



Factors involved in associations between Facebook use and college adjustment: Social competence, perceived usefulness, and use patterns



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ABSTRACT

Although previous research has investigated widespread use of social media, especially Facebook, by youth attending college, the conditions under which these media foster adjustment to college remain unclear. This study tested a model illuminating pathways linking social competence to college adjustment via students' perceptions about the usefulness of Facebook and ways in which they used the medium. Self-report survey data from 321 college students (M age = 20.09; 58% female; 84% Caucasian) attending a major Midwestern university supported the proposed model, indicating that higher social competence could foster or impede college adjustment, depending upon how it was related to beliefs about the usefulness of different Facebook functions and how these perceptions, in turn, were associated with patterns of Facebook use. Findings underscore the importance of considering connections among personal attributes, perception of media effectiveness, and media behaviors in assessing the implications of social media for users' psychosocial well-being.

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1. Introduction

Going to college has become a normative experience among young people in the United States. Enrollment in post-secondary institutions has doubled over the past 40 years among individuals age 18–24 (U.S. Department of Education, 2013, Table 224). As increasing numbers of young people attend college, a college degree has become a more important factor in obtaining employment and high earnings (U.S. Department of Labor, 2014), but not everyone who starts college completes a degree. Students drop out for academic reasons, but an under-recognized factor that contributes substantially to persistence and graduation is successful social adjustment to college (Gerdes & Mallinckrodt, 1994; Tinto, 1975, 1993), which requires assembling and maintaining a supportive social network (Buote et al., 2007; Swenson, Nordstrom, & Hiestler, 2008). Students must figure out how to maintain pre-college relationships despite the physical separation that occurs with the move to a residential college, and they must forge new, supportive relationships with college associates.

Social networking sites (SNSs) have the potential to facilitate social relationships, especially now that the vast majority of college students are frequent SNS users (Junco, 2012; Smith &

Caruso, 2010). Yet, information remains limited on the specifics of how young people use SNSs to negotiate their college experiences and on factors that contribute to their usage. This study considers how students' perceptions of the usefulness of Facebook, the leading SNS among youth (Duggan & Brenner, 2013), mediates associations between levels of social competence and patterns of Facebook use, and how such usage is associated with young people's college adjustment.

1.1. Social networking sites and college adjustment

Successful college adjustment requires strong peer support. Remaining connected with off-campus or pre-college associates and forming new relationships in college are both crucial to students' adaptation (Buote et al., 2007; Swenson et al., 2008). Whereas off-campus or pre-college friends are important sources of emotional support (Ranney & Troop-Gordon, 2012; Swenson et al., 2008), social ties established on campus help students become socially integrated, thus less likely to drop out of the institution (Pascarella & Terenzini, 1983; Tinto, 1975, 1993). For example, having an on-campus best friend who shares common interests is associated with better social adjustment in college and a higher level of attachment to the institution (Swenson et al., 2008).

For college youth today, SNSs have become a common tool for relationship management (Ellison, Steinfield, & Lampe, 2011;

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Yang, Brown, & Braun, 2014). Ellison, Wohn, Khan, and Fewins-Bliss (2012) propose that SNSs may help college students avoid drastic disruption of their existing networks and establish a sense of belonging in college by facilitating communication with old friends and access to new people. The social affordance of SNSs allows users to display requests for emotional or informational support to a large audience. Empirical studies support Ellison et al.'s (2012) argument. General usage of SNSs has been linked to the accrual of social capital (Ellison, Steinfield, & Lampe, 2007; Steinfield, Ellison, & Lampe, 2008), and using the sites for social interactions in particular is associated with better socio-emotional adjustment to college (Yang & Brown, 2013). Using Facebook to engage in collaborative academic activities is related to more bonding social capital, and having more college friends on Facebook is associated with better social adjustment to college (Gray, Vitak, Easton, & Ellison, 2013). Some research, however, provides counter-evidence, showing that the amount of Facebook use predicts decreases in subjective well-being (Kross et al., 2013) and makes users feel that other people are living a better life (Chou & Edge, 2012). The inconsistent findings prompt the question: For what types of students and which types of social relationships is the use of SNSs adaptive?

Social competence, broadly defined as “effectiveness in social interaction” (Rose-Krasnor, 1997, p.111), may be a crucial factor in understanding SNS use and college adjustment. Personal attributes related to social competence (such as social anxiety, shyness, or extraversion) not only have important implications for college adaptation (Mounts, Valentiner, Anderson, & Boswell, 2006; Nordstrom, Swenson-Goguen, & Hiester, 2014; Parade, Leerkes, & Blankson, 2010) but also moderate the relationship between Internet or technology use and psychosocial well-being (Desjarlais & Willoughby, 2010; Kraut et al., 2002). Although social competence is an important factor in outcomes associated with the use of social media, its impact is contingent on users' attitudes about the usefulness of these media and their specific ways of usage.

1.2. Perceived usefulness and online communication partners

Perceived usefulness of a medium has been postulated as a central element in technology use (Davis, 1989, 1993). It has been identified as a mediator between attributes related to social competence and media use. For example, socially anxious adolescents have a stronger belief than non-socially anxious adolescents in the effectiveness of online communication; the belief contributes to a higher frequency, rate, and intensity of online communication (Valkenburg & Peter, 2007c). Introverted adolescents are motivated to chat online because they think the platform facilitates self-expression, and this social compensation motive enhances the level of online self-disclosure and frequency of online communication (Peter, Valkenburg, & Schouten, 2005).

Despite the contribution of previous research, there are two limitations. In most cases, studies focus on a single aspect of people's social media use or their assessment of media's usefulness (but see Jin, 2013 for an exception). A more comprehensive approach could reveal different ways in which college students find SNSs useful and indicate how these perceptions shape specific uses students make of SNSs. Second, scholars frequently assess media use in terms of amount or frequency. While overall media use has important implications for users' well-being (e.g., Ellison et al., 2007; Kross et al., 2013), nuanced information is missing if this is the only variable considered. In the case of SNSs, the targets of online social activities must be considered. A major factor in college students' social adjustment is building and maintaining a supportive social network. Seeking new relationships and maintaining existing social ties are ongoing concerns for these young people,

highlighting the importance of the targets of their interactions in studies of their use of social media.

Facebook allows individuals to keep tabs on and communicate with associates who are no longer seen regularly (e.g., high school friends not at their college) and learn more about attitudes and interests of peers they encounter on campus. It also can foster connections to strangers whom they may never meet face to face but who share a student's background or interests. Interactions with different online communication partners are associated with different psychosocial outcomes. Whereas online communication with existing friends enhances relationship quality and a sense of closeness with friends (Blais, Craig, Pepler, & Connolly, 2008; Cummings, Lee, & Kraut, 2006; Valkenburg & Peter, 2007b), interaction with strangers in cyberspace is related to lower life satisfaction (Valkenburg & Peter, 2007a). Those who become friends with strangers on an SNS are especially inclined to feel that other people have better lives (Chou & Edge, 2012).

1.3. Current study and hypotheses

Expanding upon past research, the current study first identified different dimensions of Facebook usefulness in facilitating social activities, such as seeking information about peers, communicating with friends, pursuing new relationships, and gaming with others. Although previous studies have suggested that college students are motivated to use Facebook for these reasons (e.g., Sheldon, 2008; Yang & Brown, 2013), no research has clearly confirmed which dimensions of usefulness are commonly perceived by young people; thus our hypothesized model does not specify the usefulness dimensions.

Next, we tested a model composed of four sets of variables: social competence, perceived Facebook usefulness, patterns of Facebook use (amount of time and three groups of communication partners students can easily encounter on Facebook), and college adjustment (see Fig. 1). Social competence is hypothesized to be positively associated with college adjustment (H1), but studies evaluating young people's technology use suggest that this relationship may be mediated by the specific ways in which students use Facebook, which, in turn, should be contingent on students' perceptions of Facebook's usefulness for various activities or objectives.

Without a preconceived notion of the key dimensions of perceived usefulness of Facebook, it is difficult to formulate hypotheses about associations between perceived usefulness dimensions and other components of the model. Therefore, we formulated research questions about the nature of associations between social competence and dimensions of Facebook usefulness (RQ1) and, with one exception, between these dimensions and patterns of Facebook use (RQ2a to RQ2c). As for the exception, general consensus that perceived usefulness is a positive correlate of technology use (Davis, 1993; Peter et al., 2005; Valkenburg & Peter, 2007c) prompted us to hypothesize that all perceived usefulness dimensions would be positively related to the amount of time spent using Facebook (H2).

Although Facebook use involving interaction with peers is positively associated with social adjustment to college, directly and indirectly (Gray et al., 2013; Yang & Brown, 2013), evidence has been equivocal about the effects of overall intensity and time of Facebook use on users' adjustment or psychosocial outcomes (e.g., compare the following research: Ellison et al., 2007; Kalpidou, Costin, & Morris, 2011; Kross et al., 2013). To ensure that we do not miss important dimensions of Facebook use, our model includes both a general measure (amount of time spent using Facebook) and assessments of efforts to communicate with three groups of people: on-campus associates, off-campus associates, and strangers. This approach of including both general and specific measures is common in Facebook research (e.g., Junco, 2012). We propose a research question regarding the relationship between amount of

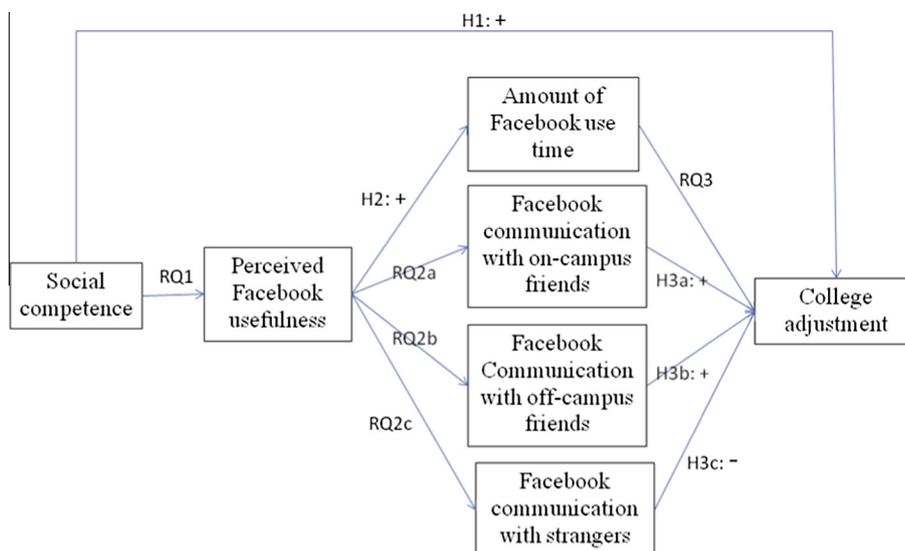


Fig. 1. Hypothesized model.

Facebook time and college adjustment (RQ3). Considering the facilitating role played by both on-campus peers (Swenson et al., 2008; Tinto, 1975, 1993) and off-campus friends (Ranney & Troop-Gordon, 2012) as well as the negative impact of online interaction with strangers (Chou & Edge, 2012; Valkenburg & Peter, 2007a), we hypothesize that Facebook interaction with both on-campus (H3a) and off-campus peers (H3b) would be positively related to adjustment in college, whereas interaction with strangers on Facebook would be negatively related to college adjustment (H3c).

2. Method

2.1. Participants

In the middle of spring semester, students at a major Midwestern U.S. university were invited via in-class announcements to participate in the study by completing a short (20-min), anonymous, paper-and-pencil survey. To ensure a broader sample, participants were recruited from introductory and advanced classes in three different fields of study (education, engineering, and computer sciences). As an incentive, students were either given extra credit or a \$5.00 honorarium for participating. The Institutional Review Board at the second author's university approved the study; informed consent was obtained from all participants prior to their participation.

A total of 353 students filled out the survey. Individuals over age 25 were excluded from analyses because it was doubtful that they shared the same developmental agenda as individuals in the traditional age range for attending college. Those who were not Facebook users or whose daily time on Facebook was greater than three standard deviations from the sample mean also were removed from the sample. Of the 321 cases retained for analyses, most were female (58%) and White (84%)—figures comparable to the campus as a whole (52% female, 80% non ethnic minority). Their age ranged from 18 to 25 years old ($M = 20.09$, $S.D. = 1.43$). The sample was slightly skewed toward freshmen and sophomores (28% freshman, 32% sophomore, 22% junior, 18% senior and above).

2.2. Measures

2.2.1. Demographic information

Participants reported their age, sex, ethnicity, and year in college.

2.2.2. Social competence

Participants responded to 8 items from the Initiation and Disclosure subscales of the Interpersonal Competence Questionnaire (ICQ; Buhrmester, Furman, Wittenberg, & Reis, 1988). On a 5-point Likert scale, participants indicated how good they were in initiating relationships and self-disclosing (1 = poor; 5 = extremely good), such as "Introducing yourself to someone you might like to get to know (or date)" and "Letting down your protective outer shell and trusting a close companion." For model parsimony, scores of the 8 items were averaged and formed one scale score. This should be appropriate given the conceptual relevance and statistical correlation between the two subscales (Buhrmester et al., 1988). Higher scores represented higher social competence. Cronbach's $\alpha = .85$.

2.2.3. Facebook usefulness

From previous studies examining youth's motives for using Facebook (e.g., Sheldon, 2008; Yang & Brown, 2013) we identified 27 items to measure perceived usefulness of Facebook. On a 4-point Likert scale (1 = not useful; 4 = very useful), participants rated how useful they found Facebook to be for each activity. Table 1 provides the final list of items. Psychometric properties of subscales identified in this instrument are reported in the Results section.

2.2.4. Facebook use

Participants responded to a set of questions measuring four facets of their use of Facebook. First, to assess *general Facebook use*, they were asked: "On a typical day, how much time do you spend doing something on Facebook (posting, browsing, uploading, etc.)? ___ hours and ___ minutes." Responses were transformed into number of minutes for analyses. Then, students completed a set of questions revealing how often they used Facebook to communicate with different types of people. All items were answered on a 4-point Likert scale (1 = almost never; 4 = very often). Participants responded to two items concerning *communication with on-campus friends* ("How often do you use Facebook to interact with other students in your dorm/apartment building?" and "How often do you use Facebook to interact with friends who attend [name of the University]?"), one item regarding *communication with off-campus friends* ("How often do you use Facebook to interact with your friends who don't go to [name of the University]?"), and two items concerning *communication with strangers* ("How often do you use

Table 1
Factor analysis of the perceived usefulness scale.

Factor/Item	Factor loading			
	1	2	3	4
1. Seeking and sharing personal information				
– Seeing what my friends care about	.86			
– Letting others know more about me	.85			
– Seeing what my friends' interests are	.79			
– Finding out the interests of people I might want to be friends with	.70			
– Showing people what I'm interested in	.68			
– Finding others who share my interests or activities	.60			
2. Gaming				
– Doing online activities (e.g., games) with others from Midwestern University		.96		
– Doing online activities (e.g., games) with other people not at Midwestern University		.96		
– Playing online games strictly for fun		.67		
3. Maintaining social connections				
– Avoiding drifting apart from people I know			.81	
– Staying connected with high school friends (who are not at Midwestern University)			.76	
– Finding out what my friends are planning to do tonight or this weekend			.64	
– Keeping in touch with college friends			.63	
– Letting friends know what I've been up to			.60	
– Reconnecting with people I used to know			.58	
4. Pursuing romantic or sexual relationships				
– Making myself attractive to potential romantic or sexual partners				.76
– Hooking up (sexually)				.73
– Pursuing a potential romantic relationship				.42

Note. Figures are factor loadings. Only loadings greater than .35 are listed.

Facebook to interact with people outside [name of the University] whom you haven't met face-to-face?" and "How often do you use Facebook to interact with other [name of the University] students you haven't met but who seem to share your interests?"). The pairs of items concerning on-campus friends and strangers were moderately correlated ($r_s = .43$ and $.53$, respectively); scores on each set of items were averaged to form scores for analyses.

2.2.5. College adjustment

The survey included two measures of adjustment to college. First, using a 5-point Likert scale, students reported their overall satisfaction with life at the University by answering 7 questions adapted from the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). Example items included "In most ways my life at [name of the University] is close to my ideal" and "I'm disappointed with the way things are turning out for me at [name of the University]" (reverse item). Item scores were averaged, with higher scores indicating greater satisfaction (Cronbach's $\alpha = .87$). Second, because of the study's focus on students' social adjustment to college, a scale assessing this construct was included. Participants responded to 7 items from the social adjustment subscale of the Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1989). Example items included "I have several close social ties" and "I'm meeting people and making friends." Scores from items, answered on a 7-point Likert scale, were averaged to form a scale score, with higher scores reflecting better social adjustment (Cronbach's $\alpha = .81$). The two scales are frequently used to measure students' well-being in the college environment (e.g., Ellison et al., 2007; Yang & Brown, 2013). Although the two scales were moderately correlated ($r = .56$), because of their different foci (general satisfactions versus social adjustment), they were treated as separate outcomes.

3. Results

Students' average level of social competence was 3.41 ($S.D. = .71$). They spent an average of 86.14 min using Facebook in a typical day ($S.D. = 70.26$). Our participants frequently used Facebook to interact with on-campus ($M = 2.63$, $S.D. = .74$) and

off-campus friends ($M = 3.10$, $S.D. = .86$), but interaction with strangers was rare ($M = 1.19$, $S.D. = .44$). Students seemed to adjust to the college environment well, with an average score of 5.12 ($S.D. = .100$) in social adjustment and 3.73 ($S.D. = .77$) in satisfaction with college life.

3.1. Dimensions of perceived usefulness of Facebook

Prior to testing the hypothesized model, we sought to identify major dimensions of students' perceptions of Facebook usefulness through factor analyses. Researchers have suggested that the principle of "eigenvalues greater than one" usually overestimates the number of factors that ought to be extracted, and interpretations of scree plots tend to have low reliability (O'Connor, 2000). Alternative methods such as parallel analysis and Velicer's minimum average partial (MAP) test are advised for determining the number of factors to retain (see O'Connor, 2000 for specific explanations and procedures of the two analyses). Both tests suggested that 4 factors should be extracted. Results of these tests are available upon request.

An exploratory factor analysis with maximum likelihood as the estimator and direct oblimin as the oblique rotation method produced an interpretable four-factor solution. Items that failed to display a loading greater than .35 on any factor or that cross-loaded on more than one factor (defined as having a loading difference smaller than .25) were excluded. The final model explained 58.23% of the variance. See Table 1 for factor loadings. A scale score was derived for each factor by calculating the mean of responses to items associated with the factor.

The first factor, *seeking and sharing personal information* (Cronbach's $\alpha = .90$), included 6 items referring to participants' posting of information about self as well as viewing information posted on Facebook by others. Three items comprised the second factor, *gaming* (Cronbach's $\alpha = .90$). It captured the helpfulness of Facebook in allowing users to play online games with people both within and outside of the University. The third factor, *maintaining social connections* (Cronbach's $\alpha = .84$), was composed of 6 items that delineated Facebook usefulness in staying connected with on-campus and off-campus friends. *Pursuing romantic or sexual*

Table 2
Descriptive statistics and correlation coefficients of the usefulness scales.

	Mean (S.D.)	1.	2.	3.
1. Seeking and sharing personal information	2.08 (.68)			
2. Gaming	1.34 (.60)	.26		
3. Maintaining social connections	2.89 (.66)	.50	.22	
4. Pursuing romantic or sexual relationships	1.51 (.58)	.38	.31	.35

Note. All scales are 4-point Likert scales. All correlation coefficients are significant at $p < .001$.

relationships (Cronbach's $\alpha = .67$), the last factor, consisted of 3 items related to the functionality of Facebook in pursuing romantic or sexual interests. All 4 factors were positively correlated with one another. Table 2 provides scale descriptive statistics and correlations.

3.2. Hypothesized model

A path analysis was conducted on the hypothesized model, using Mplus 7.1 with maximum likelihood robust being the estimator. Sex, ethnicity, and age served as control variables for the two sets of mediators: the Facebook usefulness variables and the usage variables. Ethnicity was dichotomized into White and non-White to ensure sufficient cases in each category. The hypothesized model had an acceptable fit: $\chi^2(21) = 44.26, p < .01$; RMSEA = .059, 90% CI = .034–.083; CFI = .98; TLI = .91. To make paths among model components more visible, correlations among variables are omitted from Fig. 2, but the 4 usefulness variables were all intercorrelated ($r_s = .21$ – $.48, p < .001$). The two adjustment measures were significantly correlated ($r = .49, p < .001$), as were the degrees to which participants used Facebook to communicate with on-campus and off-campus friends ($r = .15, p < .05$). Table 3 and Fig. 2 present results of these analyses.

Supporting Hypothesis 1, social competence was positively related to both outcome variables; it also displayed positive

associations with all four aspects of perceived Facebook usefulness (RQ1). Hypothesis 2 was partially supported: Two aspects of perceived Facebook usefulness (maintaining social connections and pursuing romantic or sexual relationships) were positively associated with amount of time participants spent on Facebook. There were several other significant relationships between perceived usefulness and patterns of Facebook use (RQ2a to RQ2c). Maintaining social connections was associated with higher frequencies of interacting with on-campus and off-campus friends. Pursuit of romantic and sexual relationships was associated with more interaction with strangers. Gaming was also related to more frequent Facebook interaction with strangers, but not with other aspects of Facebook use. Surprisingly, perceived usefulness of seeking and sharing personal information was not associated with any Facebook use variables.

Time spent on Facebook was associated with better social adjustment in college, but not with higher satisfaction with college life (RQ3). As hypothesized (H3a), Facebook communication with on-campus friends was positively related to both social adjustment and life satisfaction in college, whereas Facebook communication with strangers had negative relationships with the two outcome variables (H3c). Contrary to Hypothesis 3b, communication with off-campus friends did not display a significant relationship with either measure of adjustment.

Demographic control variables were related to several perceived usefulness and Facebook use variables. Female students perceived Facebook to be more useful in exchanging personal information and maintaining social connections; they also spent more time using the platform than did male students, whereas male students reported more interaction with strangers via Facebook. Younger students thought of Facebook as more useful in maintaining social connections and meeting the needs of gaming; they also engaged in more interaction with on-campus friends via Facebook. Non-White students considered Facebook a more convenient venue for gaming and interacted with strangers more often whereas White students were more likely to use Facebook for interactions with off-campus friends.

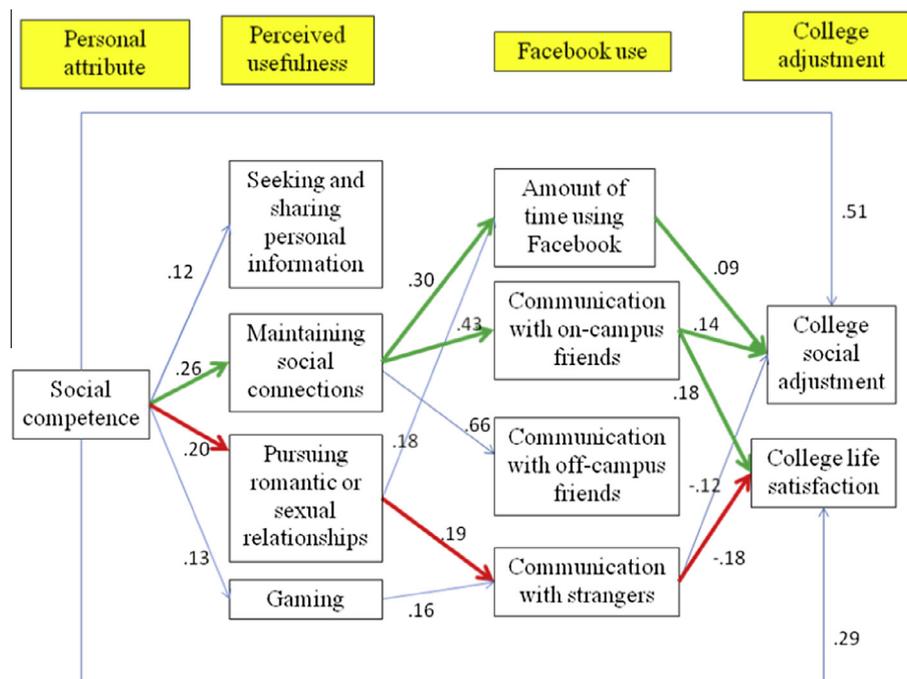


Fig. 2. Results of path analysis of the hypothesized model. The reported statistics are standardized coefficients. Only significant paths are displayed. The blue thin lines represent direct paths. The green thick lines represent positive indirect paths. The red thick line represents a negative indirect path. For figure clarity, demographic control variables are eliminated; the coefficients are reported in Table 3. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

Table 3
Path coefficients of the mediation model.

	<i>b</i>	S.E.	β	S.E.
<i>Direct paths of interest</i>				
Social competence → SSPI	.12*	.05	.12*	.05
Social competence → MSC	.24***	.05	.26***	.05
Social competence → PRS	.17***	.04	.20***	.05
Social competence → Gaming	.11**	.04	.13**	.05
Social competence → Social adjustment	.72***	.07	.51***	.04
Social competence → College life satisfaction	.31***	.06	.29***	.05
MSC → Facebook time	31.85**	5.87	.30**	.05
MSC → On-campus friends	.48**	.07	.43**	.06
MSC → Off-campus friends	.86***	.07	.66***	.06
PRS → Facebook time	21.89**	7.46	.18**	.06
PRS → Strangers	.15*	.05	.19*	.07
Gaming → Strangers	.12*	.06	.16*	.08
Facebook time → Social adjustment	.00*	.00	.09*	.04
On-campus friends → Social adjustment	.19**	.07	.14**	.05
On-campus friends → College life satisfaction	.19**	.06	.18**	.06
Strangers → Social adjustment	-.28**	.11	-.12**	.05
Strangers → College life satisfaction	-.31***	.09	-.18***	.05
<i>Controlled demographic paths</i>				
Female → SSPI	.15	.08	.22*	.11
Female → MSC	.49***	.07	.74***	.09
Female → Facebook time	39.84**	6.79	.57**	.09
Female → Strangers	-.12*	.05	-.27*	.12
Age → MSC	-.07**	.02	-.16**	.05
Age → Gaming	-.07**	.02	-.17**	.04
Age → On-campus friends	-.14**	.02	-.27**	.05
White → Gaming	-.19*	.09	-.31*	.16
White → Off-campus friends	.24*	.11	.27*	.13
White → Strangers	-.30**	.08	-.69**	.17
<i>Indirect paths</i>				
Social competence → MSC → Facebook time → Social adjustment	.01*	.01	.01*	.00
Social competence → MSC →	.02*	.01	.02*	.01
On-campus friends → Social adjustment				
Social competence → MSC →	.02*	.01	.02*	.01
On-campus friends → College life satisfaction				
Social competence → PRS → Strangers → College life satisfaction	-.01*	.00	-.01*	.00

Note. SSPI = Seeking and sharing personal information, MSC = Maintaining social connections, PRS = Pursuing romantic or sexual relationships. Italics represent results of one-tailed tests. Only significant paths are presented. Full information on all paths is available from the authors.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

3.3. Assessment of indirect paths

Further analyses were conducted to identify significant indirect paths between social competence and college adjustment. The coefficient of an indirect path was calculated by multiplying the coefficients of the direct paths involved in the route. Four indirect paths were significant (see Table 3 and Fig. 2). Social competence had a positive, indirect relationship with social adjustment in college via perceived usefulness in social connection maintenance, which led to greater amounts of time spent on Facebook. There was another indirect pathway between social competence and college social adjustment: The higher a student's social competence, the more useful the student perceived Facebook to be in maintaining social connections, which in turn was related to more frequent Facebook interaction with on-campus friends, which was positively associated with social adjustment in college; social competence was also related to greater satisfaction with college life via the same indirect route. On the other hand, social competence was negatively related to college life satisfaction when participants considered Facebook useful in pursuing romantic or sexual relationships and engaged in more Facebook interaction with strangers. The coefficients of other indirect routes were not large enough to be recognized as significant pathways.

3.4. Test of alternative causal arrangements

Because our data were collected at a single time point, there was room to interpret the directionality of the relationships among variables differently. To address the issue, we tested two alternative models. We used the Bayesian Information Criterion (BIC) as the index for comparison (Kaplan, 2009); a lower BIC indicated better fit. In the first alternative model, we switched the order of the Facebook usefulness variables and use pattern variables. Compared with the BIC of our hypothesized model (8929.53), the alternative model had a higher BIC (8961.97), suggesting poorer fit. In the second alternative model, we reversed the sequence of all four phases of variables. This model also had a poorer fit, as indicated by the higher BIC (9672.80).

4. Discussion

Socially competent college students are advantaged in social interactions, but do they necessarily benefit more from use of social media than less competent peers? Consistent with several previous investigations of technology use and psychosocial well-being (e.g., Blais et al., 2008; Valkenburg & Peter, 2007a), results from this study suggest that the answer depends on how the medium is used. Analyses point to several pathways linking

perceptions of Facebook's usefulness and usage patterns to indicators of college adjustment.

Socially competent students were more likely to report better college adjustment through two pathways. First, these students considered Facebook useful in maintaining social connections, leading them to spend more time using the site, which contributed to better social adjustment in college. The high score on this usefulness dimension is consistent with other studies that report relationship maintenance as a major reason why college students use Facebook (Pempek, Yermolayeva, & Calvert, 2009; Subrahmanyam, Reich, Waechter, & Espinoza, 2008; Yang & Brown, 2013). The connection between high regard for Facebook's usefulness in maintaining social connections and high rates of Facebook use helps to explain results of previous research. Several studies show that general indicators of social media use (e.g., amount, frequency, or intensity of overall use) are significantly associated with psychosocial outcomes (e.g., Ellison et al., 2007; Steinfield et al., 2008). If the more extensive use is aimed at enhancing social relationships, it is not surprising that the use is associated with higher levels of psychosocial well-being. Although social competence was positively associated with perceived usefulness in all four dimensions, maintaining social connections was one of the only two dimensions significantly correlated with amount of Facebook use.

In a second, closely related pathway, because socially competent students believed that Facebook was especially useful in maintaining social connections, they engaged in more Facebook interaction with on-campus friends, which in turn facilitated social adjustment in college and satisfaction with college life. The finding is in line with the well documented observation that online communication with existing friends enhances friendship quality and closeness (Blais et al., 2008; Cummings et al., 2006; Valkenburg & Peter, 2007b), but it again highlights the role of perceived usefulness as an important factor in patterns of Facebook use.

On the other hand, socially competent students were less satisfied with their college life when they thought of Facebook as a useful tool in pursuing romantic or sexual relationships and thus engaged in more interactions with strangers via the platform. This pathway provides insight into results of previous studies showing that individuals who pursue online interaction or become Facebook friends with strangers are less satisfied with their own lives (Chou & Edge, 2012; Valkenburg & Peter, 2007a). It seems sensible that the quest for new romantic or sexual partners would lead individuals to interact with unknown others online, but why does this reduce satisfaction with college life? One possibility is that students who perceive Facebook useful in pursuing romantic or sexual relationships may attempt to fashion an image on Facebook that would make them attractive to potential partners. Users whose Facebook relationship status is single disclose the greatest amount of information on the platform, perhaps as a way to draw the attention of possible dates (Nosko, Wood, & Molema, 2010). When these efforts are unrequited or when the individuals whom they encounter fail to live up to their online image, students' satisfaction with college life may be diminished, particularly if the communication partner is a stranger from the same university. Further research is needed to understand Facebook's role in the search for romantic and sexual partners.

Another way of interpreting this negative indirect path is that those who were less socially competent displayed higher life satisfaction in college because they dismissed Facebook as a useful tool to pursue romantic or sexual relationships, and thus engaged in less Facebook interaction with strangers. This reflects what could be regarded as "protective disengagement." Whereas previous research focused on the positive effects received by psychosocially unprivileged users when they take advantage of social media (e.g., Desjarlais & Willoughby, 2010; Ellison et al., 2007), protective

disengagement describes how these students can fare well due to their lack of engagement as opposed to active participation.

Two pathways that were not significant are worth mentioning. Highly competent college students perceived Facebook as useful in seeking and sharing personal information, but this perception was not associated with any Facebook use variables. Items in the seeking/sharing scale focus on less interactive activities, such as posting self-information and "Facebook lurking" (Pempek et al., 2009), referring to reading other people's posts without leaving comments. The more passive nature of these activities may not easily translate into the agentic strategies of Facebook use that we measured.

Second, whereas Facebook interaction with on-campus friends was related to better college adjustment, Facebook communication with off-campus friends did not create significant paths to the adjustment outcomes. The finding lends support to the research showing that although off-campus connections, such as friends from high school, facilitate the transition to college during the first few weeks of freshman year, on-campus social ties become more significant soon after (Swenson et al., 2008). Successful college adjustment requires social integration through peer interaction (Tinto, 1975, 1993), and it appears that the on-campus peers are more helpful than off-campus friends in socializing students and providing what it takes to have a good college life.

To pursue this issue, we reasoned that the hypothesized model might operate differently for first-year students, who were in the throes of the transition to college, than more advanced students. Using multiple group analysis to compare a model in which paths in both groups were constrained to be equal to one that freed paths between Facebook use and adjustment outcomes, we did not see significant improvement in fit in the unconstrained model. Even for freshmen, use of Facebook to communicate with off-campus friends was not associated with adjustment. It is possible that this association would have been more prominent for freshmen had the data been collected early in the academic year when these students were still new to college, rather than during the spring semester.

5. Contributions, implications, and limitations

Ellison et al. (2012) argued that social media may improve college persistence and success, in part because they provide easy access to resources, information, and social support, and facilitate peer interaction. Our findings affirm and elaborate this argument by indicating how frequency of Facebook interaction with various people has different implications for college adjustment. Communication with on-campus friends is most beneficial for students' adjustment, probably because on-campus friends' knowledge of the ins and outs of college life directs students to useful resources and information. Kalpidou et al. (2011) found that the number of Facebook friends was positively related to social adjustment and attachment to the institution for college upper-class students, but not for freshmen. Actually, the number of Facebook friends was negatively related to freshmen's emotional and academic adjustment. The authors attributed the differentiated outcomes to upper-class students' more effective use of Facebook, but this neglects their finding that first-year students had more Facebook friends from home. Our research suggests that the composition of Facebook friends plays a key role; having more college friends on Facebook is a positive correlate of social adjustment to college (Gray et al., 2013). Our first contribution is to highlight the significance of differentiating SNS usage with various partners, especially in research of college adaptation.

The second contribution of the study is to confirm the significance of considering perceived usefulness in understanding technology use. Our findings demonstrate that perceived usefulness is a multi-dimensional construct, the various dimensions of which

have different implications for specific use patterns. Finally, the study reveals how the simple direct association between social competence and college adjustment can become complicated in the context of SNSs. Even though social competence had a positive direct association with both adjustment outcomes, the valence of the indirect associations did not always stay the same when perceived usefulness and specific ways of Facebook usage were taken into account. The various indirect paths that emerged in our study suggest that for both socially competent and less competent students, Facebook can be a blessing or a curse, depending on students' perceptions of Facebook usefulness and specific use patterns.

The results of this study also offer some guidance to universities like the one from which this sample was drawn in efforts to enhance students' experience and boost retention rates. For example, setting up social media that can facilitate interaction among students in venues likely to foster peer relationships (e.g., Facebook pages for residence halls or orientation groups, online interaction platforms for classes) may help students see the usefulness of social media in nurturing campus relationships. Alerting counselors to successful online strategies may prepare them to give useful guidance to students—especially those with lower social competence—who seek help in adjustment. Previous research, for example, suggests that heated interaction and highly personal displays should be avoided when engaging in a public discourse on Facebook (McLaughlin & Vitak, 2012; Karakayali & Kilic, 2013), but more self revelation via Facebook Chat might be acceptable given its more intimate nature (Yang et al., 2014). Familiarizing the less socially competent students with such do's and don'ts might help them use the medium in a socially facilitating manner. On the other hand, staff may need to attend to socially competent students who hold positive attitudes toward online pursuit of romantic or sexual relationships. Their inclination to interact with online strangers can distract students from more beneficial social ties (Kraut et al., 1998).

In interpreting study findings, some points are important to bear in mind. First, our model implies directionality among variables based on theories and previous research, and model comparisons suggest that our hypothesized sequencing fits the data best. However, our causal assumptions need to be confirmed through longitudinal research. Second, the study was conducted in a large state university serving a predominantly European American, U.S. student body. Research needs to be extended to see if the findings apply to different college environments and a more demographically diverse set of youth. Third, our scale of perceived usefulness of pursuing romantic or sexual relationships had a relatively low alpha. We decided to retain this variable given the importance of romantic and sexual pursuit at this developmental stage (Furman & Winkles, 2012), but the scale can be refined in future research. Finally, while our perceived usefulness variables focused on social aspects of Facebook use, this SNS also has ramifications for academic aspects of college life. Research indicates that time spent on Facebook and Facebook use for socializing are associated with lower grades or less time on course work (Junco, 2012); on the other hand, using Facebook for information collecting and sharing is positively related to academic activities and outcomes (Junco, 2012), and using Facebook for academic collaboration can enhance college freshmen's bonding social capital, which facilitates social adjustment to college (Gray et al., 2013). More attention should be directed to the academic dimension of Facebook use.

6. Conclusion

Our findings contribute to the literature of college adjustment in the digital era. Our model explores how an important personal

attribute, social competence, is associated with media perceptions, leading to particular ways of usage and thus adjustment outcomes. Although socially competent youth view Facebook as a useful tool in all dimensions measured and use it with various communication partners, more active use is not always associated with better college adjustment. The model tested in this study provides a more comprehensive basis for future studies of Facebook or similar social networking sites. By extending this model to other types of media, scholars may achieve a better understanding of the prominent role that social media play in the lives of college youth.

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