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# What's Her Face(book)? How many of their Facebook "friends" can college students actually identify?



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#### ABSTRACT

An online game, titled What's Her Face(book), was created and students from an Ivy League campus (as well as adults from the general population) were invited to play as many times as they wished. Each game lasted around 90 s during which individual friends were randomly selected from the participant's Facebook page and their profile photo displayed alongside up to four additional tagged photos. The participant was prompted to either type in the friend's first name, last name or both names with single names allowing a Levenshtein distance of one letter and both names allowing a distance of up to three letters for accuracy (Levenshtein, 1966). Following a game, participants were shown the photos and names for those they correctly and incorrectly identified. More than 4000 participants played the game, with an aggregate 174,615 opportunities to name their Facebook friends. Playing the game an average (median) of 4 times, participants were able to name only 72.7% of their friends, with male participants naming male friends more accurately than their female friends and female participants naming their female friends more accurately than their male friends. Although playing the game more times resulted in higher accuracy, perhaps from correcting previous mistakes, the benefit was minimal with those in the top quartile of games played garnering only an additional 2% in accuracy on average. Results were discussed in terms of social capital theory alongside issues of privacy and security on social media sites.

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#### 1. Introduction

According to a recent national study of nearly 1600 adults, 87% of college students use Facebook regularly (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). In addition, more than 81% of Facebook users visit the site on their smartphones (Hamburger, 2014), with Facebook being the third most popular smartphone app after the email and browser apps (Keating, 2013). According to an IDC study (Keating, 2013) the average British Facebook user checks Facebook at least 14 times a day. Another study (Rosen, Whaling, Rab, Carrier, & Cheever, 2013) reported that 35% of American members of the Net Generation—college-aged young adults born in the 1980s—checked their smartphone at least every hour, every 15 min or all the time while another 44% checked it between every few hours and once a day.

Friending another user is the core way in which people connect

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on Facebook to form what is popularly referred to as "the social network." The number of "Facebook friends" a user may have can vary drastically ranging from 318 to 587 for college students and college-age adults (Chou & Edge, 2012; Kim & Lee, 2011; Lee, Moore, Park, & Park, 2012; Manago, Taylor, & Greenfield, 2012; Marketing Charts, 2013; Smith, 2014; Thompson & Lougheed, 2012).

So how many of those "friends" do we actually know? Unsworth, Spillers, and Brewer (2012) asked college students to recall as many of their Facebook friends as they could in 8 min. They found that on average students were able to recall about 11% of their friends, the majority of which were either college friends or high school friends, perhaps indicating these relationships were the strongest in their minds. And though a 2011 study of 1865 social media users (Nielsen Wire, 2011) found that adults were primarily friending people they knew in real life, they also note that some were willing to "friend" people with whom they had never met, but rather shared mutual friends. The current study was designed to examine how many of college students' friends were known well enough to name them in a random presentation directly from their

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personal Facebook page.

When asked directly how many of their Facebook friends were strangers who they did not know in the real world, estimates ranged from 4% (Manago et al., 2012) to 15% (Chou & Edge, 2012) implying participants knew between 85% and 96% of their Facebook friends in the real world. Based on that, it is safe to assume that college students should personally know at least 85% of their friends and thus should be able to name them with high accuracy.

#### 1.1. Psychological impact of friending

Online friendships can form an important part of users' lives. Several studies have investigated to what extent these virtual relationships affect users' emotions in the real world. First, Marder, Joinson, and Shanker (2012) reported that on average college students' Facebook friends come from seven different social spheres including those known offline, extended family, siblings, friends of friends, colleagues, ex-partners, and people met on a night out. Marder et al. propose that self-discrepancy theory—comparing oneself to the expectations that they or others feel that they should fulfill— can be used as a way to view these spheres, and that this framework may explain the social anxiety felt from amassing a large number of Facebook friends. Second, along similar lines, Steinfield, Ellison, and Lampe (2008) proposed that enhanced selfesteem comes from friends serving as "social capital," with more benefits being derived by those initially lower in self-esteem. When social capital theory is coupled with the social compensation hypothesis-compensating for social anxiety by making friendships online rather than in the real world (Williams & Karau, 1991)—this may explain why we add friends to compensate for our lowered self-esteem, thereby increasing our feelings of wellbeing (Lee et al., 2012; Tazghini & Siedlecki, 2013).

To that end, recent studies have found mixed results arising from social media friending. Rosen et al., (2013) found that while having more Facebook friends predicted increased symptoms of bipolar-mania, narcissistic personality disorder, histrionic personality disorder and schizoid personality disorder, it also predicted reduced symptoms of major depression and dysthymia (mild depression). In support, some studies have found that accrual of Facebook friends is related to a sense of positive well-being and enhanced self-esteem (Kim & Lee, 2011; Manago et al., 2012). At the same time, other studies have reported negative correlations between number of friends and self-esteem (Chou & Edge, 2012; Lee et al., 2012; Tazghini & Siedlecki, 2013), particularly for those who were high in public self-consciousness-regulating one's public impression (Lee et al., 2012)—and who knew fewer of their Facebook friends (Chou & Edge, 2012). One study of Australian university students (Skues, Williams, & Wise, 2012) found that having more Facebook friends predicted both more loneliness and more openness, capturing both the positive and negative impacts in the same sample.

Finally, in a four-week study of university students, Wang, Tchernev, and Solloway (2012) extended the theory of uses and gratifications—whereby new media is utilized in an attempt to gratify specific needs—and demonstrated that while social media use may be driven by all four needs (emotional, cognitive, social, and habitual) it only satisfied two of those needs (emotional and cognitive) causing the remaining needs to accumulate over time and drive further social media use.

#### 1.2. Gender differences in social media use

Research has examined gender differences in the use of social media with mixed results. While some studies indicate that women have more Facebook friends than men (McAndrew & Jeong, 2012)

and that women spend more time using social networking sites (Kimbrough, Guadagno, Muscanell, & Dill, 2012; Simoncic, 2012; Thompson & Lougheed, 2012), another found no difference in the number of Facebook friends between men and women (Thompson & Lougheed, 2012).

In one recent study, Muscanell and Guadagno (2012) examined reasons for using social media among a sample of undergraduate college students. Their results indicated that men use social media sties for forming new relationships while women reported using social media sites to maintain current relationships. This suggests women may be better at identifying their Facebook friends by photo alone, as their online friends are more likely to be part of an actively maintained relationship, compared to men who may not actively maintain relationships with many of their Facebook friends.

#### 1.3. Hypotheses

Based on the reported literature, the following hypotheses were proposed:

- **H1.** Female college students will have more Facebook friends than male college students based on the few studies that have compared friends based on gender.
- **H2.** College students should be able to name 85% of their Facebook friends, based on estimates of the number of friends they "know" in the real world.
- **H3.** Female college students will be able to name their friends more often than male college students, as they tend to use social media to maintain existing friendships whereas their male counterparts may use social media to develop new friendships.

#### 2. Methods

#### 2.1. Participants

Overall, 4022 participants played the "What's Her Face(book)" game, producing 174,615 guesses of the name of one of their Facebook friends. Participants were recruited via word of mouth, starting with fellow students on an Ivy League university campus. Although the intent was to primarily sample college students, several media stories appeared about the project, which included the link for playing the game (Cohen, 2011; Hill, 2011; Waugh, 2011). Thus, there is no way of knowing whether participants were college students or simply read the story and followed the link. This is discussed in the limitations section.

#### 2.2. Procedure

Participants were invited to play the "What's Her Face(book)" game through the form of an online web-application. Upon visiting the study's site, participants were prompted to login with their Facebook credentials (a common request nearly all would have prior familiarity with). After logging in, the participants were informed they would have 90 s to name as many of their Facebook friends as they could from provided profile pictures.

After agreeing to the challenge, participants were presented with a "guessing" screen as shown in Fig. 1, displaying one or more photos of a given friend: the friend's profile picture and up to four other photos they were tagged in. When participants hovered over any image, they would be shown a larger version of that image and a box would highlight the face of the particular friend in question.

To correctly identify a given friend, participants were prompted

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