

# Offline social support and depressive symptoms as factors associated with online gaming friendships

Prochnow T.,<sup>1</sup> Patterson M.S.,<sup>2</sup> Hartnell L.,<sup>3</sup> Umstattd Meyer M.R.<sup>1</sup>  
 1 – Baylor University, 2 – Texas A&M University 3 – Adler University

## Introduction

65%



of Americans report playing some kind of video game daily

Public health professionals are concerned with effects including depression and reduced social involvement

Many games provide features to extend real life relationships and make new online friendships

## Objective

Use social network analysis to investigate the relationship between social connections and mental health among a network of online gamers.



## Methods

### Setting

- Online football simulation game
- Participants (n=37) interacted via forums and chat function

### Measures

- Depressive Symptoms – PHQ-9
- Online and “in-real-life” (IRL) Social Support

### Social Network

- Nominated other members on the site with whom they spoke to about important life matters

### Data Analysis

- Exponential Random Graph Modeling
- Multi-Level Modeling
- Network Autocorrelation Models

## Results

### Exponential Random Graph Modeling

	Estimate	SE	Interpretation
<b>Reciprocity</b>	2.22*	0.37	Social connections were significantly more likely to be reciprocated in this network
<b>Transitivity</b>	0.42*	0.13	Social connections in this network were significantly more likely to be among groups of three.
<b>Site Hours</b>	0.03*	0.01	Members were significantly more likely to speak to others if they spent more time on the site.
<b>PHQ</b>	0.08*	0.02	Members were significantly more likely to speak to others if they reported more depressive symptoms.
<b>“In-real-life” Support</b>	-0.68*	0.24	Members were significantly more likely to speak to others if they reported less support “in-real-life”.

\* Parameter estimate is greater than two times the standard error which indicates a significant effect

### Depressive Symptoms Network Autocorrelation Model

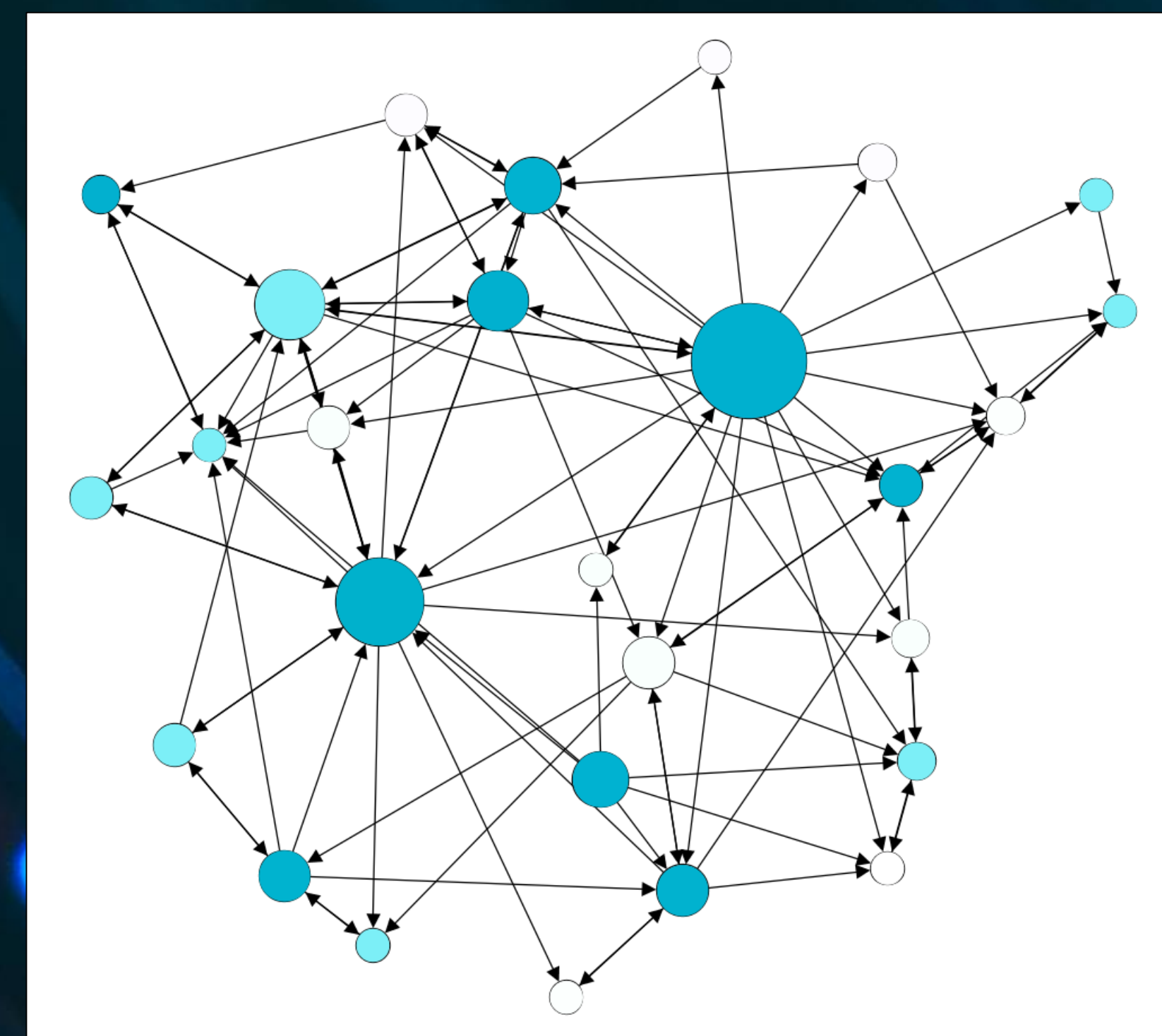
	Estimate	SE	p-val
<b>IRL Support</b>	-2.66	1.06	0.01
<b>IRL Connections</b>	1.81	0.67	0.01
<b>Online Gaming Site Support</b>	2.40	0.99	0.02
<b>Network Effects</b>	0.06	0.03	0.04

### Depressive Symptoms

Low High

### Nominations Sent

Few Many



### Depressive Symptoms Multi-Level Model

	Model 1 (R <sup>2</sup> =.09)		Model 2 (R <sup>2</sup> =.31)		Model 3 (R <sup>2</sup> =.50)	
	β	p-val	β	p-val	β	p-val
<b>Age</b>	-0.38	.20	-0.21	.44	-0.22	.36
<b>Marital Status</b>	-0.08	.74	-0.09	.68	-0.15	.47
<b>Education</b>	0.03	.90	0.02	.93	0.04	.82
<b>Gaming Site Hours</b>	-0.05	.78	0.04	.79	-0.09	.57
<b>In-real-life Support</b>					-0.46	.01*
<b>Connections</b>					0.21	.20
<b>Online Gaming Site Support</b>						
<b>Connections</b>					0.15	.37
					0.46	.02*

## Conclusions

Members may be filling an IRL social support deficit with friends they have met online. Gamers who reported more depressive symptoms may be seeking help from informal online connections through online gaming.

