Psychological Determinants of Using Facebook: A Research Review

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Abstract

In recent years, Facebook has become the most popular of social networking sites (SNSs). Due to its increasing popularity and rising number of its users, the phenomenon of Facebook has aroused academic interest as well. There has been a growing number of studies on this subject. The aim of this article is to present the main trends in Facebook research and to provide an overview of major empirical findings. Among the most intensively explored topics in Facebook research we identified studies that concentrate on personality and individual differences among
users, the role of self-efficacy, and motivation for using that specific SNS. There is also a growing trend in empirical studies that focuses on testing advanced theoretical models of Facebook usage determinants. Technology Acceptance Model (TAM), presented in this article, is one of the most often used among them. This kind of approach may serve as a suggestion for a methodological conceptualization in the future confirmatory research on Facebook.

Keywords: Facebook; personality; motivation; self-efficacy; TAM; social networking sites

Introduction

The phenomenon of Facebook finds its reflection in the growing number of academic articles on this subject around the world. This topic raises interest among scientists from different disciplines such as law, economy, psychology, sociology, information technology, and the body of research is increasing rapidly (Wilson, Gosling, & Graham, 2012). Their search in peer-reviewed social science journals and other sources (i.e. conference proceedings) returned over 412 records of articles published since 2006, when Facebook emerged, among them 186 papers published only in 2011 (Wilson et al., 2012, p. 206).

Studies presented in these articles cover a range of topics related to Facebook, such as the need for privacy (e.g. Brandtzæg, Lüders, & Skjetne, 2010), self-disclosure (e.g. Special & Li-Barber, 2012), the formation of social capital (e.g. Ji, Hwangbo, Yi, Rau, Fang, & Ling, 2010), motivation (e.g. Kim, Kim, & Nam, 2010), the personality of users (e.g. Moore & McElroy, 2012), the relationship between Facebook and well-being (e.g. Manago, Taylor, & Greenfield,
The general aim of this review is to provide, based on literature analysis, a summary of major empirical findings in the area of Facebook use and its antecedents, to offer a better understanding of this phenomenon. Our intention was to summarize and categorize recent findings and identify possible future directions in Facebook research. We posed the following questions to be answered in our review: 1) Which individual factors relate to Facebook use? 2) How do they influence or differentiate users’ behavior? 3) Is it possible to build and implement a theoretical model that would integrate current findings?

To address those issues, we conducted literature search using “Facebook” and “social networking sites” as keywords within peer-reviewed psychology articles available in EBSCO, ScienceDirect, Springer, and Google Scholar databases. The search was done before the end of June, 2012. Regarding the research questions mentioned before, we introduced selection criteria. To be included in the review, papers had to report empirical studies and focus on the role of psychological traits in explaining Facebook use. Such a strategy caused a reduction in the initial number of 125 papers identified during database search to 59 articles eligible for further analysis.

We observed that personality traits, narcissism, self-esteem, loneliness, as well as self-efficacy and motivation were frequently explored topics. Therefore, we sorted the papers into three groups, named: 1) personality traits, 2) self-efficacy, and 3) motives of Facebook use. In further parts of this article we present major findings for each category. Concurrently, we decided to separately discuss the results of confirmatory studies that tested theoretical models, including
those of research based on Technology Acceptance Model (TAM), which was employed in ten articles.

An Overview of Facebook

Facebook – alongside Twitter, LinkedIn, and MySpace – is one of social networking sites (SNSs) and enables their users to create a public profile as well as to build relationships with other people or peer groups. Facebook was founded in 2004, primarily as a communication tool for students on Harvard’s campus, and since 2006, when it was opened to the general public, it has become the leading and most popular social network around the world. In recent years, the number of its users has increased twofold. In 2008, Facebook had one hundred million users, whereas, according to the company’s statistics, since October 2012 there has been 1 billion active users monthly (Facebook, 2012), and the site is still exponentially growing in popularity. Among users there is a prevalence of young people who are at college or university (Ellison, Steinfield, & Lampe, 2007).

Facebook allows its users not only to communicate with one another, but also to share photos, reveal personal information, comment on some topics, or play. Based on the multiplicity of applications, we may state that Facebook plays different roles, ranging from a method of communication, a platform for entertainment, or a tool for self-promotion to its role in business. Apart from serving socializing and entertainment purposes, Facebook is a popular tool in the promotion and marketing field. It is widely used by many companies that endeavor to create communities of customers around pages presenting their products or services (Fanpages). More specifically, the idea of a venture may be distributed by means of a Fanpage to a wide circle of
viewers with little cost and effort. Politicians also exploit this possibility, especially during elections, to present their political programs and to establish contact with potential voters. What is more, personal details displayed on a Facebook profile – such as e-mail address, day of birth, year of birth, political or religious views, information about job position, hobbies, preferences, as well as friends or photos – may serve as a source of information potentially useful for business and marketing campaigns.

The characteristic fact about Facebook is that the majority of friends are met offline and then invited to become members of online groups (Ross, Orr, Sisic, Arseneault, Simmering, & Orr, 2009). The average time spent on Facebook activities is between 60 minutes and 120 minutes among young users (Kalpidou, Costin, & Morris, 2011). On average, they have 200 to 250 friends on Facebook. Raacke and Bonds-Raacke (2008) conducted a study on 116 students who had accounts on various SNSs, including Facebook. They spent an average of 3 hours per day communicating or posting messages. Some gender differences were also found. Men had significantly more friends than women did and logged into their profile more frequently during a day. Women changed their appearance more often than men did. Women paid more attention to privacy settings. Men more often used their profiles for dating purposes.

Considering the variety of factors that may influence Facebook use, it is advisable to introduce a model that would serve as a theoretical and conceptual framework. This would help to concentrate on the most important variables, enabling unambiguous and more insightful explanation of the phenomenon of Facebook. For this reason, we selected and described the TAM, which can be used in further research.
Technology Acceptance Model (TAM) in Facebook Research

Various methodological approaches are observed in recent Facebook research. Some studies concentrate on explaining personality and individual differences, while other provide exploratory analyses of a broad range of factors related to Facebook use. Concurrently, advanced confirmatory studies become prevalent; among them, studies based on technology acceptance model (TAM) are most frequent.

Technology acceptance model (TAM) explains actual technology use in terms of behavioral intention to use (BI), which is jointly determined by attitude toward using (A) and perceived usefulness (PU). PU and perceived ease of use (PEU, influencing PU) are treated in TAM as primary relevant factors influencing acceptance behavior through shaping attitudes (A) (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) (Figure 1).

Insert Figure 1


TAM is widely used in technology studies; however, due to its simplicity and understandability, it is frequently modified (King & He, 2006). The same approach is visible in the current Facebook research presented below. In ten studies identified as using TAM, the original model was modified in various ways. Changes to TAM were mostly done by the inclusion of external...
or prior factors and the incorporation of factors from other theories; such modifications are
typical for TAM-based studies (King & He, 2006, p. 741).

The first group of factors added to TAM were variables suggested by the hedonic-oriented
technology approach, such as enjoyment (Hu, Poston, & Kettinger, 2011; Lee, Xiong, & Hu,
2011; Leng, Lada, Muhammad, Ag Ibrahim, & Amboala, 2011; Yang & Lin, 2011), pleasure
(Wang, Xu & Chan, 2008), arousal (Lee et al., 2011; Wang et al., 2008), and playfulness (Oum
& Han, 2011). Accordingly to tested models, studies confirmed the direct positive influence of
hedonistic factors on behavioral intention to use (Hu et al., 2011; Oum & Han, 2011; Yang &
Lin, 2011) or indirect influence through attitude (Lee et al., 2011; Leng et al., 2011). Interesting
findings were reported by Wang et al. (2008). In their model, the influence of pleasure on
intention to continue Facebook use was marginal, while significant relation between continuance
intention and arousal was found. Such findings are in line with the Wise, Alhabash, and Park’s
(2010) laboratory experiment on emotional response during Facebook use. In their study, social
searching through Facebook friends’ profiles was found more pleasant than passive social
browsing of news feeds based on physiological measures of emotional activation (i.e. skin-
conductance and facial EMG). Similar effects of experiencing a positive affective
psychophysiological state (core flow state of valence and high arousal) during Facebook use
were reported by Mauri, Cipresso, Balgera, Villamira, and Riva (2011).

Psychological characteristics related to SNSs use and, in general, the state of being online, such
as telepresence (Kwon & Wen, 2010; Oum & Han, 2011; Sombutpibool, 2011), flow
(Sombutpibool, 2011; Yang & Lin, 2011), and privacy concern (Tan, Qin, Kim, & Hsu, 2012)
provided a new perspective for understanding how the acceptance is shaped. All of them were confirmed as significant factors influencing intention to use and perceptions of technology. Those factors enable engagement and acceptance of SNSs due to changes in users’ perceptions of time and place while using such sites.

Among psychological factors influencing technology use, also self-efficacy (computer and Facebook specific) was confirmed as a significant variable; the results of studies by Yang and Lin (2011) and Wang et al. (2008) will be discussed in detail later on.

Last but not least, the exploration of social factors influencing intention to use was within the scope of several studies. The role of social norms (Hu et al., 2011; Leng et al., 2011; Sombutpibool, 2011; Yang & Lin, 2011), social identity (Kwon & Wen, 2010; Oum & Han, 2011; Sombutpibool, 2011), and social trust (Oum & Han, 2011) was confirmed, except in Leng et al. (2011). Also altruism was reported as a factor significantly influencing the actual use of Facebook through an enhancement of perceived encouragement to use and perceived ease of use (Kwon & Wen, 2010). However, it is important to note that the construct of altruism was excluded from Oum and Han’s (2011) model as it did not meet statistical criteria.

In TAM-based studies, social factors (e.g. social identity, social norms) turned out to be important for shaping positive attitudes toward Facebook use and increase actual usage. Their importance for Facebook usage and satisfaction was also confirmed in other studies, such as Cheung, Chiu, and Lee’s (2011) analysis of their We-intention model, the exploration of social motivation by Kim, Kim, and Nam (2010), collective self-esteem and group identification study by Barker (2009), or the findings of Gangadharbatla (2008) related to collective self-esteem and
the need to belong. Likewise, evidence has also been found for inverse influence – namely, the effect of Facebook use on better adaptation to university culture, gaining acceptance from peers, and then learning outcomes improvement (Yu, Tian, Vogel, & Chi-Wai Kwok, 2010).

There is a shortage of TAM-based Facebook research that would explore the role of personality traits. Studies of the role of personality and individual differences in Facebook use form a significant research thread, but a majority of them do not test theoretical models. The results of former studies on the relationship between TAM and personality traits are promising (Devaraj, Easley, & Crant, 2008; Svendsen, Johnsen, Almås-Sørensen, & Vittersø, 2011). Those studies reported that personality traits not only influence the intention to use technology (BI) directly but also mediate the intention to use through PEU and PU. Therefore, further investigation of the importance of personality traits for technology acceptance would be an interesting direction in future Facebook research.

The results of studies presented above confirmed that TAM has several advantages as a theoretical core in Facebook use research. TAM makes it possible to embrace various factors into a simple and powerful framework, which has a strong predictive power (King & He, 2006; Wang, Xu, & Chan, 2008). TAM offers a chance to further explore the role of personality traits and individual differences in shaping Facebook use through confirmatory studies. The potential of TAM as a framework integrating various factors is yet to be fully utilized.
The Personality of Facebook Users

There is a vast body of research that focuses on the relationship between the Five-Factor Model of personality and the use of Facebook (e.g. Jenkins-Guarnieri, Wright, & Hudiburgh, 2012; Moore, & McElroy, 2012; Ross, Orr, Sisic, Arseneault, Simmering, & Orr, 2009; Seidman, 2012). The Five-Factor Model describes personality on five dimensions: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (McCrae & Costa, 1999). Neuroticism is related to the aroused level of anxiety, moodiness, and emotional instability; it is displayed by psychological distress while being socially exposed. A person high on neuroticism prefers spending time alone than in a group. Extraversion is connected with talkativeness, being assertive, looking for social interactions, and deriving pleasure from contacts with others. Openness to experience characterizes those who are open to new solutions, like learning new things, and have a broad range of interests. Agreeableness is connected with being cooperative, sympathetic, warm, and considerate. Conscientiousness is associated with being scrupulous and diligent.

According to research done by Correa, Hinsley, and de Zuniga (2010), extraversion, emotional stability, and openness to experience were those factors that distinguished the users of social networking sites and instant messaging, jointly labeled as social media users. By social media use they understood the use of social networking sites and instant messaging. In their research extraversion and openness to experience were found to be positively related to social media use, whereas emotional stability was negatively related to the latter. Furthermore, some differences with regard to age and sex were revealed. Men and women, both groups with high levels of
extraversion, used SNSs more often, but only those men with high emotional instability were the
regular users. Openness to experience was a significant predictor of social media use only among
older users.

Personality characteristics differentiated the motives for using Facebook. Extraversion was
related to more frequent use of Facebook in order to communicate with others (Seidman, 2012). Users
high on agreeableness and neuroticism fulfilled their needs for belonging. Low
conscientiousness and high neuroticism were good predictors of self-presentational needs. Users
high on narcissism, agreeableness, and extraversion liked to express their actual self-online.

Another study (Ross et al., 2009) showed that extraverted users were members of more online
groups than those who scored lower on this personality trait. However, contrary to what was
expected, extraversion was unrelated to the frequency of using Facebook and its communication
applications or to the number of friends. Those who scored high on neuroticism used the Facebook Wall more often, whereas those scoring low on this trait preferred posting photos on
their profiles. Conscientiousness and agreeableness were not related to more frequent online
contact. Extraverted and unconscientious individuals used SNSs more frequently and were more
prone to addictive trends. In contrast, both conscientiousness and agreeableness were unrelated
to using Facebook. The conclusion of that research is that personality traits influenced
preferences for using specific communicative features of Facebook.
A summary of the findings presented in Table 1.

Insert Table 1. Personality and the use of Facebook

In a study done by Karl, Peluchette, and Schlaegel (2010), some cultural differences were found that concerned the content posted by users. US students more often posted problematic information (e.g. sexual abuse) in comparison with German students. Personality traits such as conscientiousness, agreeableness, or emotional stability reduced the probability of posting problematic content.

Kim et al. (2010) showed that social interdependent self-construal can predict Facebook use. Self-construal is defined as a construct concerned with our relation to the surroundings and to others. What is more, interdependent self-construal is connected with the collectivist dimension of culture.

Orr and his collaborators (2009) reported a negative relationship between shyness and the number of Facebook friends. Self-esteem was an important determinant of using social networks. There were some contradictory findings on the relationship between self-esteem and Internet use. On the one hand, research shows that using the Internet has detrimental effect on self-esteem and social contacts. On the other hand, however, different research points out that extraverts can benefit from using the Internet (Kraut, Kiesler, Boneva, Cummings, Helgeson, & Crawford, 2002). Self-esteem was found to be negatively related to Facebook activity and to time spent on Facebook (Kalpidou, et al., 2011). A study involving 201 students (Wilson, Fornasier, & White, 2010) revealed that personality and self-esteem were good predictors of using SNSs and at the
same time determinants of addictive tendencies. Steinfield, Ellison, and Lampe (2008) indicated that self-esteem can moderate the intensity of Facebook use. People with low level of self-esteem use Facebook for building social capital. Facebook helps them reduce barriers connected with forming large networks.

Some studies (e.g. Carpenter, 2012; Ong, Ang, Ho, Lim, Goh, Lee, et al., 2011; Skues, Williams, & Wise, 2012) examined the relationship between narcissism and use of Facebook. Narcissism is “a pattern of traits and behaviors which signify infatuation and obsession with one's self to the exclusion of all others and the egotistic and ruthless pursuit of one's gratification, dominance and ambition” (Bushman & Baumeister, 1998). Carpenter (2012) tried to establish the relationship between the pattern of using Facebook and two elements of narcissism, namely the “Grandiose Exhibitionism” related to the need of being in the center of others’ attention, and the “Entitlement/Exploitativeness” connected with the sense of deservingness and ignoring others’ needs and feelings. He found that these two narcissistic characteristics were related to antisocial behaviors (e.g. retaliatory behaviors as response to negative comments about themselves, concentration on their own needs disregarding the needs of others). Narcissists used Facebook as a form of leisure-time activity; they used it for romantic and exhibitionistic purposes (Bibby, 2008). In a similar vein, the study showed that narcissists more often updated their profiles on Facebook and showed more appealing profile photos; generally, they were more focused on self-promotional goals. According to Mehdizadeh (2010) narcissism was positively related not only to the frequency and intensity of using Facebook, but also to self-promotion in some Facebook applications (e.g. Main Photo, Status Updates, Notes). In their study on the users of German Facebook clone StudiVZ, Krämer and Winter (2008) tried to answer the question whether
personality traits are associated with the way how the users present themselves. Some relationships were found between personality characteristics and using Facebook. In contrast to introverts, those who scored higher on extraversion had more Facebook friends and belonged to more online groups. What is more extravertism was related to less conservative self-presentation and downloading a kind of unusual profile photo. The authors also concluded that there was no relationship between self-esteem and self-promotion. However, Bergman, Fearrington, Davenport, and Bergman (2011) revealed that there was no difference in the frequency and time spent on the usage of SNSs between users with different levels of narcissism – the difference was rather due to the motives for using them. Those who scored high on narcissism wanted to have many SNS friends, wanted to inform them about their activity, and wanted their profiles to present their positive image. Buffardi and Campbell (2008) drew similar conclusions, finding that those with higher scores on narcissistic personality used Web sites for the purpose of self-promotion and were distinguished by higher online social activity.

Some researchers have pointed out the need to shift the focus of Facebook research in order to register the full spectrum of factors influencing Facebook adoption and use. They argued that broad and abstract personality factors (i.e. the Big Five) might not be sufficient to understand the phenomenon of Facebook use (Ross et al., 2009; Sun & Wu, 2011). Other researchers have pointed to other possible directions for further research; for instance, Hughes, Rowe, Batey, and Lee (2012) emphasized the need to identify other individual variables influencing Facebook use – namely, motivation and self-efficacy.
Motives for Using Facebook

The general aim of SNS is to sustain already existing relationships or to build new ones; it is a good tool for people to present themselves, their interests, and their membership in social networks and is associated with social capital (e.g. Ellison, Steinfield, & Lampe, 2007; Ross et al., 2009). Those who benefit most from Facebook are individuals with low self-esteem and experiencing low life satisfaction (Ellison et al., 2007).

Concurrently, the social enhancement hypothesis, known as “rich get richer” (Kraut et al., 2002), and the competing hypothesis of social compensation, i.e. “poor get richer” (McKenna & Bargh, 2000), were reviewed in the context of Facebook (Sheldon, 2008; Zywica & Danowski, 2008). The results of both studies confirmed that those who were more extroverted benefited from social networking sites use. However, for the subset of less popular users Zywica and Danowski (2008) also found support for the social compensation hypothesis. Such findings are related to results of the study by Hsu, Wang, and Tai, (2011), in which Facebook was confirmed to be a useful mechanism for making new friends and acquaintances.

Studies by Brandtzaeg and Heim (2009) explored motives behind the use of social network sites, from more to less crucial, such as looking for new relationships, keeping up with friends, socializing, sharing information, debating, free texting, time-killing, sharing content, unspecified fun, profile surfing, and family contact. These days, studies focus mainly on Facebook. In U&G (use and gratification) theory, four motivational needs are mentioned that correspond to the motives for Facebook use: information, entertainment, social interaction, and personal identity (Brandtzæg & Heim, 2009; Park, Kee, & Valenzuela, 2009). In the dual-factor model of
Facebook use, Nadkarni and Hofmann (2012) have discovered two basic social needs behind Facebook use: namely, the need to belong and the need for self-presentation. The first one is connected with affiliation with others and desire for social acceptance. The second need is impression management. Both needs can work independently and increase depending on other factors, such as demographic and cultural variables or some personality characteristics.

The results of the majority of studies indicate that there are several motives for Facebook use and, what is more, that these motives are relative to the personality and needs of users. Some results suggest that shy and socially anxious people spend more time on Facebook than people with high self-esteem (Ryan & Xenos, 2011). However, Ross et al. (2009) suggested that personality was not as important as motivation in the decision to use Facebook.

Major studies list maintaining contact with close friends and people the individual does not see very often as the most important motives for Facebook use (Hew, 2011). Joinson (2008) also demonstrated that keeping in touch was one of the crucial reasons for Facebook use. Moreover, people use Facebook because they want to meet new people and read information about others (Brandtzaeg & Heim, 2009). According to Ross et al. (2009), the need for communication is one of the motivational factors behind Facebook use beside seeking social support and entertainment value. These factors are independent of the personality characteristics based on the five factor model.

Participants taking part in research reported that by using Facebook they wanted to become more popular. What is more, Facebook allowed people to express themselves and present themselves to a larger group (Hew, 2011). Self-presentation on Facebook is a good way of expression,
especially for people with high scores on narcissism and lower on self-esteem (Mehdizadeh, 2010). People presenting themselves via Facebook can control their self-images and create more desirable images compared to offline communication (Krämer & Winter, 2008). Some results have shown that young people use Facebook to look for help with their studies, e.g. share lecture notes or collaborate on projects (Lampe, Wohn, Vitak, Ellison, & Washet, 2011). This way of communication enables free exchange of questions and requests even if someone is shy.

Some studies have found that people kill time using Facebook, which means that one of the motives for using this medium is boredom (Hew, 2011). Additionally, according to Sheldon (2008) the more time bored individuals spend communicating online, the more anxious and fearful they feel in offline communication. If people derive pleasure from using Facebook applications, e.g. playing games, quizzes, or discovering applications because friends have added them to their profiles, they will spend more time using Facebook (Joinson, 2008).

Another motive for using Facebook is to manifest one’s intent, e.g. to vote in elections. Moreover, using Facebook can also be a task management tool, i.e. it helps to organize time and store email addresses, phone numbers or friends’ birthdays. Finally, some people claim that Facebook is ‘cool’ in the sense that if someone has a profile they may think that they are ‘at the top’ (Hew, 2011).

Different motives for Facebook use are connected with both usage patterns and users’ privacy settings. The less restrictive privacy settings the users have (e.g. the more open their profiles are), the more friends they have on Facebook and the more open they are to getting to know new
people. This group of users derives pleasure from using Facebook, and for them self-presentation is a more important motive for using that site than keeping in touch (Joinson, 2008).

Sheldon (2008) proposed a six-factor questionnaire for measuring reasons behind Facebook use. The first factor is relationship maintenance, e.g. communication with friends, getting in touch with people, or sending and posting messages to people. The second one is passing time, which may be linked with boredom. The third factor is participation in a virtual community, e.g. finding companionship or meeting new friends. The fourth factor is entertainment, e.g. enjoying the reading of other people’s profiles. Factor number five is ‘coolness,’ which is to say having fun or being ‘cool’ among peers. The last, sixth factor is companionship, which is linked with feeling less lonely. Park et al. (2009) revealed four needs behind using Facebook groups. Facebook provides opportunity to stay in contact with others – the socializing need; it is a good way of having fun – entertainment; it is a source of information – the information need; it is useful in developing career or creating a positive image – self-status seeking.

Brandtzæg, Lüders, and Skjetne (2010) revealed differences and similarities in motivation for Facebook use between young and adult groups. For instance, young people use Facebook for contacting people they can see every day, whereas adults use it to contact old friends, whom they last met 10 or more years ago. For young people, using Facebook is connected with flirting, photo sharing and general contact with friends, while for adults Facebook communication has a nostalgic character.

Some cultural differences were obtained in the study done by Ji and collaborators (2010). In their study, they compared three countries: the Republic of Korea, the People’s Republic of China,
and the United States of America. The authors claimed that cultural differences have an impact on motivation for SNS usage. Kim et al., (2010) in their research obtained five factors connected with motivation to use Facebook: expert search, that is, searching for people not often met; communication for having conversations with friends; connection for maintaining relationships made in real life; content sharing, that is, posting information, photos, and music so as to share it with friends; and finally – identity for expressing opinion, emotion, or mood. Burke, Marlow, and Lento (2010) indicated that there is relationship between loneliness, feeling of social capital, and social network usage. Frequently, Facebook use is strongly linked with high feeling of social capital and low loneliness.

A summary of the results concerning motives for using Facebook is given in the Table 2.

Insert Table 2. Motives for Using Facebook

Self-Efficacy and Facebook Use

Self-efficacy – a construct developed in social-cognitive theory as an important regulator of human activity (Bandura, 1986, 1997) – has been incorporated in several recent studies presented below. Still, the self-efficacy theme in Facebook research is not very prominent yet, even though various types of self-efficacy have been explored in current studies, namely: self-efficacy (Sun & Wu, 2011), computer self-efficacy (CSE) (Curtis, Edwards, Fraser, Gudelsky, Holmquist, Thornton et al., 2010; Mew & Money, 2010; Wang, Xu, & Chan, 2008; Yang & Lin, 2011), Internet self-efficacy (ISE) (Gangadharbatla, 2008; Sun & Wu, 2011; Tokunaga, 2011), as well
as Facebook-specific self-efficacy (Lampe, et al., 2011; Lee, Kim, & Kim, 2012; Wang et al., 2008).

Bandura (1986) defines self-efficacy as “people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (p. 391). Computer self-efficacy (CSE), Internet self-efficacy (ISE) and Facebook-specific self-efficacy all stem from Bandura’s original construct. In CSE, ISE and Facebook-specific self-efficacy, users judgments of own capabilities are applied to increasingly particular domains: from computer and Internet use to Facebook task completion.

The presence of three different types of self-efficacy in the studies discussed below reflects the ongoing debate on the importance of differentiating between general and task-specific self-efficacy in technology research (Agarwal, Sambamurthy, & Stair, 2000; Marakas, Yi, & Johnson, 1998; Torkzadeh, Chang, & Demirhan, 2006). In technology research CSE is an example of global self-efficacy; Compeau and Higgins (1995) define CSE as an individual’s belief regarding his or her ability to use the computer. By contrast, ISE and Facebook-specific self-efficacy are both examples of task-related self-efficacy and are described as an individual’s perceptions of their own ability to complete particular tasks (i.e. browsing the Web, communicating on Facebook, uploading photos, etc.) (Eastin & La Rose, 2000; Lampe et al., 2011).

Self-efficacy beliefs may enhance or limit human behavior by influencing people’s general willingness and self-perceived ability to undertake actions, goals’ difficulty selection, as well as persistence and effort in their successful accomplishment (Bandura, 1997). With the growing
number of Facebook features and applications in everyday life, self-efficacy should be considered an important regulator of user behavior, which influences not only task performance but also motivation and affect related to Facebook use.

In this section the role of CSE, ISE and Facebook-specific self-efficacy for the adoption and continuance of Facebook use as well as their influence on users’ behavior will be reviewed. We will also discuss the potential problems related to differentiation between global and specific self-efficacy presented in current research.

ISE, alongside the need to belong and collective self-esteem, has been confirmed to be an important factor positively related to favorable attitudes toward Facebook and other SNSs and to willingness to join them (Gangadharbatla, 2008). Likewise, Curtis et al. (2009) reported a significant relationship between CSE and the adoption of social media (e.g. Facebook). Moreover, social media credibility had a positive, though weak, correlation with CSE as well. The influence of CSE on general performance and the level of SNS usage has been also revealed: users having higher self-efficacy exhibit better performance (i.e. they use more complex SNS systems and perform more difficult tasks) and more diverse use (Mew & Money, 2010).

Apart from adoption, also the continuance of use has been confirmed to be dependent on self-efficacy. Wang and colleagues (2008) explored the role of both general (CSE) and Facebook-specific self-efficacy. The results of that study, in which TAM model complemented with additional affective and efficacy factors was applied, confirmed that all these factors were important for the continuance of SNS use. Prior experience was a significant predictor of the level of general self-efficacy and Facebook-specific self-efficacy. CSE was confirmed as a
determinant of perceived usefulness and pleasure; however, for perceived ease of use it was specific self-efficacy that turned out to be a more direct and powerful predictor.

The influence of self-efficacy on users’ behavior has been studied in various contexts. Two studies have explored Facebook-enhanced collaboration in college and workplace settings. One of these studies, done by Lampe and colleagues (2011), was undertaken to explain the role of different social (gender, experience, intensity of use, and staff support) and psychological (self-esteem, satisfaction, and Facebook-specific self-efficacy) factors in the propensity to use Facebook for collaboration. The study brought unambiguous results as only certain types of Facebook self-efficacy had a significant effect on the propensity to collaborate through Facebook. More precisely, higher confidence in the ability to control Facebook privacy settings increased the likelihood of positive collaboration, while higher self-efficacy in finding interest-related information decreased the likelihood of collaboration. The second study, carried out by Yang and Lin (2011), enriched these findings by adding a more general perspective. These authors employed TAM together with additional factors (social influence, flow, and computer self-efficacy) to predict the usage of Facebook groups to support problem-based learning. CSE was confirmed to be a significant factor in predicting such usage of Facebook due to its direct influence on the perceived ease of use and indirect on behavioral intention toward use.

Another aspect of Facebook use is the self-presentation and management of one's image. Sun and Wu (2011) focused on the traits, predictors, and consequences of Facebook self-presentation. The results of their study confirmed that, among others factors, general self-efficacy and Internet self-efficacy were predictors of perceived ability to modify one’s presentation on Facebook.
Though Sun and Wu (2011) did not explore the consequences of self-efficacy for self-presentation any further, the results of an earlier study on the German Facebook clone, StudiVZ (Krämer & Winter, 2008), confirmed that individuals with higher scores on self-efficacy scales managed their image on Facebook in a more diverse and developed way.

As it was mentioned before, Facebook has become a space for marketing activities based on creating Fanpage communities. The level of self-efficacy of community members may be one of the factors that influence their activity. That was confirmed in an experimental study done by Lee et al. (2012) on electronic word of mouth (eWOM) behavior on Facebook. Electronic word of mouth (eWOM) is a form of marketing information defined as "any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet" (Hennig-Thurau, Qwinner, Walsh, & Gremler, 2004, p. 39). Lee and colleagues (2012) reported that specific community engagement self-efficacy was a significant factor influencing participants’ eWOM-related behavior and their tendency to propagate information.

In presented research, two groups of results are noticeable: (1) the role of self-efficacy in the general adoption and continuance of Facebook use and (2) the influence of self-efficacy on various activities undertaken within Facebook (i.e. self-presentation, collaboration over Facebook or marketing communication).

To summarize, the role of self-efficacy in explaining Facebook adoption and continuation has been confirmed and is consistent with expectations based on theoretical models (i.e. TAM). Self-efficacy (both computer-related and Internet-related) turned out to be a factor that enables
adoption through favorable attitudes and perceptions as well as allows to predict further use and
the level of performance. Studies on the role of self-efficacy in the context of various
applications within SNSs provided further evidence of its important role in shaping successful
and meaningful Facebook behavior. Their practical implications also include the role of self-
efficacy training in developing positive attitudes and enabling more advanced use of Facebook
for collaboration and teamwork.

As it has been mentioned, one of the challenges in self-efficacy research is the decision whether
to employ the global (CSE) or more specific construct (ISE, Facebook-specific self-efficacy). In
the presented studies, two approaches were applied: cross-leveling – which adopts general
construct (CSE) to predict Facebook use – as well as measurement of Facebook-specific self-
efficacy in relation to Facebook-specific outcomes. Though it is postulated that the level of self-
efficacy (i.e. general or specific) should be in accordance with the level of study outcomes
(Downey, Rainer, & Bartczak, 2010), there is no common framework for technology-related
self-efficacy research that would facilitate the decision on which constructs to use. The need to
balance between too broad or too narrow constructs seems to be an issue of paramount
importance in self-efficacy Facebook research. In the first case, there is a risk of inability to
apply generic efficacy beliefs to SNS-specific usage, while the second case engenders problems
with the transferability of very narrow constructs and the risk of simplifying self-efficacy to self-
assessment of skills.

According to the assumption of self-efficacy generality, a component which facilitates the
transfer of self-efficacy beliefs from one domain to another (Bandura, 1997; Torkzadeh, et al.,
2006), CSE was measured in several studies using tool designed by Compeau and Higgins (1995) as well as Marakas, Johnson, and Clay's scale (2007). The results were contradictory: for example, Yang and Lin (2011) reported CSE influence on the perceptions of Facebook easiness, while Wang and colleagues (2008) did not confirm it. They measured CSE and specific self-efficacy simultaneously and in their model the anticipated CSE influence was intercepted by Facebook-specific self-efficacy.

Also the analysis of the content of CSE scales – e.g. items such as “I believe I have the ability to unpack and set up a new computer” (Marakas et al., 2007) or “I could complete the job using software package, if someone showed me how to do it first” (Compeau & Higgins, 1995) – raises the question of whether the use of Internet self-efficacy measures would be more appropriate in Facebook research. Such an approach makes intuitive sense, and apart from Eastin and LaRose (2000) scale used in a few studies, several other measures were developed so far (Torkzadeh & van Dyke, 2001; Tsai, 2004). Alternatively, it might be a solution to change the original instrument designed by Compeau and Higgins (1995), which is one of the best-validated tools in technology research, to measure beliefs in one's capability to use the Internet under various circumstances. The structure of the scale allows this, and the modified scale was applied successfully in research on Internet activity regulation (Rudnicka, 2007) and instant messaging communication (Błachnio, Przepiórka, & Rudnicka, 2010).

At last, first attempts to define and measure Facebook-specific self-efficacy (Lampe et al., 2011; Lee et al., 2012; Wang et al., 2008) are promising, but at the very same time they expose the weakness of the approach based on granular self-efficacy constructs and the difficulty of
encompassing the diversity of Facebook services and applications. Facebook-specific scales, although proper for the purposes of the studies for which they were designed, are excessively selective. Likewise, distinct assumptions about Facebook-specific self-efficacy constituents underlie the construction of these tools. This raises concerns about their transferability to follow-up studies. For example, Lampe and colleagues (2011) asked participants to assess their confidence while using Facebook communication tools, finding information about their interests and changing privacy settings, whereas the instrument applied by Wang et al. (2008) measured users’ self-efficacy in editing, electronic communication as well as photo and music manipulation. Finally, the online community engagement self-efficacy scale used by Lee et al. (2012) is an example of a tool designed to measure a very specific Facebook activity, which limits its potential further applications.

To deal with all the previously mentioned issues in an early phase of Facebook research, applying simultaneous measurement of both general (preferably ISE) and Facebook-specific self-efficacy should be recommended. This was done by Wang et al. (2008) and provided insightful results explaining the relation between general computer self-efficacy and users’ confidence in their Facebook skills.

Limitations of the review

The presented review is not free from limitations that should be enumerated. First of all, focusing on Facebook and excluding other examples of SNSs from our analyses has its advantages as well as disadvantages. Our intention was through a narrow scope of search to discuss more precisely and more insightfully the topic of Facebook use. Secondly, we focused generally on the
individual determinants of using Facebook, not giving deeper consideration to the technical aspects of using Facebook, its perceived usefulness, or satisfaction from using it. What is more, the implemented strategy of finding the articles might not have been ideal. We examined only peer-reviewed journals from the field of psychology, not including other disciplines that deal with the subject of Facebook as well. At the same time, that selection strategy is an advantage of this paper that distinguishes it from other recent reviews on Facebook that elaborated the topic more broadly (e.g. Wilson et al., 2012). This approach allowed us to present more homogeneous findings.

Summary

The studies reviewed in this article explored the phenomenon of Facebook use from psychological perspectives. As was presented, Facebook has a variety of applications and has become an indispensable tool in many areas of human activity. It is difficult to predict whether it will replace other forms of instant messaging; however, probably, it has become one of the most popular platforms for online communication and for spreading information. The pivotal role of SNSs has also manifested itself during the recent uprisings in the Arab world.

The main findings on the role of personality, other individual characteristics, self-efficacy, and motivational factors showed that using Facebook is a complicated and multidimensional process. In the light of the results of exploratory studies, building and verifying advanced theoretical models seems to be natural next step in future research. Studies based on TAM have confirmed the complexity of acceptance formation and its influence on Facebook use. The importance of various, e.g. hedonic, social, and individual factors for technology acceptance was also
confirmed. For further research, the advanced confirmatory designs should be recommended in which personality, self-efficacy, as well as motivational and social factors are included into TAM.

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online communication from the psychological perspective]. In T. Rowiński & T. Tadeusiewicz (Eds.), *Psychologia i informatyka. Synergia i kontradykcje* (pp. 67-80). Warszawa: Wydawnictwo UKSW.


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Table 1. Personality and the use of Facebook

<table>
<thead>
<tr>
<th>Personality variables related to Facebook use</th>
<th>Definitions of variable</th>
<th>Results</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>is connected with talkativeness, being assertive, looking for social interactions, and deriving pleasure from contacts with others (McCrae &amp; Costa, 1997, 1999).</td>
<td>was positively related to Facebook use</td>
<td>Correa, Hinsley, &amp; de Zuniga, 2010; Jenkins-Guarnieri, Wright, &amp; Hudiburgh, 2012; Moore &amp; McElroy, 2012; Ross et al., 2009</td>
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<tr>
<td>Openness to Experience</td>
<td>characterizes those who are open to new solutions, like learning new things, and have a broad range of interests (McCrae &amp; Costa, 1999).</td>
<td>was positively related to social media use</td>
<td>Correa, Hinsley, &amp; de Zuniga, 2010; Moore &amp; McElroy, 2012; Wilson at al., 2010</td>
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<tr>
<td>Agreeableness</td>
<td>was positively related to Facebook use</td>
<td>Moore &amp; McElroy, 2012; Seidman, 2012; Wilson et al., 2010</td>
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<td>Neuroticism</td>
<td>was related to the frequency of Facebook use and to preferences for specific features. High level of this trait was connected with using Facebook Wall. Low level was connected with users’ preference for posting photos on their profiles.</td>
<td>Ross et al., 2009; Ryan &amp; Xenos, 2011; Seidman, 2012; Wilson et al., 2010</td>
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</table>

Agreeableness is connected with being cooperative, sympathetic, warm, and considerate (McCrae & Costa, 1999).

Neuroticism is related to the aroused level of anxiety, moodiness, and emotional instability; it is displayed by psychological distress while being socially exposed (McCrae & Costa, 1999).
<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
<th>Low level was connected with the need for self-presentation in Facebook.</th>
<th>References</th>
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</thead>
<tbody>
<tr>
<td>Conscientiousness</td>
<td>is associated with being scrupulous and diligent (McCrae &amp; Costa, 1999).</td>
<td>Low level was connected with the need for self-presentation in Facebook.</td>
<td>Ross et al., 2009; Seidman, 2012</td>
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<tr>
<td>Self-esteem</td>
<td>a global estimation of oneself (Rosenberg, 1989)</td>
<td>was positively related to Facebook use. Self-esteem can moderate the intensity of Facebook use.</td>
<td>Gangadhharbatla, 2008; Jenkins-Guarnieri, Wright, &amp; Hudiburgh, 2012; Steinfield, Ellison, &amp; Lampe, 2008; Wilson et al., 2010</td>
</tr>
<tr>
<td>Collective self-esteem</td>
<td>the feelings of self-worth as a group member (Garcia &amp; Sanchez, in press).</td>
<td>high positive level of this trait was connected with Facebook use. Low negative level was linked with social compensation.</td>
<td>Barker, 2009</td>
</tr>
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<td>Loneliness</td>
<td>feeling the sense of emptiness, isolation, worthlessness, lack of control, personal threat and solitude (Booth, 2000).</td>
<td>was related to the frequency of Facebook use and to preferences for specific features.</td>
<td>Ryan &amp; Xenos, 2011</td>
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<tr>
<td>Shyness</td>
<td>is characterized by discomfort, inhibition, and social reticence in interpersonal contexts (Zimbardo, 1997).</td>
<td>was related to the frequency of Facebook use and to preferences for specific features.</td>
<td>Orr, Sisic, Ross, Simmering, Arseneault, &amp; Orr, 2009; Ryan &amp; Xenos, 2011</td>
</tr>
<tr>
<td>Narcissism</td>
<td>is a pattern of traits and behaviors which signify infatuation and obsession with one's self to the exclusion of all others and the egotistic and ruthless</td>
<td>was positively related to Facebook use and self-promotion in Facebook.</td>
<td>Ryan &amp; Xenos, 2011; Seidman, 2012</td>
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<tr>
<td>Social factors (social norms, social trust)</td>
<td>very important factors in social life (Leung, Kier, Fung, Fung, &amp; Sproule, 2011)</td>
<td>are important for molding positive attitudes toward Facebook use and increase actual usage.</td>
<td>Hu et al., 2011; Leng et al., 2011; Oum &amp; Han, 2011; Sombutpibool, 2011; Yang &amp; Lin, 2011</td>
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<td>Altruism</td>
<td>the promotion of needs and wants of others (Flynn &amp; Black, 2011)</td>
<td>was reported as a factor significantly influencing the actual use of Facebook through an enhancement of perceived encouragement to use it and perceived ease of</td>
<td>Kwon &amp; Wen, 2010</td>
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<tr>
<td>Social interdependent self-construal</td>
<td>is defined as a construct concerned with our relation to the surroundings and to others. Independent self-construal is connected with the collectivist dimension of culture (Kim, et al, 2010).</td>
<td>was strongly linked with social motivation and a large number of friends in Facebook.</td>
<td>Kim et al., 2010</td>
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<td>Motives for using Facebook</td>
<td>Authors</td>
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<td>connected with creating and expressing oneself</td>
<td>Ellison, Steinfeld, &amp; Lampe, 2007; Hew, 2011; Mehdizadeh, 2010; Nadkarni &amp; Hofmann, 2012; Ross et al., 2009</td>
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<td>self-presentation</td>
<td>Brandtzæg &amp; Heim, 2009; Park, Kee, &amp; Valenzuela, 2009</td>
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<td>expressing personal identity</td>
<td>Nadkarni &amp; Hofmann, 2012</td>
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<td>the need to belong</td>
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<td>manifesting one’s intent, e.g. to vote in elections</td>
<td>Hew, 2011</td>
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<td>controlling one’s self-image and creating a more desirable image compared to offline</td>
<td>Krämer &amp; Winter, 2008</td>
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<td>Activity</td>
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<td>communication</td>
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<td>debating</td>
<td>Brandtzaeg &amp; Heim, 2009</td>
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<td>free texting</td>
<td>Brandtzaeg &amp; Heim, 2009</td>
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<td>self-status seeking</td>
<td>Park, Kee, &amp; Valenzuela, 2009</td>
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<td>connected with socializing</td>
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<td>looking for new relationships</td>
<td>Brandtzaeg &amp; Heim, 2009</td>
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<td>keeping up with friends</td>
<td>Brandtzaeg &amp; Heim, 2009; Hew, 2011; Sheldon, 2008</td>
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<td>family contact</td>
<td>Brandtzaeg &amp; Heim, 2009</td>
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<td>socializing</td>
<td>Brandtzaeg &amp; Heim, 2009; Park, Kee, &amp; Valenzuela, 2009</td>
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<td>Activity</td>
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<td>the need for communication</td>
<td>Ross et al., 2009</td>
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<td>connected with the need for information</td>
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<td>obtaining information</td>
<td>Brandtzaeg &amp; Heim, 2009; Park, Kee, &amp; Valenzuela, 2009</td>
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<td>reading information about others</td>
<td>Brandtzaeg &amp; Heim, 2009</td>
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<td>sharing information</td>
<td>Brandtzaeg &amp; Heim, 2009</td>
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<td>looking for help with their studies, e.g. sharing lecture notes or collaborating on projects</td>
<td>Lampe et al., 2011</td>
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<td>connected with time management</td>
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<td>time-killing</td>
<td>Brandtzaeg &amp; Heim, 2009; Hew, 2011</td>
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<td>boredom</td>
<td>Hew, 2011</td>
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<td>a task management tool, i.e. to organize time and store email addresses, phone numbers or friends’ birthdays</td>
<td>Hew, 2011</td>
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<td>connected with fun</td>
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<td>entertainment</td>
<td>Brandtzæg &amp; Heim, 2009; Joinson, 2008; Park, Kee, &amp; Valenzuela, 2009</td>
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</table>
Figure 1. Technology Acceptance Model, TAM (Adapted from: Davis, Bagozzi, and Warshaw, 1989, p. 985)