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# Facebook use, envy, and depression among college students: Is facebooking depressing?

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ABSTRACT

It is not—unless it triggers feelings of envy. This study uses the framework of social rank theory of depression and conceptualizes Facebook envy as a possible link between Facebook surveillance use and depression among college students. Using a survey of 736 college students, we found that the effect of surveillance use of Facebook on depression is mediated by Facebook envy. However, when Facebook envy is controlled for, Facebook use actually lessens depression.



## 1. Introduction

For young adults, the transition to college life can be daunting. It can mean gaining unprecedented freedom, moving far from home, making new platonic and romantic relationships, and enduring a large amount of homework and exams. Because of these factors and others, college students have been found to be particularly prone to depression (Mahmoud, Staten, Hall, & Lennie, 2012; Moreno et al., 2011; Moreno, Jelenchick, Koff, & Eickhoff, 2012; Neighmond, 2011; Wright et al., 2012). Individuals between 18 and 24 years old were specifically found likely to suffer from depressive disorder symptoms, according to the Centers for Disease Control and Prevention (CDC., 2011). Studies also found an increasing incidence of depression among college students in recent years (AP., 2010; Neighmond, 2011). A study in 2010 discovered that "five times as many high school and college students are dealing with anxiety and other mental health issues as youth of the same age who were studied in the Great Depression era" (AP, 2010).

Multiple factors likely contribute to the increase in incidence of depression including better diagnostics and attention paid by higher education health professionals to student wellbeing. However, policy makers and scholars have hypothesized that heavy use of online social networks such as Facebook and mobile technologies may contribute to the phenomenon (Chou & Edge, 2012; Jelenchick, Eickhoff, & Moreno, 2013; Moreno et al., 2011; Soo Jeong et al., 2013). Facebook allows college students to express themselves by posting status updates, links, and photos. It also allows them to observe others' online presence by keeping track of regular updates about their family, friends, classmates, and acquaintances (Ellison, Steinfield, & Lampe, 2007; Smock, Ellison, Lampe, & Wohn, 2011). But while Facebook has been shown to elicit happiness (Kim & Lee, 2011), it is also prone to problematic use, such as when young users post photos of them drinking or in sexually suggestive poses (Karl, Peluchette, & Schlaegel, 2010). Facebook also raises questions about privacy and deception (Carlson, George, Burgoon, Adkins, & White, 2004; Christofides, Muise, & Desmarais, 2009; Debatin, Lovejoy, Horn, & Hughes, 2009; Hong, Tandoc, Kim, Kim, & Wise, 2012) and new studies argue whether or not heavy Facebook use can lead to depression (Jelenchick et al., 2013; Moreno et al., 2012; Wright et al., 2012).

The link between Facebook use and depression among college students is starting to attract scholarly attention, but scholars disagree about the nature of the relationship. Some have questioned whether the relationship exists at all. A study found a weak statistical association between internet use and depression, although the researchers concluded the relationship was unlikely to have major clinical significance (Moreno et al., 2012). Another study discovered that the number of hours students spend on Facebook was positively correlated with depression (Wright et al., 2012). However, another study found no link between Facebook use and depression, concluding that "advising adolescent patients or parents on the risks of 'Facebook depression' may be premature" (Jelenchick et al., 2013, p. 130). The present study aims to contribute to this growing area of important research by examining

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whether or not heavy Facebook use leads to depression among college students.

## 2. Literature review

### 2.1. Social rank theory

Depression, a condition that affects a growing number of college students, has attracted the attention of many psychologists seeking to understand its causes. The field of psychology has developed numerous theories to explain depression (see, for example, Sloman, Gilbert, & Hasey, 2003). In this study, we apply social rank theory.

Social rank theory, as a theory of depression, concerns itself with competition. Humans, just like animals, compete for food, mates, and various resources (Gilbert & Allan, 1998; Sloman et al., 2003). For humans, competition is not so much about domination, but about exerting "social control over resources in contexts where others are going after the same resources" (Sloman et al., 2003, p. 115). Social competition can refer to competition for power or attractiveness, among other things. Those who do not succeed, or those who perceive they have not succeeded, feel subordinated. "Those who perceive themselves as subordinates are not necessarily depressed, but are vulnerable to depression" (Sloman et al., 2003, p. 116). For example, Gilbert and Allan (1998) found that a self-report measure of defeat that they created was strongly associated with depression. Social rank theory is particularly appropriate for examining depression among young people who are in a stage when they are acutely attuned to and affected by status. They place greater importance on popularity than on other social factors (Lansu & Cillessen, 2012) and the changes that come with the transition to young adulthood "enhance interpersonal vulnerability" (Abela & Hankin, 2008, p. 81).

But how does this theoretical framework translate to the Facebook ecosystem? Facebook is largely about achieving a positive self-presentation (Hogan, 2010; Hong et al., 2012; Walther, 2007; Walther, Van Der Heide, Hamel, & Shulman, 2009). Conceived this way, we can refer to image, a measure of social attractiveness, as a form of resource (Hong et al., 2012). But on Facebook, users do not just manage their own self-presentations. When navigating Facebook, users are exposed to what others say about them (Hong et al., 2012; Schau & Gilly, 2003; Walther et al., 2009), and also to what other users share about themselves. Thus, users also develop perceptions of other users' social attractiveness. Social media sites function as a community of users (e.g. Gruzd, Wellman, & Takhteyev, 2011), with individuals identifying themselves as parts of particular networks. The resource of social attractiveness is therefore shared within a group context. Thus, if Facebook users perceive their social attractiveness as lower than that of other users, they will feel subordinated and therefore outranked, consistent with the assumption of social rank theory. This feeling, which we will operationalize in this study as *envy*, can lead to depression.

### 2.2. Facebook

Facebook has grown to become the most popular social networking site (SNS) with more than a billion users worldwide (Fowler, 2012). Since starting as a website devoted to just one \university some nine years ago, Facebook is now available in more than 70 languages (Facebook., 2012) and its popularity cuts across countries, cultures, and even generations. College students are among its most active users who use the website for a variety of purposes, such as communication, self-expression, and even fostering relationships (Urista, Qingwen, & Day, 2009). Facebook and other SNSs have also attracted scholarly attention. For example, studies have sought to understand who uses SNSs, finding that females are more likely users than males (Hargittai, 2007; McAndrew & Jeong, 2012); younger people are heavier users than older generations (McAndrew & Jeong, 2012; Quan-Haase & Young, 2010); and that extroverted individuals are more likely to create Facebook accounts than introverts (Glynn, Huge, & Hoffman, 2012; Ross et al., 2009). Scholars have also sought to understand why people use SNSs (e.g. Baek, Holton, Harp, & Yaschur, 2011; Peluchette & Karl, 2010; Quan-Haase & Young, 2010; Raacke & Bonds-Raacke, 2008; Ross et al., 2009; Smock et al., 2011). For example, Quan-Haase and Young (2010) found that pastime and social information gratifications predicted frequency of Facebook use. Self-presentation and self-disclosure motivations are also strong motivators for the use of SNSs (e.g. Ellison et al., 2007; Gibbs, Ellison, & Heino, 2006; Hogan, 2010; Hong et al., 2012; Ledbetter et al., 2011; Peluchette & Karl, 2010; Zhao, Grasmuck, & Martin, 2008).

SNSs, particularly Facebook, have become staple activities among an ever-increasing number of people, and scholars have also sought to understand the effects of Facebook use, particularly on college students. This is understandable, considering that college students are among the most active Facebook users. One study found that having a large number of friends on Facebook and being able to project a positive self-presentation could lead to higher levels of happiness (Kim & Lee, 2011). Another found that viewing one's own Facebook profile increases one's level of self-esteem (Gonzales & Hancock, 2011). Studies have also examined the impact of Facebook use on college students' school performance. For example, a study found that while time spent on Facebook positively predicted time spent participating in co-curricular activities, playing games on Facebook was a negative predictor (Junco, 2012). Facebook users were also found to have lower grade point averages (GPA) than did nonusers (Kirschner & Karpinski, 2010). Users also tend to spend fewer hours per week studying than those who do not use Facebook (Kirschner & Karpinski, 2010).

### 2.3. Depression

The mental health of college students is important to look at because "young adult students are faced with numerous developmental challenges and tasks related to their college life" (Mahmoud et al., 2012, p. 150). The Centers for Disease Control and Prevention considers depression as a medical and mental condition that affects an estimated 10% of American adults (CDC, 2011). Finding a uniform definition of depression is difficult, but what many studies have done is enumerate symptoms associated with it. For example, the CDC differentiated between "major depression," which is prevalent among persons aged 45–64, and "other depression," which affects persons aged 18–24. The so-called "other depression" refers to cases with fewer symptoms than major depression, but "still meet the criteria for a depressive disorder" (CDC, 2011). What are these symptoms?

The Center for Epidemiologic Studies Depression (CES-D) Scale is one of the most commonly used measures of depression. The scale consists of 20 items asking questions about symptoms associated with depression. Radloff (1991) was among the first to examine the scale's reliability and validity by comparing results of the scale from representative samples of adults and young adults, high school students and depressed patients. Radloff (1991) concluded that the "CES-D Scale is acceptable and reliable in all the groups studied" (p. 149). Subsequent studies in the United States also tested the internal consistency of the scale. These studies found the scale to be reliable when dealing with student samples (Van Dam & Earleywine, 2011; Wright et al., 2012), older adults (Lewinsohn, Seeley, Roberts, & Allen, 1997; Lyness et al.,