Perceived Social Support Mediates the Relationships Between Depression and Problematic Internet Use

James B. Weaver, III, PhD, MPH,[1] Darren Mays, PhD, MPH,[2] Stephanie Sargent Weaver, PhD, MPH,[1] Nancy J. Thompson, PhD, MPH,[3] Duane McBride, PhD[4]

Introduction

- A burgeoning literature indicates that some individuals may exhibit problematic internet use
- Research also suggests that associations exist between individuals' perceptions that their internet use is problematic and poor mental health outcomes, including depression

Background

- Prior findings indicate two candidate mechanisms that may help explain this relationship:
  - Lower levels of social support are associated with more depressive symptoms and greater internet use;
  - Individual differences in personality characteristics, such as social self-efficacy, have been associated with perceived problematic internet use and depression in prior studies

Objectives

- In light of this, our study sought to test the following hypotheses:
  - **H1**: Perceived social support and individual differences in social self-efficacy (SSE) mediate the relationship between time spent using the internet and depression;
  - **H2**: Perceived social support and individual differences in SSE mediate the relationship between perceived problematic internet use (PPIU) and depression

Methods

- An internet-based, cross-sectional survey was administered to 559 adults in western Washington.
- Items assessed demographics, perceived social support, social self-efficacy, perceptions of internet use, and depression.
- Mediation pathways were tested using structural equation modeling.

Demographics

- Demographic characteristics assessed included gender, race/ethnicity, age, household income, marital status, and educational attainment
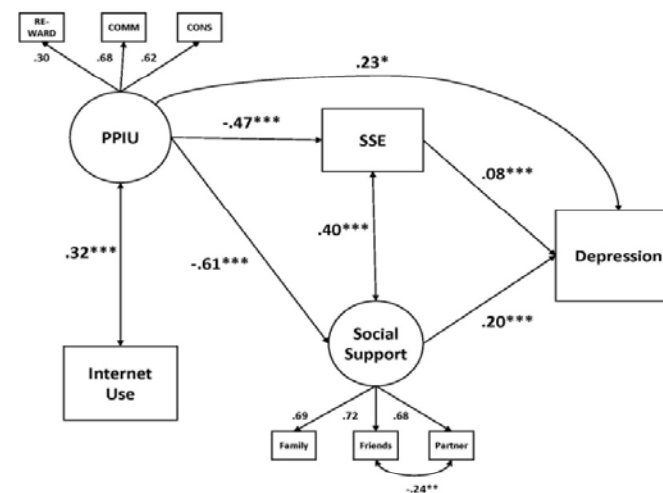
Internet Measures

- Internet use was assessed using the participants' estimates of the time they spent during a typical week "surfing the internet" ($M = 7.36$ hrs/wk, $SD = 8.76$)
- Several measures were used to capture perceived problematic internet use (PPIU):
  - 9 items from Internet Addiction Scale were adapted to assess motives and consequences of internet use
  - Perceptions of internet-based support were assessed using 4 items
  - Principal components factor analysis yielded a three factors solution consisting of:
    - Media use consequences (CONS, $M = 12.77$, $SD = 7.70$; $\alpha = 0.80$)
    - Internet as community (COMM, $M = 11.53$, $SD = 6.63$; $\alpha = 0.71$)
    - Media Use Rewards (REWARD, $M = 16.67$, $SD = 5.93$; $\alpha = 0.69$)
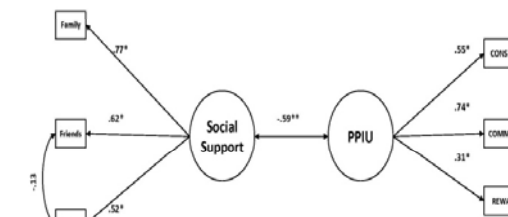
Social Support

- Social support was measured using the Social and Emotional Loneliness Scale for adults, including 3 subscales:
  - Family members support (Family; $M = 5.85$, $SD = 1.15$, Cronbach's $\alpha = 0.88$)
  - Friends support (Friends; $M = 5.48$, $SD = 1.04$, Cronbach's $\alpha = 0.84$)
  - Romantic partner support (Partner; $M = 5.11$, $SD = 1.77$, Cronbach's $\alpha = 0.92$)

Figure 1. Measurement Model. X^2 (7 df) = 9.74, p= .20 CFI = 0.99, RMSEA=0.026, $* p < .01 ** p < .001$. Standardized coefficients are displayed.

SSE and Depression

- Eight items from the Eysenck Personality Questionnaire were used to measure Social Self-Efficacy (SSE), with subscales capturing positive ($\alpha = 0.81$) and negative ($\alpha = 0.75$) SSE. Standardized factor scores were summed to create a total SSE score.
- Depressive symptoms were measured using the 10-item CES-D ($M = 1.3$, $SD = 1.0$, Cronbach's $\alpha = 0.84$)

Results

- The model explained 41% of the variance in depression
- There were no significant indirect effects from internet use to depression through social supSSE (Figure 1), indicating that the model does not support Hypothesis 1
- Two significant indirect paths in the SEM provided support for the second hypothesis

Figure 2. Structural Equation Model . χ^2 [35 df] = 77.3, CFI = 0.96, RMSEA = 0.05. $* p < 0.05 ** p < 0.01 *** p < 0.001$. Only paths significant at $p < 0.05$ are shown. Standardized coefficients are displayed.

Discussion

- The results support a cognitive behavioral perspective on PPIU and depression
- Recognition that one's internet use results in negative consequences that interfere with daily activities is associated with greater depressive symptoms, rather than simply time spent online
- The findings also suggest social support and social self-efficacy are important mediators of this relationship

Implications

- The findings may have important implications for interventions designed to influence the relationship between PPIU and depression
- Individuals' perceptions of their social relationships may represent an important focus for interventions
- Targeting SSE may impact the indirect relationship between PPIU, SSE, and depression, as well as the indirect relationship between PPIU, perceived social support, and depression

Contacts

1. Office of the Associate Director for Communication, Centers for Disease Control and Prevention, Atlanta, GA
2. Georgetown University Medical Center, Washington, DC
3. Dept of Behavioral Sciences and Health Education, Rollins School of Public Health, Emory University, Atlanta, GA
4. Institute for the Prevention of Addictions, Andrews University, Berrien Springs, MI

U.S Department for Health and Human Services

Centers for Disease Control and Prevention

E-mail: cdcinfo@cdc.gov | Web: www.cdc.gov
The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.