and smartphone addiction exhibit notable changes in neurotransmitter levels compared to healthy controls, and that these imbalances can be partially reversed through cognitive behavioral therapy. Grant and Chamberlain (2014) further explored the role of impulsivity in addictive behaviors, suggesting that impulsive action and choice may both contribute to and result from addiction, thereby blurring the line

between cause and consequence. More recently, Chen, Dong, and Li (2023) investigated the potential of exercise interventions to enhance brain function in internet addicts by targeting the reward-execution-decision cycle, offering promising insights into non-pharmacological treatment strategies. These findings are in line with the foundational work of Weinstein and Lejoyeux (2010), who characterized internet addiction as a behavioral disorder with similarities to substance-related addictions. Collectively, these studies underscore the importance of integrating neurobiological, psychological, and therapeutic perspectives to better understand and manage internet addiction.

Additionally, cultural and familial factors contribute to PIU's manifestation and its psychological consequences. Cultures with high connectivity, such as South Korea and Japan, exhibit greater levels of PIU, particularly among younger populations (Young, 2010). Family dynamics, particularly poor communication and inadequate monitoring, further exacerbate PIU, especially in adolescents (Suhail &Bargees, 2006).

Based on the above, the hypotheses are the following:

$H_1$: Problematic internet use (PIU) is significantly associated with demographic factors, including age, education, employment status, marital status, and health status.

$H_2$: Psychological distress is significantly associated with demographic factors, including age, education, employment status, and health status.

$H_3$: Quality of life is significantly associated with demographic factors, including age, employment status, health status, and place of residence.

$H_4$: There is a correlation between psychological distress and problematic internet use.

## 3 Sample and Methodology

This study employed a quantitative research design to investigate the relationship between Problematic Internet Use (PIU), psychological distress, and demographic factors. Data were collected using a Likert-scale questionnaire, which addressed three primary domains: internet addiction, quality of life, and psychological distress. The Internet Addiction Test (IAT) was used to measure internet addiction, while a general well-being survey assessed participants' quality of life. Psychological distress was evaluated using a self-reported distress scale.

The sample consisted of 153 Greek adults recruited through convenience sampling and electronic distribution. The majority of participants were women over the age of 30 with higher education backgrounds. This demographic allowed for a closer examination of the relationship between Problematic Internet Use (PIU), psychological distress, and quality of

life in this group.

Statistical Analysis

To explore the relationships between PIU, demographic factors, psychological distress, and quality of life, we employed non-parametric statistical methods, specifically the Kruskal-Wallis and Mann-Whitney U tests. These tests were chosen because the data did not meet the assumptions required for parametric tests, such as normality. Additionally, correlation analysis was performed to assess the strength and direction of these relationships.

The Kruskal-Wallis test is a non-parametric alternative to the one-way ANOVA, used to determine whether there are statistically significant differences in the medians of two or more independent groups. It is particularly useful when the data is ordinal or continuous but not normally distributed, and when the assumption of homogeneity of variances in ANOVA is violated. In this study, PIU scores were not normally distributed, making the Kruskal-Wallis test appropriate for comparing PIU across groups such as different age ranges or health statuses.

The Mann-Whitney U test is a non-parametric counterpart to the independent t-test, used to compare two independent groups on an ordinal or continuous variable that does not follow a normal distribution. This test was applied to compare PIU scores between independent groups such as men and women or married and single individuals. Since PIU scores did not meet the assumption of normality, the Mann-Whitney U test was used in place of a t-test.

These non-parametric methods were selected because PIU scores were not normally distributed, many demographic variables were ordinal, and the distribution of PIU scores was skewed. Furthermore, the sample had unequal group sizes, and non-parametric tests are robust to such differences.

## 4 Results

The Test of Normality showed that none of the dimensions had a normal distribution. Specifically, the following results were found:

- Problematic Use: (sig = 0.027 < 0.05)
- Mental Distress: (sig = 0.022 < 0.05)
- Quality of Life: (sig = 0.032 < 0.05)

Following this, Mann-Whitney and Kruskal-Wallis tests were conducted to check for statistically significant correlations between the questionnaire variables and demographic factors. Specifically, Mann-Whitney was used for comparisons with demographic variables

that have two values (in this case, gender). Kruskal-Wallis was used for comparisons with other demographic variables.

Mental Distress showed a statistically significant association with age (sig = 0.045), education level (sig = 0.030), employment (sig = 0.028), and health status (sig = 0.041), but no significant association with place of residence (sig = 0.593) or marital status (sig = 0.203).

Statistical analysis revealed significant associations between psychological distress and demographic factors such as age, education, employment status, and health, while no significant associations were found with place of residence or marital status. Similarly, problematic internet use was significantly associated with age, education, employment status, marital status, and health, but not with place of residence. Problematic Use showed a statistically significant association with age (sig = 0.042), education level (sig = 0.029), employment (sig = 0.023), marital status (sig = 0.036), and health status (sig = 0.019), but no significant association with place of residence (sig = 0.291).

Quality of life was also significantly linked to age, employment status, health, and place of residence, but not to marital status or education level. Quality of Life showed a statistically significant association with age (sig = 0.018), place of residence (sig = 0.041), employment (sig = 0.012), and health status (sig = 0.013), but no significant association with education level (sig = 0.129) or marital status (sig = 0.132).Finally, the Mann-Whitney test for the association of gender with the dimensions of the questionnaire showed no significant statistical relationship with problematic use, mental distress, or quality of life, as the Sig values were respectively: 0.350, 0.106, and 0.255 (all > 0.05).

Additionally, a strong positive correlation was observed between problematic internet use and psychological distress, indicating that higher levels of PIU are associated with increased psychological distress. From the Pearson correlation, there was a statistically significant positive correlation between mental distress and problematic internet use (r = 0.693), with a significant result (sig = 0.045 < 0.05).

Briefly, Statistical analyses revealed that:

- Age had a significant effect on PIU (p = 0.003).
- Family status significantly influenced PIU levels (p = 0.042).

Interestingly, gender did not reveal significant differences in PIU, psychological distress, or quality of life, suggesting that the impact of PIU might be similar across genders. There are significant associations between demographic factors (such as age, education, employment, health status) and the dimensions of mental distress, problematic internet use, and quality of life.

Mental distress and problematic internet use are strongly correlated, with a positive relationship between the two. Gender did not have a statistically significant impact on the three dimensions.

A moderate positive correlation ($r = 0.367$, $p < 0.05$) was found between PIU and psychological distress, reinforcing the bidirectional relationship between these variables. This suggests that psychological distress and PIU mutually reinforce each other, exacerbating the negative impact on quality of life.

**Table 1: Demographic Distribution Table**

| Category | Subcategory | Percentage (%) |
|---|---|---|
| Place of Residence | City (>100,000) | 70.3% |
| | Town (15,000-100,000) | 18.5% |
| | Small town/village (1,500-15,000) | 6.6% |
| | Rural area (<1,500) | 4.6% |
| Age Distribution | <18 | 11.9% |
| | 18-24 | 17.2% |
| | 24-30 | 31.1% |
| | 30-40 | 38.4% |
| | 40+ | 1.4% |
| Gender Distribution | Male | 45.0% |
| | Female | 55.0% |

**Table 2: Test of normality**

| Questionnaire Dimension | Sig |
|---|---|
| Problematic Use | 0.027 |
| Mental Distress | 0.022 |
| Quality of Life | 0.032 |

**Table 3: Kruskal-Wallis Tests for the Association of Demographics with Mental Distress**

| Demographic Factors | Sig |
|---|---|
| Age | 0.045 |
| Education Level | 0.030 |
| Place of Residence | 0.593 |
| Marital Status | 0.203 |
| Employment | 0.028 |
| Health Status | 0.041 |

**Table 4: Kruskal-Wallis Tests for the Association of Demographics with Problematic Internet Use**

| Demographic Factors | Sig |
|---|---|
| Age | 0.042 |
| Education Level | 0.029 |
| Place of Residence | 0.291 |
| Marital Status | 0.036 |
| Employment | 0.023 |
| Health Status | 0.019 |

**Table 5: Kruskal-Wallis Tests for the Association of Demographics with Quality of Life**

| Demographic Factors | Sig |
|---|---|
| Age | 0.018 |
| Education Level | 0.129 |
| Place of Residence | 0.041 |
| Marital Status | 0.132 |
| Employment | 0.012 |
| Health Status | 0.013 |

**Table 6: Mann-Whitney Test for the Association of Gender with the Dimensions of the Questionnaire**

| Demographic Factors | Sig |
|---|---|
| Problematic Use | 0.350 |
| Mental Distress | 0.106 |
| Quality of Life | 0.255 |

**Table 7: Pearson Correlation for the Association between Mental Distress and Problematic Internet Use Conclusions**

|  | Mental Distress | Problematic Use |
|---|---|---|
| Mental Distress | 1 | 0.693 |
| Sig (2-tailed) | 0.045 | - |
| N | 151 | 151 |
| Problematic Use | 0.693 | 1 |
| Sig (2-tailed) | 0.045 | - |
| N | 151 | 151 |

## 5 Discussion and Conclusions

The purpose of this study was to explore problematic internet use, psychological distress, and their connection. Specifically, 151 participants took part in the study, the majority of whom were women over thirty years old and university graduates.

It was found that most participants spend a significant amount of time on the internet, experience some form of psychological distress, exhibit symptoms of problematic internet use, and have a moderate quality of life. Additionally, a statistically significant correlation was found between psychological distress and factors such as age, educational attainment, employment status, and health condition. However, there was no statistically significant correlation between psychological distress and place of residence or family status.

Furthermore, there was a statistically significant correlation between problematic internet use and age, educational attainment, employment status, family status, and health condition. However, no significant correlation was found between problematic internet use and place of residence.

Regarding quality of life, a statistically significant correlation was found with age, place of residence, employment status, and health condition, whereas no statistically significant correlation was found with family status or educational attainment. Additionally, no statistically significant relationship was found between problematic internet use, psychological distress, and quality of life based on gender, with significance values of 0.350, 0.106, and 0.255, respectively (all > 0.05).

Regarding the first and second hypotheses, the study found that problematic internet use is associated with psychological distress as well as a moderate quality of life, in a statistically significant manner. This correlation was positive, meaning that as one variable increases, so does the other, creating a bidirectional relationship. Literature suggests that associations between problematic internet use and psychological distress are complex (Çelik & Odacı, 2013).

Studies indicate that problematic internet use is strongly associated with higher levels of anger and aggression. Research has consistently shown that adolescents addicted to the internet tend to develop aggressive tendencies, regardless of confounding variables (Li et al., 2023). Additionally, the correlation between problematic internet use and psychological distress may be further reinforced by findings from other studies that highlight the potential effects of computer-mediated social interaction. Anderson et al. (2016) suggest that individuals who frequently engage in online interactions may be more likely to exhibit anger, aggression, and isolation due to the reduction of face-to-face communication, exposure to media violence, and engagement in solitary online activities.

Furthermore, findings align with research indicating that the frequency of problematic internet use is associated with higher rates of social anxiety and depression (Ding et al., 2023). This relationship may be explained by the fact that online communication is often perceived as more convenient than traditional face-to-face interaction. It provides individuals with social anxiety an easier means of communication, allowing them to navigate social interactions with greater ease. As a result, many individuals turn to the internet as a form of self-therapy to cope with stress and anxiety (Ding et al., 2023).

Problematic internet use is also significantly linked to reduced quality of life. The results suggest that excessive internet use may lead individuals to withdraw from real-life socialization, human interaction, and engagement in daily activities, creating a cycle of dependency. In many cases, individuals with limited social skills may seek online interactions due to the anonymity and relative safety it offers. However, over time, this reliance may further deteriorate their well-being, potentially leading to internet addiction and the loss of a sense of fulfillment outside the digital space. Even when individuals recognize the negative impact of problematic internet use, their initial desire for self-improvement may be undermined as their dependence grows stronger, potentially exacerbating existing

psychological distress. If this pattern continues, additional complications such as dependence and diminishing emotional well-being may emerge (Anderson et al., 2016).

Regarding the third research question, a statistically significant correlation was found between problematic internet use, age, and family status. Specifically, younger individuals and unmarried participants exhibited higher levels of problematic internet use. These findings align with the study by Ioannidis et al. (2018), which found higher rates of problematic internet use among younger individuals and unmarried participants.

The study confirmed that Problematic Internet Use is related to psychological distress and diminished quality of life, as noted in previous research (Andreassen, 2015). The analysis highlighted the vulnerable demographic groups, including younger adults and those with a sedentary way of life, who were more likely to exhibit PIU and related mental health issues.

The findings also suggest that family status serves as a protective factor against PIU. Married individuals reported significantly lower PIU levels, likely due to the stabilizing influence of family and social responsibilities (Taş, 2020). On the other hand, those with limited social support networks, such as single individuals or those experiencing loneliness, were more vulnerable to excessive internet use.

Overall, the findings of this study highlight the importance of addressing problematic internet use as a factor influencing psychological distress and quality of life. Understanding these correlations can aid in the development of targeted interventions to foster healthier online behaviors and improve mental health outcomes.

Implications for Research, Practice, and Society

The paper clearly outlines significant implications for research, practice, and society by emphasizing Problematic Internet Use (PIU) as a growing public health concern. It highlights the need for further research into the epidemiology of PIU, given the inconsistencies in prevalence estimates due to varying assessment tools and definitions. Additionally, it underscores the importance of examining PIU beyond online gaming, incorporating other problematic behaviors such as excessive social media use, online gambling, and compulsive online shopping. Future research should focus on understanding the natural history of PIU, age-related differences, and gender-specific behavioral patterns to develop more targeted interventions.

The cyclical relationship between PIU and psychological distress necessitates interventions that target both mental health and internet use. Cognitive-behavioral therapy (CBT), known for its effectiveness in treating addiction behaviors, could be used to address both PIU and associated distress (Young, 2011). Psychoeducation and family-based interventions could help reduce PIU, particularly among adolescents.

From a practical perspective, the findings have valuable applications in clinical, educational, and policy-making domains. Clinicians can use these insights to design more effective

screening and intervention strategies for individuals struggling with excessive internet use. Educational institutions can integrate digital literacy programs to promote responsible online behavior among students, who are particularly vulnerable to PIU. Policymakers may leverage this research to develop regulations addressing digital addiction and mental health concerns associated with excessive internet usage. At a societal level, raising awareness about PIU can help shift public attitudes, reduce stigma, and improve overall well-being by fostering healthier online habits. These implications align with the study's findings, reinforcing the necessity for continued investigation and intervention in this area.

In conclusion, the study provides robust evidence that Problematic Internet Use (PIU) significantly impacts psychological distress and quality of life, with age, health status, and family structure emerging as key demographic factors. The positive correlation between PIU and psychological distress underscores the need for multifaceted interventions that focus on both mental health and internet habits. Future research should focus on exploring the long-term effects of digital literacy programs and other preventive measures in reducing PIU and its mental health consequences.

Additionally, digital self-assessment tools could empower users to monitor and modify their internet use habits, providing an effective preventative measure against PIU. Future studies should also investigate the influence of emerging digital trends (e.g., virtual reality) on PIU prevalence.

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