Facebook "Friends": Effects of Social Networking Site Intensity, Social Capital Affinity, and Flow on Reported Knowledge-Gain

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Abstract
Using a subset of data from a survey of a representative sample of U.S. Internet users, 236 participants responded to questions regarding social networking site intensity, their experience of flow (concentrated engagement in/enjoyment of an activity), social capital affinity (sympathy marked by community of interest, and likeness based on weak ties) and reported focused and incidental-knowledge gains from social networking sites. Social networking site intensity strongly predicted flow and social capital affinity, but the latter appeared to be a stronger predictor of reported focused and incidental-knowledge gains from social networking sites.

An August 2013 survey by the Pew Research Center Internet and American Life Project (Brenner & Smith, 2013) showed that 72% of the American population use social networking sites (SNSs). Of those, most are Facebook subscribers (67%).

Clearly SNSs (especially Facebook) have become an integral part of daily life for many people. A sizeable body of research has addressed motives for SNS use including social identification (Barker, 2009), social support and perceived similarity (Wright, 2012), relationship initiating and maintaining plus social information seeking behaviors (Steinfield, Ellison & Lampe, 2008), and social influence, presence, interconnectivity and entertainment (Cheung, Chiu & Lee, 2011). However, less research has addressed potential processes involved in and outcomes of SNS use in terms of cognitive gains such as forms of knowledge gain (for exceptions see Ellison et al., 2007; Packiam-Alloway & Alloway, 2012; Steinfield et al., 2008). The present study, then, investigates the mediating role of social capital affinity (sympathy marked by community of interest, and likeness based on weak ties) and the experience of flow (concentrated engagement in/enjoyment of an activity) in the relationship between SNS intensity and reported focused and incidental knowledge gain (i.e., both information sought and information gained by chance).

In the last decade, discussion and research has addressed the importance of social capital with regard to SNS use (Papacharissi, 2011). Social capital amounts to "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu, 1985, p. 248). Putnam (2000) described bridging social capital as created through exposure to heterogeneous networks, with the majority of connections representing weak ties. Bridging social capital requires only connection. It is not related to close friendship (Ellison, Lampe, Steinfield & Vitak, 2011). That said, although weak ties simply involve acquaintanceships of a superficial nature, they still have value in certain circumstances. For example, in his study of social support via weak ties on Facebook, Wright (2012) observed that the opportunity for social comparisons via weak ties often helps individuals to manage uncertainty about their lives. Due to reduced risk relative to communicating with strong-tie support networks (e.g., esteemed friends or immediate family members), individuals may feel more comfortable sharing with and learning from individuals with whom they do not have close, personal relationships. Weak ties may be better able to provide objective feedback to online individuals because they have no real personal involvement or emo-

tional attachment compared to strong ties. And through such connections users may acquire new information and advice (Granovetter, 1973). Castells (2009) acknowledged "substantial evidence of reciprocal supportiveness on the Net, even between users with weak ties to each other. In fact online communication fosters uninhibited discussion, thus allowing sincerity in the process" (p. 389). In the present study, this form of online relationship is referred to as social capital affinity.

Social Capital Affinity

The concept of affinity is defined here as sympathy marked by community of interest, and likeness based on casual connection (http://www.merriam-webster.com/dictionary/affinity, 2013). Therefore, social capital affinity refers to the sense of community and likeness felt for people online who represent weak ties. Even though, such people may be known only casually or not at all offline, their opinions may be of interest, or pique interest in certain online content, their presence may enhance the online experience, and communication with such may people help to generate a sense of community — as in the present case, on SNSs. However, social capital affinity does not imply conformity as a result of perceptions about social norms (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Social capital affinity is conceptualized as the "identity" dimension of social capital; although this is not group identity in the traditional sense (Tajfel & Turner, 1986) but a more fluid, virtual experience of identification with others.

Walther, Carr, Choi, DeAndrea, Kim, Tong and Van Der Heide (2011) listed a number of peer communication channels made available via the Internet (e.g., discussion boards, commenting and referral systems) where online peers have the potential to influence other consumers' thinking and emotions. Online activities allow ease of access to peer groups with whom users can identify. Walther et al. (2011) also observed that weak ties may be the source of "multiple and simultaneous social influence agents" (p .26). If SNS users interact with peers online and/or possess shared goals or perspectives, then their opinions may be very potent (e.g., Walther, DeAndrea, Kim & Anthony, 2010; Walther, Van Der Heide, Hamel & Shulman, 2009). In parallel research (e.g. Barker, Dozier, Schmitz Weiss, & Bor-

den, 2013), social capital affinity has been strongly associated with the experience of flow across a variety of web genre.

Flow

Csikszentmihalyi (1975) introduced the theory of flow as an attempt to explain why people engage in leisure activities that do not appear to have utility. [For a helpful overview of the theory of flow see Weber, Tamborini, Westcott-Baker and Kantor, (2009).] Play is a subset of flow. Applying play to the consumption of media content, Stephenson (1967) defined play as "disinterested, self-sufficient, and an interlude from work. It brings no material gain" (pp.192-193). He described the profound experience of play in media consumption as a ludenic trance (ludus is Latin for play). Mathwick and Rigdon (2004) examined the conditions necessary to transform online information search into "play" — a consequence of flow. They found that play serves as a link between flow and the online consumer attitude formation process and that this relationship was moderated by product involvement. Flow, then, involves playfulness and is an affect-based response to types of pleasurable activity that involve intense engagement and enjoyment associated with high psychological arousal and positive valence (Mauri, Cipresso, Balgera, Villamira, & Riva, 2011). Flow occurs when a clear goal is involved, and when the presence of feedback and the challenge afforded by the activity are in balance with the skill involved to accomplish the goal (Mauri et al.).

In sum, flow comprises the following: Intense, focused concentration on what one is doing in the present moment, merging of action and awareness, loss of awareness of self as a social actor, a sense that one can deal with a situation because one knows how to respond to whatever happens next, a sense that time has passed faster than normal, and experience of an activity as intrinsically rewarding (Nakamura & Cikszentmihalyi, 2002).

Studies involving a range of methodologies, both qualitative and quantitative, employing observational, self-report, and physiological measures have shown flow to be associated with a wide variety of activities. In relation to Internet involvement, just a few of the studies that indicate that Internet consumption is related to flow are: the experience of online shopping (Guo & Poole, 2008); video games (Jin, 2012), online game loyalty (Huang & Hsieh, 2011), learning from vir-

tual worlds - multi-user-virtual-environments (Choi & Baek, 2011); instant messaging (Zaman, Rajau & Dai, 2010) and also to Facebook use (Mauri et al., 2011). Of special interest here are the results of a survey conducted in China (Chang & Zhu, 2012), which addressed the role of assessed social capital and the flow experience in driving continued SNS use. The results showed that reported bridging social capital exerted a strong influence on users' satisfaction and continuance intention, but reported bonding social capital showed no influence. Flow experience also influenced users' satisfaction.

Undoubtedly then, there is plenty of empirical evidence that flow is related to several types of Internet activity, and also positive outcomes from such activity. However, the experience of flow must arise from involvement. In this case, it is assumed that both flow and social capital affinity will be the outcomes of involvement and interaction with SNSs and by implication with other SNS users. This does not comprise frequency of SNS use but rather the intensity of use — an estimate of the importance of use to the SNS subscriber (see for example, Ellison et al., 2007). In terms of outcomes from social capital affinity and flow, both reported focused and incidental knowledge-gain are of interest in the current study. Prior research has shown that social information seeking is a common goal for SNS users (Ellison et al., 2011) and that young males especially use SNSs for social learning purposes (Barker, 2009). As well, a large number of studies have documented the relationship between flow and learning in a variety of educational settings (e.g., Black, 2008; Fenton, 2008; Ryu & Parsons, 2012; Smith, 2005).

Social Media, Learning Online and Flow

Social media and knowledge gain. Whatever the Internet context, the presence of others online may enhance learning. For example, using an online questionnaire, Caspi and Blau (2008) surveyed 659 students about three conceptions of social presence in online discussion groups (self projection, perception of others, and identification with the group). Each of these forms of social presence correlated positively with reported learning. The authors concluded that social presence might facilitate learning by setting a convenient climate. Additionally, according to Ellison et al. (2011), Facebook makes it easier to seek information from one's social network, and to provide

resources to others via communication facilitated by the site. Social information seeking (information about acquaintances) is the second most important activity among college students on Facebook (maintaining relationships being the most salient). However, studies have also shown that SNSs are used for entertainment and passing time (e.g., Barker, 2009) and can perhaps be regarded as providing a venue for "play." Apart from posting comments and content on their profiles, users can view, share and follow up on materials posted by others with whom they may have a tangential connection (friends-of-friends). These features in combination then make it likely that SNSs provide opportunities for learning, both focused and incidental. Clearly, people are motivated to seek information online in a focused manner. But, in the process, people may also stumble upon attendant information (e.g., for news, see Tewksbury, Weaver & Maddex, 2001).

Regardless of how knowledge is attained, there is evidence that people do report learning from social media. For example, Taylor, King and Nelson (2012) surveyed 1,376 university students about the value of social media in promoting educational opportunities, and in enhancing understanding and engagement. Overall the participants reported positive attitudes about social media and confirmed the educational value of using social media in online courses.

Packiam Alloway and Alloway (2012) investigated the effects of Facebook, Twitter, and YouTube engagement on cognitive and social skills in a group of young adults by testing their working memory, attentional skills, and reported levels of social connectedness. Results showed that certain activities in on Facebook (such as checking friends' status updates) and YouTube (telling a friend to watch a video) predicted memory test performance. The findings also showed that active vs. passive SNS users had different profiles of attentional control. Active SNS users were more accurate. They also did not focus their attentional resources exclusively to the target stimuli and were less likely to ignore distractor stimuli. Their engagement with SNS seemed to be exploratory and they assigned similar weight to streams of information. These findings lend support to the view that highly involved Facebook users likely gain information that they are actively seeking but also gain information incidentally.

Flow and learning online. A range of education research has shown that the experience of flow often mediates learning especially among teenagers and young adults (e.g, Shernoff, Csikszentmihalyi, Schneider, & Shernoff, 2003). As well, studies have examined the effects of flow in higher education (Kiili, 2005), foreign language studies (Egbert, 2003), music education (Custodero, 2002), education for the gifted (Rea, 2000), and instructional design using hypermedia (Konradt, Filip, & Hoffman, 2003). A plethora of studies have addressed student interaction with computers or the Internet (e.g., Chan & Ahern, 1999; Chan & Repman, 1999; Ghani, 1995; Konradt et al., 2003).

Flow is related to both reported knowledge gain (the sense that one has learned something) and with actual knowledge gain (objective measurement of learning). With regard to online learning, Rossin, Ro, Klein and Guo (2008) investigated the relationship between students' experiences of flow and learning outcomes in an online management course taught in an MBA program. The findings indicated a positive relationship between flow and reported learning outcomes (reported learning, reported skill development, and student satisfaction) although not objective outcomes. However, Ryn and Parsons (2011) showed that social flow (flow as a result of collaborative work) facilitates learning via mobile devices. The participants in this experiment were part of a simulated security guard training program. In the control group, individuals worked alone, two other groups of participants used mobile phones to communicate with one another – one group had instant messaging and photo upload and the other had time-delayed photo Internet upload. In terms of learning performance outcomes, the group with instant messaging performed best. Additionally, the authors determined that social flow appeared to make a positive difference to the quality of this learning experience.

Investigating direct learning from a website, Skadberg and Kimmel (2004) conducted a study assessing visitors' flow experience while website browsing. The findings indicated that website users experienced a sense of time distortion, enjoyment and telepresence while browsing and that the website characteristics contributed to flow. When the participants experienced flow, they learned more about the website content, and learning was related to changes in at-

titudes. Finally, research has discussed learning from online environments, especially virtual worlds (e.g., Aldrich, 2009; Clarke & Dede. 2005; Zemskey & Massy, 2004). For example, Choi and Baek (2011) explored factors affecting elementary school children's learning via virtual worlds, especially flow. The results showed that two characteristics of virtual worlds - interactivity and representational fidelity — predicted flow and facilitated learning for young students.

Thus, based on the foregoing discussion, in the present study, both social capital affinity and the experience of flow were expected to mediate the relationship between SNS intensity and reported focused and incidental knowledge gain. Figure 1 illustrates these relationships.
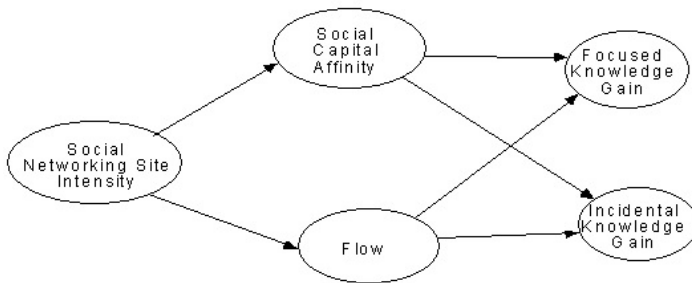

Figure 1. Proposed model

Method

Research design

The data were gathered using a random digit dialing telephone survey of Internet users from across the 50 states of the USA administered by Flag Ship Research (San Diego) and conducted in July-August, 2012. This choice of methodology was made with the intention of obtaining a representative sample rather than a convenience or student sample. The total sample numbered 1,417; however, the study reported here involves a sub-set of data (n = 236) of social networking site users. The assumption underlying the overall program of research is that users choose to visit Internet sites (especially SNSs)

not simply to consume information or to participate in online activity but also because they have the opportunity to observe user-generated content and to generate content themselves (e.g. comments, feedback). With SNSs there is a presence of both strong and weak ties. However, according to Ellison et al. (2011), Facebook enables individuals to maintain a larger set of weak ties thus expanding the range of available information sources. And also:

> … networks of strong and weak ties are more likely to include diverse individuals who share a tangential connection… Additionally, some SNSs enable "friends of friends" to interact, thus exposing users to an even more diverse set of weak ties (p. 137).

Procedure

Calls to land lines were supplemented by calls to cell phone-only households. Since cell-only households are more common among younger Americans, cell-only households were stratified by age — Millennials, Gen X, Boomer, and Silent (Pew Research Center, 2010). Stratification by age and gender was based on 2010 U. S. Census Bureau data. Five types of website genre were included in the research (news organizations, ecommerce, search engines, online video games, and social networking sites); however, only the SNS data are examined here.

The interviews were in English and Spanish. If the respondent was bilingual in Spanish and English, the interview was conducted in English. To qualify, respondents had to be 18 years old or older; resident in the USA, have personal access to the Internet by computer, smartphone, and/or tablet, and have accessed the Internet at least once in a typical day. A respondent qualified for the study if he or she typically accessed an SNS almost always, often, or sometimes. (Participants were asked to respond to the following, choosing from "almost always" (5) to "never" (1) How often do you use social networking sites to communicate and share information with people you pick?) When a person was disqualified for one website genre, he or she would be asked about his or her use for the next randomly chosen website grouping until the participant qualified or was disqualified from the survey completely. As a result, 236 participants who use SNSs sometimes, often or very often were included in the study. The remaining participants answered questions relating to news organiza-

tions, e-commerce, search engines, virtual worlds, or reported low usage, and therefore, only provided demographic and background information about their Internet usage. Interviews lasted about 20 minutes on average. A demographic breakdown for the sample is displayed in Table 1.

Table 1
Demographic Breakdown (n = 236)

Facebook	83%
Gender Female	58%
Age Range: 18-81; M = 43.04, SD = 6.55	
Cohort	
Millennials (18-35)	38%
Generation X (36-47)	27%
Baby Boomers (48-66)	24%
Silent Gen (67-98)	11%
Race	
Caucasian	75%
Hispanic	14%
African American	9%
Asian	2%
Pacific Islander	.4%
Native American	2%
Multiethnic/Other	11%
Interviewed in Spanish	2%

Questionnaire and Measures

With the exception of the SNS intensity scale items (closed-ended, range 1-3), all items were closed-ended using a 5-point scale with options ranging between choices such as strongly agree (5) and strongly disagree (1). In addition to items measuring Internet use, technology/media use, location of use, and demographic questions, groups of items measured the variables displayed in the model. The scales were pilot-tested with 281 undergraduate students; some item modifications were made to improve reliability. The Cronbach alpha

coefficients and descriptive statistics for the measures included in the model are shown in Table 2.

Table 2
Scales: Descriptive Statistics and Reliabilities

Measure	Range	Mean (SD)	α
Social networking site intensity	1-3	2.23 (.70)	.72
Social capital affinity	1-5	3.86 (.87)	.85
Flow	1-5	3.40 (.84)	.70
Reported focused learning	1-5	3.66 (.98)	.75
Reported incidental learning	1-5	3.93 (.87)	.82

SNS intensity. This scale measured involvement with and apparent importance of SNSs. Three items were adapted from the Ellison et al. (2007) Facebook intensity scale: This social networking site is part of my everyday activity; I feel out of touch when I haven't logged on to this social networking site for a while; I would be sorry if this social networking site shut down. The scale posted acceptable reliability with a Cronbach alpha of .72.

Social capital affinity. Five items were, in part, adapted from Williams (2006) and Ellison et al. (2007) bridging social capital scales such that they reflected affinity with weak ties in a heterogeneous set of ties in a social network. These items together posted high reliability of .85. Some of the items included were: Interacting with people visiting this site makes me feel like part of a community; When visiting this site, hearing what others say enhances the experience; Communicating with the people visiting this site raises points of interest for me.

Flow. Eight flow items were chosen based on Jackson and March's (1996) flow state scale and O'Cass and Carlson's (2010) flow items and

were intended to tap into the dimensions of flow described by Nakamura and Cikszentmihalyi (2002). These items showed acceptable reliability, posting an alpha of .76. However, three items were dropped from the structural equation model because their error terms were correlated. Some of the items included were: I have feelings of total concentration when visiting this site; When visiting this site, I really enjoy the experience; I become totally involved when visiting this site; I feel focused on what I am doing while visiting this site.

Table 3
Correlations: Scales and Discriminant Validity

Measures					
1. SNS Intensity	**.69**				
2. Flow	.48**	**.71**			
3. Social capital affinity	.53**	.53**	**.75**		
4. Reported focused knowledge	.40**	.46**	.55**	**.79**	
5. Reported incidental learning	.32**	.32**	.42**	.44**	**.75**

Note. Diagonal elements represent the square roots of average variance extracted. *p < .05, **p < .01

Reported focused knowledge-gain. Four items were constructed to measure reported focused knowledge gain from SNSs. These items were indirect measures of reported knowledge gain as opposed to objective measures of knowledge-gain. This scale showed good reliability in the pilot study and together in the current study. Cronbach's alpha was .75. However, one item was dropped because of a weak factor loading in the measurement model. The focused knowledge gain items were: I often learn something I need to know when visiting this site; This site effectively communicates what I need to know; This site helps me learn what I need to know.

Reported Incidental knowledge-gain. Four items were constructed to measure reported incidental knowledge gain from SNSs. The items posted high reliabilities in both the pilot test and the current study.

Table 4
Measurement Model: Latent Factor Item Loadings

	Loading	Mean	SD
Social Networking Site Intensity (Composite Reliability = .73)			
-This site is a part of my everyday activity	.60	2.54	.81
-I feel out of touch when I haven't logged into this site for a while	.73	2.08	.97
-I would feel sorry if this site shut down	.73	2.51	.83
Social Capital Affinity (Composite Reliability = .86)			
-The opinions of those visiting this site interest me	.70	3.86	1.06
-Being with people visiting this site makes me want to follow up on things	.76	3.75	1.17
-When visiting this site, hearing what others say enhances the experience	.80	4.00	1.01
-Communicating with the people visiting this site raises points of interest to me	.79	4.06	.99
-Interacting with people visiting this site makes me feel like part of a community	.67	3.64	1.24
Flow (Composite Reliability = .70)			
-I have feelings of total concentration when visiting this site	.64	3.12	1.34
-When visiting this site, I really enjoy the experience	.49	4.08	.87
-I become totally involved when visiting this site	.75	3.06	1.36
-When visiting this site, I always know how well I'm doing when accomplishing a task	.49	3.33	1.21
-I experience feelings of total control when visiting this site	.43	3.39	1.35
Reported Focused Learning (Composite Reliability = .82)			
-I often learn something I need to know when visiting this site	.71	3.67	1.19
-This site effectively communicates what I need to know	.74	3.80	1.06
-This site helps me learn what I need to know	.89	3.59	1.17
Reported Incidental Learning (Composite Reliability = .81)			
-I enjoy learning new things by accident when visiting this site	.61	3.86	1.06
-I often learn interesting things that I was not looking for when visiting this site	.85	3.75	1.17
-Sometimes I learn something new that wasn't intended when visiting this site	.83	4.00	1.00
-When visiting this site, I sometimes get a bit distracted by new information I wasn't looking for	.67	3.65	1.26

Cronbach's alpha was .82. The reported incidental knowledge gain items were: I enjoy learning new things by accident when visiting this site; I often learn interesting things that I was not looking for when visiting this site; Sometimes I learn something new that wasn't intended when visiting this site; When visiting this site, I sometimes get a bit distracted by new information I wasn't looking for. Table 3 summarizes the intercorrelations between scales, as well as discriminant validity, which, was high in this study.

Table 4 displays the items retained in the model, the factor loadings, means, and standard deviations. Composite reliability for the scales is also included, which overall, was high.

Results
Model testing
The analyses were conducted using structural equation modeling (Amos Graphics) which involves a two-step process. First the measurement model is assessed to determine the effectiveness of the latent variable indictors. Second, the structural model is tested to investigate the expected relationships. Across 4 measures of fit, both models showed a good fit to the data. The model statistics are summarized in Table 5.

Table 5
Model Fit Statistics

Model	x^2/df	RMSEA	CFI	Parsimony-adjusted NFI
Measurement	1.69	.054	.94	.73
SEM	1.68	.054	.94	.74

Structural equation model
The results of the model testing are summarized in Figure 2. Before reporting the results of the model testing, it is important to note that although the tests of the bivariate relationships indicated that SNS intensity was associated with both reported focused and incidental knowledge gain (Table 3), these relationships disappeared when social capital affinity and flow were introduced as mediators in the structural equation model.

The results from the model testing showed strong positive relationships between SNS intensity and both social capital affinity and flow. This indicates that those who reported being highly involved and active with regard to SNSs were more likely to feel an affinity with their SNS peers and also more likely to experience flow while visiting their SNS. Social capital affinity moderately predicted both types of reported knowledge gain. Flow predicted reported focused knowledge gain. The relationship between flow and reported incidental knowledge gain was not statistically significant. It would appear

then that social capital affinity and, to a lesser extent, flow mediate the relationship between SNS intensity and reported focused and incidental knowledge gain.

Discussion

This study assessed the potential role of social capital affinity (sense of community and likeness felt for weak ties online) and the experience of flow (intense engagement in, and enjoyment of, an activity) as mediators of the relationship between SNS intensity (reported involvement with and importance of SNSs) and reported focused and incidental knowledge gain among SNS users. The findings indicated that SNS intensity strongly predicted both social capital affinity and flow but did not directly predict reported focused and incidental knowledge gain. Social capital affinity was positively related to both reported focused and incidental knowledge gain while flow was positively associated with focused knowledge gain only.

These findings suggest, then, that it is not the intensity or importance of SNSs that is the prime mover in determining positive outcomes – in this case reported focused and incidental knowledge gain. Instead social capital affinity mediated the relationship between these variables. The main goal for SNS users is connection — to communicate and identify with peers, to keep in touch, and to learn about others' news, information and updates (Barker, 2009; 2012). Evidently, affinity with online peers in such a context potentially facilitates types of learning. People can learn about their Facebook friends' activities and preferences but can also learn about unlooked for but still, perhaps, valued information. For example, Pew Research (2013) reported a study where the majority of Facebook news consumers, (78%) said that they get news when they are on Facebook for other reasons. It may be that the elements of novelty and curiosity in browsing comments and information provided by those who are not known well or, indeed, at all offline act as facilitators to learning.

Participants in the current study were not specifically asked about the content they consume on Facebook (or for examples of what they learn), but it could be that when perusing his or her Facebook news feed, a profile owner may access content from friends-of-friends that they do not know offline at all. Facebook users have a tangential connection with such people but can still learn information that builds
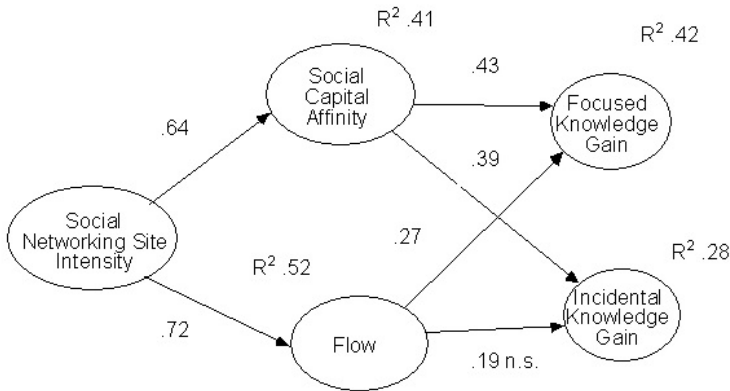
Figure 2. Model testing

upon their current SNS conversations and also provides additional unlooked for information — e.g., from Youtube clips, music, and/or movie trailers. For Internet content generators, then, social capital affinity is potentially a very important concept because the ability to foster or encourage social capital affinity has far-reaching implications for attention to - and assimilation of - intended messages. In the first quarter of 2013 Facebook made $1.25 billion in advertising revenue (http://investor.fb.com/releasedetail.cfm?ReleaseID=761090), and so it is apparent that advertisers believe in the efficacy of this venue. Social capital affinity potentially feeds into this. Additionally, as discussed earlier, some research has already addressed the value of social networking and learning in the sense of supporting students' educational communication as well as attention, participation, collaboration, network awareness and critical consumption (Aydin, 2012). For instance, Junco and Cole-Avent (2008) argued that social media could be used to increase college student engagement and improve educational outcomes.

With regard to flow, this study reflects previous research, which has shown that flow can facilitate cognitive gains and positive attitudes (e.g., Chang & Zhu, 2012; O'Cass & Carlson, 2010; Skadberg & Kimmel, 2004). In the current study, the influence of flow on learning – especially incidental knowledge gain from SNSs — was somewhat attenuated by the salience of social capital affinity. However, it is not surprising to find that affinity with others on SNSs has a potent effect

since connection is the foundation of that context. Flow did predict reported focused knowledge gain in this sample and this makes intuitive sense because involvement and engagement in the social networking conversation likely focuses attention and hence learning. Educational research has shown that flow facilitates different kinds of learning in a variety of settings (Aydin, 2012). If flow has a lesser role in the present study, this does not diminish its potential importance in users of website genre where connection is not the primary focus even if there is a possibility of it — ecommerce sites, for example (Walther, Liang, Ganster, Wohn, & Emington, 2012).

Concerning the very strong relationships between SNS intensity and social capital affinity and flow in this study; while again not surprising with regard to social capital affinity (i.e., connection), these findings do underscore the prominence and worth in people's lives of the ability to collaborate and share information online. Whereas previously the concept of flow has been prioritized and applied in research about human activities such as sports, arts, and education (Csikszentmihalyi, 1975; Black, 2008; Fenton, 2008; Jackson & Marsh, 1996; Ryu & Parsons, 2012; Smith, 2005), it becomes very apparent that the concept and experience of flow is likely to be both telling and useful in understanding a wide array of new media activities. Clearly much more research is required to shed light on the factors that facilitate flow, especially the specific attributes associated with involvement with social networking but also in other highly interactive online activities — video games and virtual worlds, for example.

Limitations and Further Research

This was a telephone survey and so, as such, the number of items in the questionnaire had to be limited in order to maximize the response rate. Replicating the survey online with other measures may add new insights not tapped in this study. Also, although the reliabilities for the measurement scales were adequate or good, more comprehensive measures would add to ecological and external validity. Indirect measures of focused and incidental knowledge gain were employed in this study. In future research, it will be important to investigate specific types of learning. Exactly what forms of focused knowledge do users acquire? Precisely what types of incidental learning takes place? This will potentially allow better understanding of

the web characteristics that facilitate learning in such contexts. Relatedly, future research should examine SNS design features as potential enhancers or inhibiters of flow and/or learning, as well as the importance of online peer credibility, SNS credibility, and the influence of a sense of security emanating from privacy online. Overall, the present study has provided some insights into how positive outcomes can be attained from social media usage, but has also highlighted potential new directions for research in this domain. Future studies will address these issues.

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