



# The relationship between excessive internet use and mental health symptoms in a Hispanic college student sample

Diana Villegas, Roman Fregoso, B.S., Perla Perez, B.A, Isabel Gallardo, B.S., Jose L. Hernandez, ASW, & Theodore V. Cooper, PhD.



## Introduction

### Background:

- Internet accessibility has increased over the years. In 2016, 82 percent of American households subscribed to the Internet (Ryan, 2018). From these households, 93% of residents between the ages of 13-34 had access to internet within their house (Ryan, 2018).
- Internet availability has targeted young adults, ages 18-29; they are 93% more likely to be online. In addition, 88% of young adults use online social networks (Lenhart et al., 2010).
- Studies have shown that people who are addicted to the internet are more likely to report mood disorders, substance use problems, sleep disorders, and other negative cognitive changes (Kuss et al., 2014).
- However, there have been few studies assessing cultural constructs and potential correlates of internet use and mental health in a Hispanic young adult college sample (18-30 years).

**Aim:** The aim of the study is to identify potential correlates between excessive internet use and mental health symptoms in Hispanic college students.

## Methods

### Participants:

The present sample of Hispanic college students ( $n=345$ ;  $M_{age}=20.13$  years,  $SD=3.92$ ; 72.2% female) were recruited via SONA system, a web-based recruitment site. After providing consent, students completed the online assessment.

### Measures:

**Sociodemographics.** This questionnaire collected sociodemographic information. (e.g. age, sex, education).

**Internet Addiction Scale (IAT).** A 20 item questionnaire that reports internet use. It is used to measure the degree of internet addiction assessing with the following three categories: “Withdrawal and Social Problems”, “Time Management and Performance”, and “Reality Substitute” This assessment showed strong internal consistency in various studies (Chang & Law, 2008) and in this study ( $\alpha = .93$ ).

**Compulsive Internet Use Scale (CIUS).** A 14-item questionnaire measuring the intensity of compulsive internet use. (Meerkerk, 2009). The CIUS has five core dimensions such as loss of control, preoccupation, withdrawal symptoms, coping or mood modification, and conflict. The scale demonstrated high internal consistency ( $\alpha = .93$ ).

**Depression, Anxiety Stress Scale (DASS).** The 42-item scale assesses constructs of depression, anxiety, and stress (Lovibond & Lovibond, 1995). The DASS has set of three 14 item self-report subscales which is scored on a 4 point scale of frequency or severity of a symptom over the past week. The resulting item responses are scored by summing the items within each of the three factors. The three scales demonstrate high internal consistency ( $\alpha = .98$ ).

**Patient Healthcare Questionnaire (PHQ-9).** (Spitzer et al., 1994) A patient questionnaire nine symptom checklist is composed of a list of depressive symptoms (e.g., suicidal ideology, concentration problems). Items are rated on a 4-point Likert-type scale, and scores are obtained by summing item scores. Scores range from 0 to 27, with higher scores indicating more depressive symptoms. This instrument has been found to be consistent with diagnoses made independently by mental health professionals ( $k = .71$ ). This scale had good internal consistency with an alpha coefficients of  $\alpha = .91$ .

## Results

Mildly excessive internet use was reported based on scores on the IAT ( $M = 49.31$ ,  $SD = 16.11$ ) and CIUS ( $M = 17.661$ ,  $SD = 10.96$ ).

A linear regression model assessing the relationships among the IAT, DASS, and PHQ9 indicated a relationship between increasing levels of stress ( $\beta = 0.394$ ,  $p < .01$ ) and depressive symptoms (PHQ ( $\beta = 0.198$ ,  $p < .01$ )) with internet addiction scores.

In a second linear regression analysis assessing the relationships among the CIUS, DASS, and PHQ9 an association of higher levels of stress ( $\beta = .0428$ ,  $p = <.01$ ) and depressive symptoms ( $\beta = 0.166$ ,  $p <.05$ ) was observed with compulsive internet use scores.

## Tables

**Table 1: Continuous Characteristics**

	Mean	Std. Deviation	Range
Age	20.13	3.922	17 - 53
Internet Addiction Test	49.31	16.11	20-105
Compulsive Internet Use	17.66	10.97	0-56
Internet Use (hours per week)	16.51	19.4	0-100
Depression	7.97	10.57	0-42
Anxiety	7.79	9.84	0-42
Stress	9.87	10.90	0-42
PHQ-9	2.74	4.11	0-20

**Table 2: Categorical characteristics**

	Percent
Female	72.2
Ethnicity	
Mexican National	7.2
Other Hispanic/Latin ethnic group	12.5
Mexican American	80.3

**Table 3: Summary of linear regression predicting compulsive internet use**

	SE	Beta	p
Depression	0.142	0.114	0.412
Anxiety	0.167	-0.27	0.076
<b>Stress</b>	<b>0.147</b>	<b>0.428</b>	<b>0.004</b>
<b>PHQ9</b>	<b>0.201</b>	<b>0.166</b>	<b>0.031</b>

Notes. Bold indicates  $p < .05$ . Nagelkerke  $R^2 = .178$

**Table 4: Summary of linear regression predicting internet addiction**

	SE	Beta	p
Depression	0.203	0.015	0.914
Anxiety	-0.239	-0.11	0.458
<b>Stress</b>	<b>0.211</b>	<b>0.394</b>	<b>0.007</b>
<b>PHQ9</b>	<b>0.288</b>	<b>0.198</b>	<b>0.009</b>

Notes. Bold indicates  $p < .05$ . Nagelkerke  $R^2 = .212$

## Discussion

- While measured as mildly excessive on measures, internet use frequency in this study seems to be quite high.
- The association between excessive internet use and depression may be moderated or mediated by communication patterns and/or social support, as one previous study indicated internet use was associated with high levels of depression when used for non-communication purposes yet not for communication purposes (Selfhout et al. 2009). Thus, communication patterns while on the internet should be included in future studies' measurement.
- The perceived stress link with internet use may be moderated or mediated by coping style, as one previous study indicated that perceived stress was positively associated with avoidant emotional coping via the internet (Deatherage et al. 2013). Thus, measuring coping style in relation to internet use in this ethnocultural group seems warranted.

**Strengths and Limitations:** The study's cross sectional nature limits the ability to ascertain the temporal relationships between mental illness symptoms and internet use. Still, the ethnocultural makeup of the sample, given few studies with this group, represents a strength.

**Future Directions:** Future studies should assess internet use and mental health symptoms over time include measures of internet communication and coping style.

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