User Perceptions About Self-efficacy, Features and Credibility as Antecedents to Flow on Social Networking Sites

Valerie Barker

Abstract

Increasing engagement with other users and online content is an important goal for digital and social media managers. Through such involvement educators, brands, and organizations seek to achieve desired outcomes. Thus, in the current study, the concept of flow (intense involvement and engagement) is of interest as the focal dependent variable. An online survey (N = 888) was used to measure three potential antecedents to flow: perceptions about self-efficacy, social networking site credibility and site features. The findings indicated that self-efficacy predicted flow for social networking site users when they experi-

Dr. Valerie Barker is the chair of the JMS Digital & Social Media Research Project in the School of Journalism and Media Studies at San Diego State University. Correspondence can be directed to valeriebarker@valeriebarker.net. This research was funded by the School of Journalism and Media Studies, SDSU.

enced positive perceptions about site features and credibility. This outcome underscores the value of user-friendly site features, and beliefs about site credibility in facilitating optimal involvement with social networking site content.

Despite some changes in the demographics of usage, Facebook remains the behemoth of social networking sites. In the second quarter 2015 operational highlights report to shareholders, Facebook reported that daily active users were 968 million on average for June 2015 alone, an increase of 17% year-over-year. Mobile daily active users were 844 million on average, which was an increase of 29%. Additionally, in a 2014 shareholder report, Mark Zuckerberg (Facebook Relations, 2014) revealed that: "On average, people on Facebook in the U.S. spend around 40 minutes each day using our service, including about 1 in 5 minutes on mobile" (p. 1). A plethora of research has shown that the primary motive for Facebook use (and other social networking sites) is connection (e.g., Barker, 2009, boyd, 2007, Donath & boyd, 2004; Ellison, Gray, Lampe, & Fiore, 2014; Ellison, Steinfield & Lampe, 2007; Ellison, Steinfield & Lampe, 2011: Livingstone & Helsper, 2007). However, in addition to content comprising updates and comments from "friends," a considerable variety of material is available to social networking site users, such as photographs, memes, links to videos, news articles, advertising, and interest group information (Baresch, Knight & Harp, & Yaschur, 2011; Duggan & Smith, 2013). Thus, it

is clear that there is ample opportunity for involvement (in terms of both time and intensity) with social networking sites. In the current study, as the ultimate experience of involvement, flow (intense engagement in and enjoyment of an activity) is the dependent variable of interest. Clearly, opportunities abound for communication, interaction, and content generation via social networking site affordances, but there are other telling antecedents to involvement in this context. The present study assesses social networking site self-efficacy, and perceptions about site features and credibility as antecedents to the flow experience among social networking site users.

Self-efficacy refers to beliefs in one's capabilities to organize and develop courses of action to accomplish desired outcomes (Bandura, 1986). Research has indicated that self-efficacy has a strong influence on the activities that people choose to engage in as well as involvement with and commitment to such activities (Bucy & Tao, 2007). Arguably, people who are confident in their abilities to use and navigate social networking sites should be able to assertively interact with social networking site features, and also to assess the trustworthiness of the social networking sites they use. Prior research indicates that the experience of flow may enhance users' interactions with social networking sites and increase the potential for a variety of positive outcomes (Barker, Dozier, Schmitz Weiss, & Borden, 2013, 2014). Therefore, the goal of the present study is to investigate the mediating role of perceptions about social networking site credibility and features in the relationship between reported self-efficacy and the experience of flow.

Literature Review

Many studies have identified uses sought and gratifications obtained from Facebook. Some of these include connection, entertainment, passing time, social learning, collective self-esteem, and as classroom support (e.g. Park, Kee & Venenzuela, 2009; Raacke & Bonds-Raacke, 2008; Roblyer, McDaniel, Webb, Herman, & Witty, 2010; Ryan & Xenos, 2011; Smock, Ellison, Lampe, & Wohn, 2011; Stern & Taylor, 2007; Zhang, Tang, & Leung, 2011). However, to shed light on the underlying processes involved and outcomes from users' interactions with social networking sites, it is helpful to consider factors that facilitate flow, especially as research in a variety of Internet contexts has shown flow to precede positive outcomes such as satisfaction, affirmation, loyalty, and learning. Thus, the value of flow in facilitating such outcomes is not at issue. However, a better understanding of antecedents to the experience of flow in diverse Internet contexts — in this case social networking sites — requires investigation. The belief that one possesses the know-how and ability to navigate social media is a starting point for involvement. This is self-efficacy.

Self-efficacy

Self-efficacy is defined as an individual's confidence in his or her ability to complete actions necessary to affect given goals (Bandura, 1997). People are typically motivated to engage in activities in which they feel they have a high probability for success. Two of the primary variables directly impacting self-efficacy are experience within the specified modality, and physiological function (Bandura, 1996). A number of researchers, including Bandura (1997), Eastin and LaRose (2000), and Papacharissi and Rubin

(2000), have posited that Internet self-efficacy is a substantive predictor of Internet use. Internet self-efficacy has been applied within a number of research domains, including learning-based technologies (e.g. Chou & Tsai, 2002; Chu & Tsai, 2009; Coffin & MacIntrye, 1999; Dinet, Marguet & Nissen, 2003; Lane, Lane & Kyprianou, 2004; Metzger, Flanagin, & Zwarun, 2003; Peng, Tsai & Wu, 2006; Simmering, Posey & Piccoli, 2009), news and information seeking activities (e.g. Kaye, 2005; Ford, Miller, Moss, 2005; Hals & Tewksbury, 2006; Hargittai, 2009), and parasocial activities (e.g. Cheong, 2008; Ho, Lee & Hameed, 2008). Internet self-efficacy is said to play a significant role in determining goal setting and motivation to obtain expected outcomes (LaRose, Mastro, & Eastin, 2001). With regard to Internet activity, self-efficacy definitions exist in both general and specialized forms (e.g. use of social media). Although self-efficacy can be seen as a moderator, in the current study, self-efficacy is treated as an antecedent variable. Studies about the Internet have found that control and challenge, individual skills, and ease of use were antecedents of flow (Ghani & Deshpande, 1994; Ghani, Supnick, & Rooney, 1991; Trevino & Webster, 1992). In the current study, self-efficacy is concerned with the outcomes that a user believes he or she can accomplish via social media and taps into the *perception* of ability to successfully perform tasks. Obviously, if such tasks are to be accomplished, a favorable view of the available site features is helpful.

Site Features

Prior research has indicated that website features and layouts influence website users' attitudes to and experi-

ences with such websites. For example, De Angeli, Sutcliffe and Hartmann (2006) described an evaluation of two websites with the same content but with different interface styles (traditional menu-based and interactive metaphors) using an assessment of aesthetics, content, information quality, usability, and posttest memory. The study revealed that perception of information quality is affected by the interaction style on the interface according to context and target audience. In a follow-up study of attention to and interest in websites, Sutcliffe and Namoun (2007) found that the sites that were rated more attractive overall had an open layout and high-density fixations on animations. In later research, Sutcliffe and Namoun (2012) confirmed that sites with open graphical layouts, animations, and images dominated attention.

Additionally, in a study of the interaction capability of online news, Chiang and Su (2011) demonstrated the influence of different interactivity attributes on the presentation format preferences of different usage groups and that types of interactivity attributes (especially synchronicity) significantly affected choice probability. By contrast, Lim and Ting (2012) showed that confusion, frustration, and messiness on online shopping sites have a significant influence on consumers' irritation level for online shopping. The degree to which the online shopping site was perceived to be irritating strongly and negatively influenced shoppers' attitude toward online shopping.

Evidently the affordances available via Internet sites, social networking sites in this case, contribute to the involvement and enjoyment with such sites. Sundar and Limperos (2013) proposed that new media affordances such as modality (means of presentation), agency

(contribution, community building), interactivity (e.g., content generation) and navigability (technical support, exploration) actually cue types of gratifications. And based on Lim and Tang's study, a lack of them or poorly constructed online applications can also inhibit enjoyment and frustrate users. Thus, founded on prior research about the value placed by users on site features, it is likely that assessments of self-efficacy will affect perceptions about site features and attributes. Put another way, those who consider themselves able to navigate around their favorite social networking site are unlikely to do so if they feel that the site features are unsatisfactory.

> **H1:** There will be a positive relationship between reported self-efficacy and favorable perceptions about social networking site features (interactivity, feedback, variety, ease of use).

Site Credibility

Flanagin and Metzger (2007) showed that website features, such as perceptions of levels of information, professionalism, attractiveness, pleasantness, color, interaction, interest, and organization, influenced participants' assessments of website credibility. Trust in the veracity of the content available via social networking sites potentially affects involvement and engagement with such sites. Thus, the concept of website credibility is examined next.

Research conducted by Metzger and colleagues (e.g., Flanagin & Metzger, 2007; Metzger, 2007; Metzger, Flanagin, & Medders, 2010) indicates that perceptions of credibility differ across website genres; news organization websites are rated highest in terms of message, sponsor, and overall site credibility, and personal websites lowest;

for the most part, e-commerce and special-interest sites are rated in the middle. Also, credibility assessments appear to be due more to website attributes (e.g., design features, depth of content, and site complexity) than to familiarity with website "sponsors," such as organizations or individuals. Internet users routinely invoke cognitive shortcuts (e.g., ease of use, web features) to evaluate the credibility of information and sources online. Facebook reported that 8.7% of its profiles are fake and 1.5% are fraudulent, spamming, or undesirable in some other way (Facebook SEC Filing, 2012). This represents a very significant number of profiles that are potentially problematic and have the capability of contact via user news feeds. Some users may have difficulty in discerning that certain profiles are fraudulent; arguably, those who are high in self-efficacy will not. Hocevar, Flanagin, and Metzger (2014) introduced the concept of social media self-efficacy, a person's perceived ability to reach desired outcomes using social media, and assessed the relationship between social media self-efficacy and how people evaluate information found online. The results of a survey of a representative sample of adult Internet users (N = 3,568) indicated that users with higher social media self-efficacy find information shared via social media to be more trustworthy than do those lower in social media self-efficacy. Also, self-efficacious social media users rely more both on the opinions of others and on social media specifically when evaluating or verifying the information they find online. Here it is assumed that social networking site users who have high self-efficacy beliefs will also report higher credibility beliefs, simply because they have confidence in their abilities to better navigate around and interact with their so-

cial networking sites of choice.

> **H2:** There will be a positive relationship between reported self-efficacy and perceptions about social networking site credibility.

As mentioned earlier, a surfeit of research about the experience of flow has indicated that positive outcomes result from it. For example, Zhou, Li, and Liu (2010) examined the effect of the flow experience on social networking site users' loyalty. The results showed that both information quality and system quality significantly affect users' trust and flow experiences, which further determined their loyalty. Other research about online use has determined that flow is associated with satisfaction and affirmation (Barker et al., 2014) and types of learning (Barker et al., 2013; O'Cass & Carlson, 2010; Skadberg & Kimmel, 2004).

Flow

Flow is described as an optimal experience. It is said to occur when "the experience is so enjoyable that people will continue to do it even at great cost, for the sheer sake of doing it." (Cskikszentmihalyi, 1990, p.4). This concept, in part, grew out of Cskikszentmihalyi's observations of people who took great pleasure in creative activities, or activities which they regarded as intrinsically rewarding. As a dimension of the positive psychology movement of the 1960s and 70s, Csikszentmihalyi (1975) introduced the theory of flow as an attempt to explain why people engage in activities that do not appear to have utility, but are simply regarded as ends in themselves. The flow experience is a state which comprises the "crucial embodiment of enjoyment" (Csikszentmihalyi & Csikszentmihalyi, 1988, p. 34).

According to the original formulation, in order for flow to occur three attributes should be associated with the activity in hand: a clear goal, fast unambiguous feedback, and balance of challenge and skill. The flow experience entails six dimensions: focused concentration, merging of activity and awareness, a sense of being in control, transformation of time, transcendence of self, and autotelic experience (the activity is an end in itself). The concept of flow has been examined in numerous, diverse online environments (Kaur, Dhir, Chen, & Rajala, 2016a; Khang, Kim, & Kim, 2013) such as education online (Challco, Andrade, Borges, Bittencourt, & Isotani, 2016; Hsiao, Chang, Lin, & Hu, 2014; Kiili, de Freitas, Arnab, & Lainema, 2014); personality traits and attitudes in online activities (Kaur, Dhir, Chen, & Rajala, 2016b; Moon, Kim, & Armstrong, 2014), and video design and play (Fang, Zhang, & Chan, 2013; Jin, 2012).

Some researchers have used the concept of "core flow." For example, Martin and Jackson (2008) stated: "...the core flow...is likely to be relevant to studies where the more wide-ranging aggregate and multidimensional flow is not as central to the more targeted subjective optimal-experience" (p. 153). Finneran and Zhang (2003) debated the appropriateness of applying the concept of flow (as defined by Csikszentmihalyi) to new media contexts. Their own model integrated other characteristics of user, task, and artifacts of different media technology which they said contributed to the flow experience. Thus, the current study also seeks to investigate potential antecedents to flow whereby the relationship between self-efficacy and flow is mediated by social networking site features and credibility.

As mentioned above, on average, people in the U.S. use Facebook around 40 minutes each day. As well, according to Pew Research, (Duggan & Smith, 2013) 40% of respondents visit multiple times a day with the majority (78%) of Facebook users accessing their news feed via mobile phone — giving rise to the assumption that Facebook is open on their phones for a large proportion of time. It seems that people are spending varying chunks of time on their Facebook news feed. Some of these chunks will be considerable. Often they are looking at content other than comments on their news feed. For example, in an early, exploratory study, Beresch, Knight, Harp, and Yascher (2011) conducted a content analysis that showed participants who posted links, posted an average of 10 links in a three-month period. Links to materials with photos were most prevalent (32%), but photos were less often the primary medium (11%). Written material dominated as the primary medium of posted links (45%), video sites (18%) were linked to more frequently than any other specific type of online destination. In the years since that study, matters have changed markedly. For example, Pew research reported the amount of stumbled upon news garnered via Facebook (Pew Research, 2013) and Twitter users as telling. Overall, people are privy to a variety of content everyday via social networking sites (including Twitter). They may not comment on posts at all, but may simply view, like, and/or share/retweet. This means that there is abundant opportunity to experience flow.

As mentioned, a large number of studies have adapted the concept of flow to apply to a variety of digital media and other online activities. For example, with regard to Facebook, Mauri, Cipresso, Balgera, Villamira and Riva
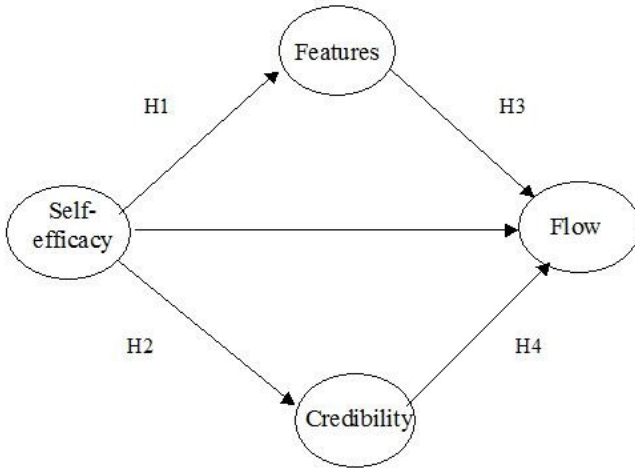
Figure 1. Proposed Model

(2011) investigated if Facebook use elicits a psycho-physiological pattern in users. The researchers compared responses to exposure to a slide show of natural panoramas (relaxation), the subject's personal Facebook account, and a mathematical task (stress). Analysis indicated that the Facebook experience was significantly different from the stress and relaxation conditions on the psycho- physical measures used, and that Facebook use can evoke a state characterized by high positive valence and high arousal which the authors interpreted as the experience of flow.

If users report positive experiences with the site features and also feel confident about the credibility of their chosen social networking site, it is to be expected that such beliefs and experiences will allow for intense involvement with the site. Therefore, in this study, it was posited that positive experiences with site features and beliefs in the credibility of social networking sites would enhance the

experience of flow.

>**H3:** Positive perceptions about social networking site features will be positively related to the experience of flow.

>**H4:** Perceptions about social networking site credibility will be positively related to the experience of flow.

The mediating role of perceptions about site features and perceptions of site credibility in the relationship between self-efficacy and flow was assessed in this study. Therefore, the direct relationship between self-efficacy and flow was also assessed. This is based on the position that if someone feels able to operate well on a social networking site then he or she will be better placed to experience flow. All of the proposed relationships described above are illustrated in Figure 1.

Method

Data were collected using Amazon Mechanical Turk (AMT). AMT is self-described as a "marketplace for work that requires human intelligence" (Amazon, 2015, para. 1). Viability studies have indicated that AMT is approximately representative of the population of U.S. Internet users, generally exceeding that of convenience samples or student samples (e.g. Berinsky, Huber, & Lenz, 2012; Mason & Suri, 2012; Paolacci, Chandler, & Ipeirotis, 2010). To qualify for the survey, participants had to be at least 18 years old, living in the United States, access the Internet each day, and also access social networking sites sometimes, often, almost always, or always. Respondents with non-U.S. IP addresses were prohibited from participating in the study. Compensation for participation in the survey

was 25 cents. To prevent repeat participation, respondents were informed that they would be compensated only once. The average time for completion of the survey was 7 minutes and 4 seconds with a median of 6 minutes and 3 seconds. The total sample amounted to 931; however, 43 cases were deleted because the survey was incomplete. Therefore, the valid sample was 888 of which 49% were female, age range 18-72, M = 31.28 years, SD = 10.42. The majority of participants (74%) fell into the 18-34 age range. In terms of racial composition, 720 participants identified as White, 103 as Hispanic, 82 African American, and 76 as Asian. A total of 71% reported their favorite social networking site as Facebook, and 13% chose Twitter. The remainder reported a variety of other social networking sites as their favorite, e.g., Instagram, Pinterest, Google+.

Research Design
Survey and Measures

In addition to demographic variables: e.g., age, sex, and race, several scales were used to measure the variables of interest. All scale items were closed-ended and participants responded on a 5-point range (e.g., 1 = strongly disagree; 5 = strongly agree). Each scale was tested for internal consistency using Cronbach alpha and composite reliability. Discriminant validity was assessed using the square root of the average variance extracted. The scales were pilot-tested with 465 undergraduate students; some item modifications were made to improve reliability.

Table 1

Correlations: Scales and Discriminant Validity

	1	2	3	4
1. SNS Self-efficacy	**.81**			
2. SNS Features	.38**	**.57**		
3. SNS Credibility	.23**	.40**	**.82**	
4. Flow	.41**	.50**	.47**	**.70**

Note: SNS = Social networking site; Bolded diagonal elements represent the square roots of average variance extracted. **p < .001

Measures

Self-efficacy. Four items were adapted from Eastin and LaRose (2000) to measure social networking site self-efficacy. The scale posted an alpha of .87 (M = 3.98, SD = .82). Participants were asked how much they agreed that: I am more knowledgeable than most about using this social networking site; I can explain to others how to use this social networking site; I can troubleshoot problems while visiting this social networking site; and I consider myself skillful while visiting this social networking site.

Social networking site features. Five items were adapted from Chiang and Su (2011) to measure partici-pants' perceptions about social networking site features. One item was removed from the model ("I can find my way around easily") because it was related to two variables comprising the self-efficacy scale. Together the remaining items showed acceptable reliability in both the pilot and in the current study (alpha = .70, M = 4.01, SD = .63). Par-ticipants were asked how much they agreed that their so-

Table 2
Measurement Model: Latent Factor Item Loadings

	Loading	Mean	SD
Social Networking Site Self Efficacy			
Composite Reliability = .88			
I am more knowledgeable than most about using this social networking site	.76	3.57	1.07
I can explain to others how to use this social networking site	.79	4.35	.86
I can troubleshoot problems while visiting this social networking site	.80	3.39	1.00
I consider myself skillful while visiting this social networking site.	.88	4.11	.92
Social Networking Site Features			
Composite Reliability = .66			
This social networking site is highly interactive	.59	4.09	.88
This social networking site loads quickly	.50	4.14	.86
This social networking site features a variety of content	.59	4.10	.90
I get immediate feedback from this social networking site	.61	3.72	.94
Social Networking Site Credibility			
Composite Reliability = .86			
This social networking site is accurate	.87	3.35	1.01
This social networking site is believable	.86	3.41	1.02
This social networking site is reliable	.72	3.57	.98
Flow			
Composite Reliability = .82			
On this social networking site:			
I feel completely involved	.75	3.23	1.14
I am able to block out distractions	.52	3.43	1.07
I really enjoy the experience	.76	3.76	.92
I usually know how well I'm doing	.61	3.65	.94
I feel highly engaged	.80	3.53	1.06

cial networking site: is highly interactive; loads quickly; gives me access to a variety of content; and gives immediate feedback.

Perceived social networking site credibility. Three items were taken from Flanagin and Metzger's (2007) online credibility scale. These items posted a high reliability of .86 (M = 3.44, SD = .89). Participants were asked how much they agreed that their favorite social networking site is: believable, reliable, and accurate.

Flow. Five flow items were chosen based on Jackson and Marsh's (1996) flow state scale and O'Cass and Carlson's (2010) flow items. These items showed good reliability, posting an alpha of .81 (M = 3.52, SD = .78). The items included were: When visiting this site, I really enjoy the experience; I become totally involved when visiting this site; I feel highly engaged when visiting this site; I am able to block out distractions when visiting this site; and I usually know how well I'm doing when visiting this site. The intercorrelations between scales and discriminant validity are shown in Table 1.

Results

Latent variable analyses were conducted using Amos Graphics. The model testing was a two-step process (Anderson & Gerbing, 1988). First, the latent variables were subject to a confirmatory factor analysis (the measurement model) for the purposes of assessing measurement properties. All of the scales were tested in an overall model. The model showed good fit to the data (x^2 = 274.59, df = 96, p < .01; c^2/df = 2.86, RMSEA = .046, CFI .97, ILI .97, Parsimony-adjusted NFI .76). Next convergent validity was examined for each latent item. According to For-
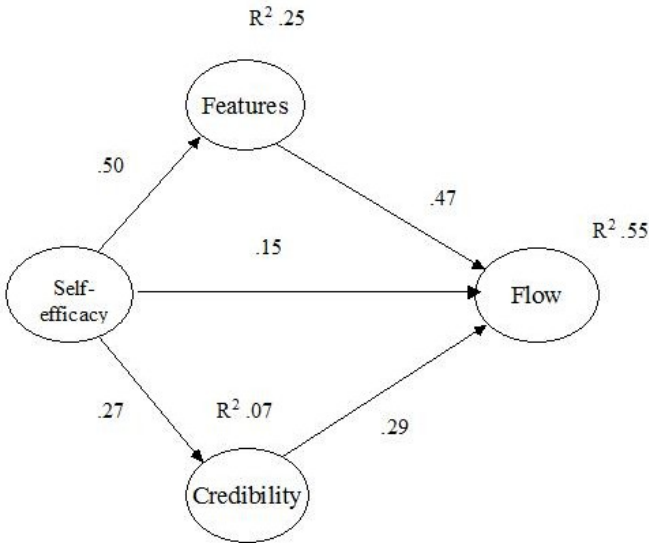
Figure 2. Test of Model. All paths p < .001

nell and Larcker (1981), convergent validity is demonstrated when all item indicators possess a significant t-value, demonstrate reasonably robust factor loadings (i.e. > .50), show an average variance extracted (AVE) coefficient in excess of .50, and have a composite reliability coefficient greater than .70. The current data broadly indicated convergent validity with the exception of the site features measure (AVE = .33, CR = .66). However, as the overall model fit was good, the model testing proceeded as planned.

The factor loadings, means, standard deviations, and composite reliabilities are shown in Table 2.

Model testing. The proposed model showed good fit to the data (χ^2 = 274.59, df = 96, p < .01; c^2/df = 2.86, RMSEA = .046, CFI .97, ILI .97, Parsimony-adjusted NFI .76). All of the relationships were confirmed as hypothesized. The results are shown in Figure 2.

Hypotheses 1 and 2, which predicted positive rela-
tionships between self-efficacy and features and credibility
were confirmed ($\beta = .32$; $\beta = .30$ respectively). Hypotheses
3 and 4 predicted that there would be a positive relation-
ship between features, credibility and flow. These hypothe-
ses also found support ($\beta = .77$; $\beta = .28$ respectively) show-
ing a high level of variance explained in flow by these vari-
ables ($R^2 = .55$). Additionally, the initial bivariate relation-
ship between self-efficacy and flow was strong ($r = .41$);
however, when the path was added to the structural
model, this relationship was much reduced ($\beta = .15$). The
Sobel tests for the hypothesized mediated relationships
were statistically significant, confirming that that site fea-
tures (z = 6.24, SE = .039, p < .0001) and credibility (z =
5.11, SE = .016, p < .0001) did act as partial mediators of
self-efficacy to flow in this context. Sobel tests computed as
follows:

$$z = \frac{ab}{\sqrt{(b^2 \text{SE}_a^2) + (a^2 \text{SE}_b^2)}}$$

Note: *a* represents the unstandardized path coefficient be-
tween virtual world community and virtual world features
and *b* represents the unstandardized path coefficient be-
tween virtual world features and flow. SE represents stan-
dard error for *a* and *b*.

Discussion

The concept of flow (intense involvement and engage-
ment) was of interest as the focal dependent variable.
Three potential antecedents to flow were assessed: percep-
tions about self-efficacy, social networking site credibility
and site features. The findings indicated that self-efficacy
predicted flow for social networking site users when they

experienced positive perceptions about site features and credibility. This outcome underscores the value of user-friendly site features, and beliefs about site credibility in facilitating optimal involvement with social networking site content. The study adds to the field of knowledge in two ways.

First, it confirms the flow experience in a highly salient area of internet usage. Initially, it might seem surprising to place such an experience in the context of social networking site use. This type of online interaction may seem superficial and not at all rewarding to many. However, it is important to consider a number of issues relating to the social networking site phenomenon. As already discussed, belonging to a social networking site (especially Facebook) has become ubiquitous — not just in the U. S., but across the globe. Users spend considerable amounts of time viewing their news feed, generating content, and reading and/or interacting with content posted by others. The latter emanates from a host of sources and includes considerable diversity of type.

The potential to "get lost" in all of this content is clear. Research has shown that people learn about news and other information from social networking sites. Organizations, companies, politicians, and celebrities show their presence via Facebook, Twitter, Pinterest, and a host of other specialist social networking sites. Facebook users check their news feed several times per day using their phone. The mobile phone has become an extension of ourselves (Ling & Pedersen, 2005; Oksman & Rautiainen, 2003; Pew Research, 2015); And, arguably, social networking sites are our connection with a larger world. Pew research (2013) has also reported that the most common

reason why people take a break from Facebook is that they do not have the time to devote to it. All that said, most users do return to Facebook (and other social networking sites) and, despite talk of its demise, Facebook remains the giant of the social networking world.

Additionally, according to Forbes magazine, in 2015, Twitter posted an annual revenue growth of 97% and the company's stock grew by around 20%. Twitter does not compare to Facebook in terms of volume of users, but its financial standing suggests that, despite its proportionately smaller following, it maintains a solid footing. And although tweets amount to only 140 characters, many links are tweeted and retweeted so that users can potentially read original material, follow responses, and supplementary content there. The conclusion, then, is that people like social networking sites very much, they enjoy interacting with them, and that doing so may well be an end in itself. Thus the experience of flow is both possible and probable, at least for some users. Prior research suggests that this is a "good thing."

Therefore, the second important outcome of the study relates to its practical implications. For academics, educators, and media professionals, it is necessary to discover the antecedents to flow in digital and social media domains. The flow experience represents the ultimate embodiment of involvement and engagement which is regarded by many content generators as the holy grail (e.g. Naveed, 2012; Patterson, 2012; Waters, Burnett, Lamm, & Lucas, 2009). In the current study, it is clear that the ability to get the best out of social media is partly due to individual level assessments of self-efficacy, as well as perceptions about the features associated with social networking

sites, plus perceptions about the credibility of the content available there. Of these three attributes, it appears that site features are the most influential. For anyone who is interested in getting and maintaining attention via social media, as an individual, media content generator, or educator, this confirms that the user-friendly interactive experience counts for a great deal. This and trust in social networking site content helps to mediate the relationship between media technology skills and fulfilling experiences on social networking sites. Much of the millennial generation has grown up with the Internet, and this cohort remains in the forefront of all types of Internet use (although other age cohorts are catching up). As they age, their expectations about the quality of their social media experience will be high and we should be aware of these expectations. Also, it is important to track the users following behind experienced ones. Will older cohorts and less experienced social media users eventually experience flow via social media and will it be for the same reasons?

Limitations and Further Research

There are three main limitations associated with this study. First, the nature of the sample. The sample for the study was obtained via the crowdsourcing site, Amazon Mechanical Turk. Thus, it cannot be regarded as representative of the U.S. population as a whole. In specific, most of the participants were seasoned Internet users, Caucasian, and aged between 18 and 34 years. This is potentially problematic because research (Pew Research, 2013) shows that there is an increasing presence of older cohorts on social networking sites (especially baby-boomers). These cohorts may behave in significantly different ways

with regard to social media especially with regard to levels of self-efficacy and concerns about credibility. Also, it is known that minorities, African Americans and Latinos in particular, are more likely to access the Internet and social media via mobile devices, tend to subscribe to Twitter in greater numbers, and may use social networking sites for different reasons and in different ways (Nieslon, 2015 & 2016). That said, other research (Barker, 2012; Lee, 2012) indicates that although age cohorts and racial groups may differ in terms of frequency, type of access, and choice of site, the way that they use social networking sites does not differ greatly. Also, the millennial cohort undoubtedly remains in the forefront of social networking site use. That cohort is well represented in this study.

Second, the data points for the present study are based on self-report measures. In addition to the potential for inaccuracy associated with such types of measurement, the data can be critiqued on the grounds that self-report measures tend toward natural correlation because they come from the same subjective source. That said, it should be noted that, for the most part, the measures showed good construct validity. They had been employed in other studies, and were piloted with undergraduate students prior to fielding the primary survey instrument. Too, it is acknowledged that these measures were perceptual in nature rather than observed. But garnering data from raters (observed data) in the current context is a somewhat unrealistic prospect since the vast majority of users are solitary in their interactions with social media and the content found therein. This does suggest, though, the necessity for follow-up experimental work in order to supplement the self-report data gathered here.

Additionally, although all of the scales in this study showed good or acceptable reliability based on two statistical benchmarks (Cronbach alpha and composite reliability tests), the site features scale was the least reliable and not totally convincing in terms of face validity. In future research, a multidimensional measure of site features will be employed. Lastly, as correlational study, despite the form of analysis, this means that causal relationships cannot be definitively established. Therefore, as mentioned above, future research will address this shortcoming by using experimental studies to determine if perceptions about self-efficacy, site features, and credibility really do precede flow and, indeed, other positive outcomes.

Despite these limitations, the overall the findings have something important to say about the way social networking site users' perceptions about features and credibility influence their experiences on such sites. Evidently, these factors contribute markedly to involvement and enjoyment. Future research should investigate *how* content generators can construct their online messages so as to increase positive credibility perceptions and, especially, increase liking for site features so as to develop productive involvement. This may be particularly relevant when attempting to attract and retain new users who have yet to develop the required confidence in their abilities to navigate around social networking sites and other Internet genres.

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