

CHAPTER 7

Facebook as a Tool for Enhancing Communication and Self-Expression

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Adolescents are portrayed in research and in public media outlets such as television, radio, and film as individuals who are so preoccupied with self-discovery that they do not position themselves in society. Social networking sites such as Facebook, Instagram, and Pinterest capitalized on this perception by advertising opportunities for self-expression and asking members to build profiles that depict their personal attributes, hobbies, and intentions. Despite this bias, not all adolescents focus exclusively on their own development and may use social networking sites as a tool for enhancing communication about a broader range of topics. As new affordances are developed for each site, membership waxes and wanes accordingly, and participation can be dictated by self- or other-focused goals. Recognizing that individuals differ in their willingness to participate in online forms of social networking, we compared the viability of assuming that adolescents use Facebook to enhance their self-representations and to communicate with others about important societal issues. By identifying individual differences in adolescents' use of Facebook as a tool for self-expression and for participating in social discourse, we depict adolescents' intentions with greater accuracy.

Two practical concerns guided this study. First, we wanted to understand the value adolescents place on their Facebook relationships. We also sought more information on the educational value of using Facebook to help adolescents improve their social skills and ability to imagine their roles in society. If adolescents can comfortably use Facebook and be guided through socially beneficial activities, they may gain access to valuable information across the globe.

If adolescents use Facebook primarily as a tool for self-expression, individual differences in their behavior could be associated with how they form social attachments. Attachment theory posits that individual differences in social behavior align with temperamental differences in how adolescents build and maintain relationships (Antonucci, Akiyama, & Takahashi, 2004). Some adolescents are dismissive or fearful about interacting with others in ways that may hamper their involvement with social media (Griffin & Bartholomew, 1994). Adolescents with positive relationship expectations could be more willing to use all the affordances offered by social media. To determine if these common personality dispositions play a role in adolescents' intentions regarding social media, we took a closer look at how attachment styles align with the qualities of individuals' Facebook interactions. Facebook is an ideal site for such scrutiny because the site allows adolescents to formulate self-referential intentions as they engage in self-expression online.

If adolescents use Facebook to participate in the type of global and local communication required for civic and civil discourse, they are likely to show independent self- and other-focused intentional stances. Research on how adolescents imagine a better society suggests that, when prompted, they can easily formulate other-focused intentions (Sherrod, Torney-Purta, & Flanagan, 2010; Thorkildsen, Golant, & Cambrey-Engstrom, 2008). High school and college students may have notably different attachment profiles, but they can also formulate the beliefs, desires, and actions needed to reach out to others on Facebook or to support human-rights agendas. Exploring adolescents' reported activities on Facebook offers a means of depicting their willingness to interact with others or otherwise support causes. Third-person analysis of adolescents' social goals, attachment beliefs, and Facebook use conveys individual differences in adolescents' willingness to balance self-interest and social communication.

A DYNAMIC SYSTEMS APPROACH TO UNDERSTANDING INTENTIONS

Our work is grounded in an intentional philosophical stance as we compare the viability of attachment theory and dynamic systems theory to explain adolescents' intentions on Facebook. Philosophically speaking, intentions reflect a combination of desires, beliefs, and actions but can remain invisible to individuals even when their behavior conveys a clear sense of direction (Dennett, 1989). Grounded in what people do as well as in what they say

they do, intentions are evident regardless of whether people use intuition and folk theories to direct their behavior, or consciously draw inferences from their direct experiences. Despite the origin of intentions, adolescents can exert greater control over their behavior if they are aware of how their desires, beliefs, and planned actions align with actual behavior. Likewise, adults who try to teach adolescents can benefit from such third-person analyses of commonalities in adolescents' intentions.

Surprisingly, our findings were not consistent with the assumptions embedded in attachment theory. Previous longitudinal and retrospective research suggests that individuals hold enduring temperaments that affect the quality of their relationships across the lifespan (Antonucci et al., 2004). Using a model validated by Fraley, Waller, and Brennan (2000), we classified the attachment profiles of high school and college students into one of four quadrants. Quadrants were formed using theoretical parameters focusing on the self and others, each with positive and negative poles. Adolescents reported their habitual attachment beliefs and these were used in the selection of participants for this study. Individuals reporting *secure* beliefs conveyed an internalized sense of self-worth and comfort with intimacy. Those with a *preoccupied* style reported a deep sense of unworthiness but a strong commitment to bonding with others, often via an excessive need for closeness. A *dismissive* style involved avoiding closeness with others while maintaining a high sense of self-worth and commitment to independence. And, a *fearful* style involved a dependence on others to validate a sense of self-worth while shunning intimacy to avoid any pain of rejection. If adolescents' attachment styles are all-encompassing, they should have expressed these dispositions when using Facebook, but they did not.

The failure to find support for the strong hypothesis regarding adolescents' attachment styles and Facebook use seems beneficial to adults who would like to help adolescents maintain or expand their relationships and social resources. Rejecting attachment theory, we used a more relevant, dynamic-systems theory to explore adolescents' involvement with Facebook. This intentional approach is comprised of the assumption that individuals' internal functioning reflects an environment such that even a cell in the human body is formed by its placement (Thelen & Smith, 1998). Assuming that Facebook serves as an environment, we tested the possibility that adolescents formulate multiple, independent intentions when using this site. Addressing our core questions, two strong models explained a fairly large percent of the variance in the intensity with which adolescents use Facebook. Adolescents seemed to display both self-focused commitments

to public self-expression and other-focused commitments to broader social interaction rather than integrate evaluations of the self and other into one intentional stance.

DISTINGUISHING INTENTIONS ON FACEBOOK

Identifying third-person intentional models illustrates some of the potential uses of social media sites like Facebook for broadening adolescents' quest for self-discovery and understanding of their social position in the world. Decisions on what to include and what to exclude from these psychological systems-to-be-investigated reflect our curiosity about how adolescents control their efforts on Facebook and existing knowledge of individual differences in adolescents' social and academic motivation.

In previous research, adolescents' social goals have aligned with their school participation and academic achievement, and these have been affected by their understanding of and experience with exclusion (Ryan & Shim, 2008; Thorkildsen, Reese, & Corsino, 2002). Similarly, adolescents who choose to participate on Facebook seem to derive many social benefits (Pempek, Yermolayeva, & Calvert, 2009). Newer findings have also confirmed our initial hunch that adolescents' attachment beliefs would play a role in their involvement with Facebook and the meaning they derive from such online activities (Jenkins-Guarnieri, Wright, & Hudiburgh, 2012; Marshall, Bejanyan, Di Castro, & Lee, 2013). Extending this work, we sampled adolescents from high school and college using both online and face-to-face recruitment methods. Our targeted assessments of adolescents' functioning were bound by time, place, and circumstances, but by evaluating patterns of desires, beliefs, and actions from a third-person perspective we could compare adolescents' self- and other-focused intentions.

Participants

All participants ($n = 308$; 122 males; 16–23 years old, $M = 18.92$, $SD = 1.77$; 55% white) were enrolled in some form of schooling. This sample was selected from a larger population of 1113 volunteers by first evaluating everyone's attachment style and randomly selecting individuals using age and attachment style as classification variables. As illustrated in Table 7.1, nearly half the participants ($n = 168$) were recruited online, using Craigslist and Facebook as recruitment tools. The remaining half were recruited in face-to-face settings from school populations in the greater Chicago area.

Table 7.1 Distribution of participants by recruitment method and attachment style

Attachment style	Online recruitment	Face-to-face recruitment
Fearful	38	32
Dismissive	39	43
Preoccupied	45	26
Secure	46	39

There was no variance in response patterns attributable to the method by which participants were recruited. Age and ethnic differences did not explain variance in any of the responses. And, gender differences in adolescents' responses were unstable when instruments were validated. Thus, we aggregated data across these groups for this paper.

Procedures and Measurement

This project was completed in several steps. As previously noted, we used an existing measure of attachment styles to assess and then select participants for inclusion in this work (Griffin & Bartholomew, 1994). Next, we validated these classifications by comparing individuals' attachment classifications with responses to other relationship measures and to responses focused on Facebook use (Table 7.2). After discovering no discernable relations between attachment style classifications and measures of Facebook use, we tested a

Table 7.2 Distribution of participants by reported attachment-style and validation scores

	Fearful		Dismissive		Preoccupied		Secure	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secure attachment beliefs	2.64	0.34	2.88	0.63	3.44	0.58	3.64	0.40
Quality of close relationships	4.19	0.60	4.26	0.55	4.39	0.45	4.53	0.38
Quality of casual relationships	3.25	0.66	3.50	0.71	3.64	0.57	3.76	0.61
<i>N</i>	70		82		71		85	

Notes: Attachment styles were classified using the high/low anxious and avoidant scales and the model established by Fraley et al. (2000), but we used items from Relationship Scale Questionnaire (Griffin & Bartholomew, 1994). This was validated when adolescents' reported beliefs about secure attachments; the qualities of their close relationships and the qualities of their casual relationships were used as dependent variables and their attachment classification was used as the independent variable in a within-subjects ANOVA. A Greenhouse-Geisser correction for inequalities in error variance was used to interpret the findings, $F(5.94, 602.25) = 11.80, p < .000, \eta_p^2 = .10$. Post hoc tests indicate that profiles for each attachment style are distinctly different, $p < .05$.

variety of models to identify the best means of depicting individual differences in adolescents' self- and other-focused intentions.

Attachment Styles

To assign individuals to attachment style conditions, a larger population of adolescents ($n = 1113$) evaluated the qualities of their attachments using the Relationship Scale Questionnaire and a five-point scale ranging from (5) always like me to (1) never like me (Griffin & Bartholomew, 1994). A new scoring method proposed by Fraley et al. (2000) led us to use respondents' scores on anxious and avoidant measures in cluster analysis to group participants into secure (low on each), preoccupied, dismissive, and fearful (high on each) attachment styles (see Table 7.3 for the internal consistencies of these two instruments). Next, classification scores were used to select participants for this study.

Intensity of Facebook Use

Adolescents used a Likert scale to report how important Facebook was to their lives and five-point, and time-referent scales to indicate their time use and the duration of their Facebook account. An *Intensity of Facebook Use* score was calculated using the same composite score formula adopted by Jenkins-Guarnieri et al. (2012). Indices of the importance of Facebook and various time-use dimensions were combined into the dependent variable in our intentional models. Table 7.3 includes the measurement properties of these two measures.

Self-Focused Measures

Although attachment classifications did not explain variance in adolescents' habits on Facebook, their preferences for different relationship styles confirmed the existence of self-focused intentions. Scores from six instruments explained variance in adolescents' self-focused intentions (Table 7.3). Table 7.4 includes the correlations between each of the measures used in this model.

In addition to the three attachment scores, participants evaluated the qualities of six targeted close and casual relationships using a scale ranging from (5) always true to (1) never true. They imagined their closest friend, favorite teacher, and closest family member as well as another peer, educator, and family member with whom they had an impersonal relationship. For each relationship, adolescents evaluated the same indicators of trust, reciprocity, and affection. Scores were aggregated into indices of close relationship quality and casual relationship quality.

Table 7.3 Self-focused scale names and sample items

Scale name	Sample items
Importance of Facebook (6 items, $\alpha=0.91$)	If you have a Facebook account, how important is it to your life? I am proud to tell people I am on Facebook; I would be sorry if Facebook shut down.
Facebook time use (4 items, $\alpha=0.81$)	How long each week; duration of Facebook account; frequency of logons; number of Facebook friends.
Anxious attachment (7 items, $\alpha=0.83$)	When I think about my close relationships I worry that I will be hurt if I allow myself to become close to others; worry about being rejected by others.
Avoidant attachment (9 items, $\alpha=0.84$)	When I think about my close relationships I find it difficult to depend on other people; find it difficult to trust others completely.
Secure attachment (7 items, $\alpha=0.73$)	When I think about my close relationships I find it easy to get emotionally close to others; am comfortable depending on other people.
Close relationship quality (5 items each, $\alpha=0.92$ to 0.85)	My (closest friend, favorite teacher, closest family member) is someone I trust; respects my point of view; is someone I can rely on.
Casual relationship quality (5 items each, $\alpha=0.91$ to 0.88)	This (peer, educator, relative) is someone I trust; respects my point of view; is someone I can rely on.
Frequency of targeted relationships on Facebook	Which (if any) of the (relationships targeted above) are on your Facebook friends list? (A count ranging from 0 to 6).
Network density (a count ranging from 0 to 5)	Are your parents, family members, peers, educators, or strangers included as friends on Facebook?
Defensiveness (personal fable and imaginary audience) (13 items, $\alpha=0.84$)	When you do things on Facebook, what are you trying to do? I try to imagine an audience of strangers; post things to show how great I am; build an ideal self on Facebook.
Browsing activities (9 items, $\alpha=0.89$)	In a typical week I read other people's profiles; look at photos; read my news feed; read posts on the walls of others.

Notes: The first two scales in this table were aggregated to establish the index of Facebook intensity that has been used by Jenkins-Guarnieri et al. (2012) and was used as the dependent variable in our analyses. Other measures are classified according to their final placement in the tests of each intentional model. The number of targeted relationships evaluated for quality that are included in a Facebook "friends" list was included in both the self- and other-focused models.

Table 7.4 Correlations between self-focused beliefs, desires, and reported actions and intensity of Facebook use

Self-focused scales	1	2	3	4	5	6	7	8	9
1. Facebook intensity									
2. Anxious attachment beliefs	0.12								
3. Avoidant attachment beliefs	-0.12	0.45							
4. Secure attachment beliefs	0.10	-0.21	-0.69						
5. Close relationship quality	0.01	-0.14	-0.33	0.33					
6. Casual relationship quality	-0.03	-0.19	-0.35	0.43	0.48				
7. Frequency of targeted relationships on Facebook	0.56	0.02	-0.05	0.02	0.07	0.08			
8. Facebook network density	0.48	-0.02	-0.06	-0.02	0.07	0.02	0.67		
9. Defensiveness	0.67	0.24	0.01	0.08	-0.04	-0.02	0.51	0.36	
10. Browsing activities	0.79	0.16	-0.06	0.11	0.07	0.02	0.50	0.39	0.62

Notes: Correlations with close and casual relationship quality as well as interactions with individuals and promoting group agendas added nothing to the regression analyses and were dropped in this report.

Checklists allowed adolescents to represent which of their targeted relationships were on Facebook and the types of relationships they included in their *friends* list. The density of adolescents' social network was calculated by tallying the latter selections while the former depicted the degree to which Facebook use was aligned with adolescents' active relationships.

A defensive form of perspective-taking was assessed when adolescents used a Likert scale on a newly designed instrument. Items on this *Defensiveness* instrument were aligned with Lapsley's (1993) concepts of personal fable and imaginary audience.

Finally, using information on the new affordances of Facebook and findings from previous studies, we adapted and expanded on an instrument used by Pempek et al. (2009). Participants rated items for *Browsing Activities*, *Interacting with Others*, and *Promoting Group Agendas* using a scale ranging from (5) always (all 7 days of a week) to (1) never (0 days). Despite variance and strong internal consistency in each measure, only responses to the browsing score contributed significantly to adolescents' self-focused intentions.

Other-Focused Measures

Scores for eight instruments were included in the final other-focused intentional model (Tables 7.5 and 7.6). Two scores, *Intensity of Facebook Use* and *Frequency of Targeted Relationships on Facebook*, were used in the verification of both self- and other-focused intentions. *Intensity of Facebook Use* served as the dependent variable for both intentional models, and the targeted relationships score ensured that adolescents' Facebook intentions included a connection with at least some meaningful relationships.

In light of controversies about adolescents' ability to distinguish civic and civil causes (Thorkildsen et al., 2008), three new measures of adolescents' personal image, civic, and civil goals were constructed. Items for each were evaluated using a Likert scale. Personal image goals focused on using Facebook to project a personal image to others. Civic goals involved global statements about using Facebook to support a particular cause. Civil goals involved using Facebook as a means of understanding basic human rights as well as accepting rights that might go against one's self-interest. We could not anticipate whether adolescents' personal image goals would align with self- or other-focused intentions, but variance in those responses suggested a better fit with other-focused intentions. Civic and civil goals were grounded in the assumption that group participation is necessary but not sufficient for full membership in any society, and the latter involved connections to basic human rights.

Table 7.5 Other-focused scale names and sample items

Scale name	Sample items
Personal image goals on Facebook (6 items, $\alpha = 0.94$)	I try to help others see the best parts of me; I like the person who is represented in my profile.
Civic goals on Facebook (7 items, $\alpha = 0.93$)	I form ties with people who share my political beliefs; I work with others to advocate for social change.
Civil goals on Facebook (6 items, $\alpha = 0.91$)	I try to join as many groups as I can; being a member of multiple groups helps me understand the world better.
Social goals (6 items, $\alpha = 0.94$)	When I am in school I try to get along well with friends; develop my social skills; learn more about others.
Sensitivity to exclusion (6 items, $\alpha = 0.94$)	Exclusion affects my ability to earn good grades; willingness to set goals; willingness to talk with educators at school.
Profile openness (a count ranging from 0 to 4)	Do you use your real name; accept strangers as friends; invite strangers to be your friends? Can your profile be seen by anyone with a Facebook account?
Interacting with individuals (14 items, $\alpha = 0.89$)	In a typical week I post messages on someone's wall; send private messages to others; respond to requests/invitations.
Promoting group agendas (17 items, $\alpha = 0.92$)	In a typical week I support a civic organization; share a global news story; create events/send invitations.
Academic participation (11 items, $\alpha = 0.80$)	When I am in class I complete assigned tasks; solve interesting problems; become excited.
Academic performance (4 items, $\alpha = 0.82$)	Class rank; ability rating; typical grade; grade point average.

Notes: Facebook intensity and the number of targeted relationships evaluated for quality that are included in a Facebook "friends" list were included in both the self- and other-focused models.

Along with the *Frequency of Targeted Relationships on Facebook*, another checklist allowed adolescents to report whether they used a number of different security features on Facebook. The second checklist offered an estimate of the extent to which adolescents' profile was open for public viewing.

Several instruments conveyed how adolescents interacted with others on and off Facebook. [Thorkildsen et al.'s \(2002\)](#) *Sensitivity to Exclusion* measure required adolescents to use a scale of (5) always to (1) never to convey their desires. [Ryan and Shim's \(2008\)](#) *Social Goals* instrument included a Likert scale for assessing items. Scores for *Interacting with Others* and *Promoting Group*

Table 7.6 Correlations between other-focused beliefs, desires, and reported actions and intensity of Facebook use

Other-focused scales	1	2	3	4	5	6	7	8	9	10	11
1. Facebook intensity											
2. Personal image goals on Facebook	0.69										
3. Civic goals on Facebook	0.35	0.39									
4. Civil goals on Facebook	0.33	0.27	0.72								
5. Frequency of targeted relationships on Facebook	0.56	0.58	0.27	0.18							
6. Profile openness	0.39	0.40	0.21	0.15	0.29						
7. Social goals	0.19	0.20	0.09	0.02	0.14	0.02					
8. Sensitivity to exclusion	0.12	-0.02	0.11	0.11	0.04	-0.02	0.18				
9. Interacting with individuals	0.65	0.52	0.44	0.45	0.49	0.22	0.21	0.10			
10. Promoting group agendas	0.44	0.34	0.57	0.64	0.35	0.14	0.14	0.13	0.74		
11. Academic participation	-0.12	0.06	0.02	-0.02	-0.05	-0.09	0.28	-0.15	-0.07	-0.08	
12. Academic performance	0.05	0.09	0.05	-0.04	-0.01	-0.01	0.15	-0.14	-0.09	-0.09	0.43

Agendas, also rejected from the self-focused intentions, were included in the identification of adolescents' other-focused intentions, although the latter did not contribute to adolescents' other-focused intentions.

Finally, to determine whether these other-focused interactions aligned with school-related behaviors, previously used five-point scales were constructed for the *Academic Participation* and *Academic Performance* measures (Skinner, Kindermann, & Furrer, 2009; Thorkildsen et al., 2002, 2008). In both cases, items were transformed to represent responses on a five-point scale, allowing for an easily interpretable alignment with other indicators of adolescents' intentions.

Comparing and Contrasting Models

The models reported in this chapter are the final result of a series of iterative tests. Thus, the final clustering of measures offers the best depiction of the explainable variance with this combination of tools. We could not identify one overall model that included both self- and other-focused measures, yet we took time to validate these intentional models by including and ultimately rejecting contrasting scales in the initial tests.

Rejecting the Strong Hypothesis

Contrary to expectations, classifying participants ($n = 308$) using previously validated attachment-style procedures did not help us to explain individual differences in how adolescents used Facebook. First, newly designed measures of adolescents' evaluations of their close and casual relationships with peers, family members, and educators as well as items depicting secure attachment habits from the Griffin and Bartholomew (1994) instrument were used to validate the attachment classifications (see Table 7.3). As might be expected, adolescents reporting low anxiety and avoidance reported stronger secure attachment beliefs and higher quality close and casual relationships when imagining specific peers, educators, and family members in their lives.

Next, replicating findings from Jenkins-Guarnieri et al. (2012) and Marshall et al. (2013), adolescents' attachment classifications were associated with the intensity of their Facebook use when individuals' attachment classification was used as an independent variable and their intensity score as a dependent variable (Table 7.7). This validation step verified our initial assumption that individuals' attachment beliefs might play a role in how they use Facebook. Although, the strong hypothesis that adolescents' attachment styles would explain much of the variance in their Facebook use was not

Table 7.7 Means and standard deviations of self-focused measures by attachment style

	Fearful		Dismissive		Preoccupied		Secure	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Intensity of Facebook use	3.42	0.99	3.25	0.87	3.71	0.78	3.43	0.96
Anxious attachment beliefs	3.77	0.50	2.62	0.48	3.57	0.42	2.25	0.52
Avoidant attachment beliefs	3.73	0.48	3.37	0.30	2.64	0.41	2.27	0.46
Secure attachment beliefs	2.64	0.34	2.88	0.63	3.44	0.58	3.64	0.40
Close relationship quality	4.19	0.60	4.26	0.55	4.39	0.45	4.53	0.38
Casual relationship quality	3.25	0.66	3.50	0.71	3.64	0.57	3.75	0.61
Frequency of targeted relationships on Facebook	3.41	1.57	3.59	1.56	3.72	1.15	3.36	1.44
Network density	2.89	1.29	2.89	1.29	3.18	1.07	2.92	1.30
Defensiveness	2.82	0.80	2.60	0.66	2.82	0.56	2.57	0.75
Browsing activities	3.13	0.91	3.10	0.91	3.38	0.78	3.09	0.94
<i>N</i>	70		82		71		85	

Notes: SEs range from 0.03 to 0.19, $M=0.09$. In a univariate ANOVA, *Intensity of Facebook Use* differed across the four attachment-style classifications $F(3, 304)=3.26, p < .05, \eta_p^2=0.03$. Adolescents reporting dismissive attachment styles reported a lower intensity of Facebook use than adolescents with a preoccupied attachment style, but neither reported beliefs that differed from adolescents reporting fearful or secure attachment styles. Other direct measures of Facebook use did not differ across attachment classifications when $p < .05$ and Bonferroni correction for the number of tests was used.

confirmed, [Tables 7.7](#) and [7.8](#) show how the variance in most of the measures we used in this project was similar across the secure, preoccupied, dismissive, and fearful attachment groups.

Aggregating participants across age and attachment classifications, we treated each score as a symptom of broader approaches to Facebook use. We compared and contrasted scores to identify third-person representations of adolescents' self- and other-focused intentions. In doing so, we isolated theory-relevant dimensions of a more complex battery of instruments, and used the overall design to report their use in [Tables 7.9](#) and [7.10](#). Although at the time these data were collected, Facebook had a minimum age requirement of 18, most volunteers did not adhere to this rule. Regardless of how volunteers were recruited, 86% ($n=265$) of this sample reported having one Facebook account and nearly 8% ($n=23$) reported having more than one account whereas nearly 7% ($n=20$) reported having no accounts.

Table 7.8 Means and standard deviations of other-focused measures by attachment style

	Fearful		Dismissive		Preoccupied		Secure	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Image goals on Facebook	3.65	1.09	3.71	0.90	3.90	0.75	3.78	1.04
Civic goals on Facebook	2.47	0.99	2.38	0.95	2.58	1.01	2.42	0.98
Civil goals on Facebook	2.07	0.99	2.21	0.95	2.17	0.88	2.00	0.93
Social goals	3.56	0.71	3.65	0.84	3.85	0.67	3.96	0.60
Sensitivity to exclusion	2.95	0.84	2.92	0.89	3.08	0.80	2.62	0.86
Profile openness	1.09	0.65	1.07	0.60	1.34	0.61	1.04	0.57
Interacting with others	2.48	0.74	2.52	0.80	2.63	0.65	2.36	0.76
Promoting group agendas	1.91	0.69	2.00	0.77	1.98	0.67	1.84	0.63
Academic participation	3.49	0.52	3.46	0.54	3.48	0.54	3.61	0.54
Academic performance	3.45	0.70	3.41	0.71	3.60	0.66	3.67	0.61
<i>N</i>	70		82		71		85	

Notes: SEs range from 0.06 to 0.13, $M=0.09$. Replicating previous research (Ryan & Shim, 2008; Thorkildsen et al., 2002), adolescents' social goals and sensitivity to exclusion predicted their academic performance, $F(2, 305)=8.14$, $p<.000$, adj. $R^2=0.04$. When $p<.05$ and a Bonferroni correction for the number of tests was used to compare means across attachment styles, only the distribution of social goals was significant.

Self- and other-focused beliefs, desires, and reported actions were not compatible enough for inclusion in a single model. Yet, two strong intentional models were detected, each explaining a large percentage of variance in the intensity of adolescents' Facebook use.

Self-Focused Intentions

Consistent with the notion that Facebook is a site for public levels of self-expression, adolescents' self-focused intentions explained a high degree of variance in the intensity with which they use this site (adjusted $R^2=0.70$). With sequential regression analysis, we explored the ways in which adolescents' self-focused beliefs and desires were aligned with the intensity of their Facebook use. Simple correlations convey that scores included in the same blocks of our sequential regression analyses were sufficiently associated with one another that they might fairly depict the more general construct indicated by the requisite test of direct effects (Table 7.4). Correlations also confirm that contrasting scores were not so highly associated that they lost their explanatory power.

The most ideal depiction of adolescents' self-focused intentions includes an acknowledgment of the insecurities associated with sharing oneself with another (Table 7.9). The extent to which individuals were anxious or

Table 7.9 Direct and indirect effects of self-focused beliefs, desires, and reported actions on intensity of Facebook use

	Adjusted R^2	ΔR^2	β	t
<i>Direct effects</i>				
Attachment beliefs	0.05	0.05		
Network density	0.38	0.34		
Defensiveness	0.54	0.16		
Browsing activities	0.70	0.16		
<i>Indirect effects</i>				
Constant				67.71*
Anxious attachment			0.21	3.43*
Avoidant attachment			-0.22	-3.50*
Constant				84.12*
Anxious attachment			0.19	3.77*
Avoidant attachment			-0.17	-3.39*
Network relationships			0.25	4.49*
Frequency of targeted relations			0.41	7.49*
Constant				97.54*
Anxious attachment			0.06	1.41
Avoidant attachment			-0.14	-3.11**
Network relationships			0.19	3.95*
Frequency of targeted relations			0.20	3.90*
Defensiveness			0.48	10.27*
Constant				121.71*
Anxious attachment			0.02	0.47
Avoidant attachment			-0.09	-2.44***
Network relationships			0.13	3.30*
Frequency of targeted relations			0.10	2.31***
Defensiveness			0.23	5.48*
Browsing activities			0.54	12.88*

Notes: Independent variables were centered, and each block contributed to the overall variance explained in this model such that $F(2, 305) = 8.28, p < .000, F(4, 303) = 48.31, p < .000, F(5, 302) = 73.06, p < .000, F(6, 301) = 121.80, p < .000$. Reported ΔR^2 is affected by rounding error. When interaction terms were included, none were significant, confirming that attachment beliefs did not moderate the intensity of adolescents' use of Facebook.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

avoidant about their relationships worked together with the relative solidity of their Facebook network to influence how often they browse their own and others' profiles. These attachment beliefs, however, did not moderate other aspects of adolescents' intentions. Likewise, the extent to which adolescents constructed a personal fable or imaginary audience in their own

Table 7.10 Direct and indirect effects of other-focused beliefs, desires, and reported actions on intensity of Facebook use

	Adjusted R^2	ΔR^2	β	t
<i>Direct effects</i>				
Facebook goals	0.50	0.50		
Profile transparency	0.54	0.05		
Facebook interaction	0.62	0.08		
Academic accomplishment	0.64	0.02		
Facebook goals \times profile transparency	0.65	0.01		
<i>Indirect effects</i>				
Constant				93.56*
Personal image goals			0.65	15.53*
Civil goals			0.16	3.78*
Constant				97.86*
Personal image goals			0.48	9.52*
Civil goals			0.15	3.66*
Frequency of targeted relations			0.22	4.68*
Profile openness			0.11	2.57**
Constant				107.18*
Personal image goals			0.39	8.07*
Civil goals			0.03	0.63
Frequency of targeted relations			0.12	2.70**
Profile openness			0.12	3.10**
Sensitivity to exclusion			0.09	2.43***
Interact with individuals			0.34	7.33*
Constant				109.88*
Personal image goals			0.39	8.19*
Civil goals			0.03	0.73
Frequency of targeted relations			0.12	2.62**
Profile openness			0.11	2.80**
Sensitivity to exclusion			0.08	2.34***
Interact with individuals			0.35	7.56*
Academic participation			-0.15	-3.74*
Academic performance			0.12	3.22*
Constant				101.74*
Personal image goals			0.29	5.43*
Civil goals			0.01	0.25
Frequency of targeted relations			0.06	1.24
Profile openness			0.08	2.08***
Sensitivity to exclusion			0.10	2.75**

Continued

Table 7.10 Direct and indirect effects of other-focused beliefs, desires, and reported actions on intensity of Facebook use—cont'd

	Adjusted R^2	ΔR^2	β	t
Interact with individuals			0.34	7.50*
Academic participation			-0.12	-2.94**
Academic performance			0.12	3.21*
Personal image goals \times frequency of targeted relations			-0.10	-1.38
Civil goals \times frequency of targeted relations			0.01	0.19
Personal image goals \times profile openness			-0.12	-1.81
Civil goals \times profile openness			0.01	0.13

Notes: When variables were centered, individuals' goals on Facebook moderated their profile transparency, placing conditions on the qualities of their other-focused intentions. Each block contributed to the overall variance explained in this model such that $F(2, 305) = 154.43$, $p < .000$, $F(4, 303) = 92.05$, $p < .000$, $F(6, 301) = 84.03$, $p < .000$, $F(8, 299) = 68.42$, $p < .000$, and $F(12, 295) = 48.74$, $p < .000$. Reported ΔR^2 is affected by rounding error.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

minds played a strong explanatory role without mediating relations between other dimensions. Together each collection of beliefs, desires, and reported actions explain an astoundingly high amount of variance (adjusted $R^2 = 0.70$) in the intensity of adolescents' Facebook use.

There was such consistency in how individuals rated the qualities of three types of close relationships that those evaluations lost their power to explain individual differences in the intensity of Facebook use. Likewise, variance in evaluations of the quality of casual relationships was equally similar across both online and face-to-face samples. These findings suggest that, despite differences in attachment styles, we worked with individuals who did not face extreme forms of social isolation or inordinately high levels of public visibility.

Further adding to these surprises, we found little explanatory power in individuals' beliefs about the relative security of their attachments or their use of Facebook affordances that involve interacting with others. We could not attribute these losses to suppressor effects or to a lack of variance in scale scores, but upon reflection it is easy to see how each would require psychological movement beyond the self to at least consider the perspectives of another.

A careful look at the means in [Table 7.7](#) helps to better understand the explanatory power of the indirect effects nested within this intentional model. Boundaries between various attachment styles as they are depicted here may be pliable, but anxious and avoidant beliefs align with predictable attachment categories. Similarly, differences in the extent to which

individuals invent a personal fable or imaginary audience when using Facebook are fairly predictable when self-focused intentions are depicted as a form of personal self-consciousness.

Other-Focused Intentions

When adolescents' intentions focused on others, more adolescents in our study seemed to approach others on Facebook with a local rather than a global mindset. Both goals moderated other aspects of these intentions. Starting once again by replicating findings from previous research (Ryan & Shim, 2008; Thorkildsen et al., 2002), adolescents' social goals and sensitivity to exclusion were significantly aligned with their academic achievement (see the note in Table 7.8). This validation step confirmed our initial assumption that adolescents receive educational benefits through social interaction ($\beta=0.18$) and that those who are less sensitive to exclusion are likely to perform better than those who are highly sensitive to exclusion ($\beta=-0.17$).

Sequential regression analyses allowed us to explore how adolescents' other-focused beliefs and desires were aligned with the intensity of their Facebook use with strong explanatory power. Simple correlations once again suggest that scores included in the same blocks of these sequential regression analyses were sufficiently associated with one another to depict more general constructs (Table 7.6). Likewise, contrasting scores were not so highly associated that they lost their explanatory power.

The most ideal depiction of adolescents' other-focused intentions was comprised of local interactions rather than a quest to join causes or societal-level conversations (Table 7.10). This model also explained an unusually high amount of variance in the intensity of adolescents' Facebook use (adjusted $R^2=0.65$). The commitment to personal and civil discourse but not to civic discourse moderated how individuals understand their interactions with others on Facebook. Civic and civil goals were associated with one another, but only civil goals aligned with personal image goals well enough to moderate other features of these intentions. Yet, even civil discourse goals lost explanatory power once more direct measures of Facebook activities were added. These patterns along with descriptions of how individuals interact on Facebook and in educational settings suggest that adolescents define education as a matter of doing well in school and not as an artifact of participating in the broader world.

Looking more carefully at the scores that were dropped from this depiction of adolescents' other-focused intentions, it is easy to see that more

individuals resisted group interactions than might be expected given media discussions of activities such as flash mobs, collective bullying, and political activism on Facebook. Broad depictions of social goals contributed no explanatory power to this model and, when added, suppressed variance attributable to educational outcomes. Furthermore, social goals were not associated with civic or civil goals (Table 7.6). Additional evidence for a local bias in Facebook interactions is depicted in Table 7.8. Means suggest that more adolescents disagreed with items related to civic and civil goals, profile openness, interacting with others, and promoting group agendas.

Further confirmation of this position was apparent when we calculated the number of individuals whose average scores on *Promoting Group Agendas*, *Civic Goals*, and *Civil Goals* indicated agreement. Less than 8% ($n = 24$) of the participants in this sample admitted to using the group interaction functions on Facebook to promote collective agendas. Similarly, only 27% ($n = 82$) of the sample endorsed civic goals and only 16% ($n = 49$) endorsed civil goals when using Facebook. Adolescents may find Facebook to be an important communication tool, but they seem to restrict most of their communication efforts to self-expression or interactions in local communities.

BROADENING ADOLESCENTS' USE OF FACEBOOK

Our findings confirm the generalization that most adolescents use Facebook for at least some form of social interaction even if they restrict their involvement to dyadic friendships or local groups. Fairly independent self- and other-focused intentional models seemed to offer the best explanation for why adolescents use Facebook. Adolescents' self-focused intentions were comprised of their attachment beliefs and understanding of the importance and quality of the relationships in their lives. And, the same adolescents reported other-focused intentions aligned with perspective-taking, school behavior, and broader social goals. The relative independence of these intentional positions is consistent with Karniol (2003) argument that individuals use social interaction to engage in self-discovery as they develop an awareness of their position in the world.

Adolescents' intentions show a complex mixture of self-focused preoccupations and other-focused agendas, yet convey a fairly weak commitment to societal concerns. The combination of scores that were and were not included in each intentional model suggests that adolescents may interact with others by first projecting their own intended self-image and then looking for like-minded others. Individuals' intrapersonal qualities governed and

were governed by a range of personal abilities, physiological factors, and attentional processes, even if only some of these processes were directly measured. Future research on how adolescents prioritize their intentions can facilitate stronger predictions about how they use their self- and other-focused agendas.

These data were collected in an era when many schools prohibited students from using Facebook and established strict rules about the types of relationships that faculty can form with students using this outlet. Despite such prohibitions, we found fairly high intensity scores, suggesting that most volunteers were regular users. Participants' education, in this respect, aligned more solidly with their direct experience and academic performance and less with joining civic causes or learning more about civil discourse.

Even with regular use, few individuals use Facebook to engage in the broad levels of societal participation needed to fully understand the tenets of civil discourse. Adolescents relied heavily on self-expression when reaching out to others, and the personal images they endeavored to express played a stronger role than civic or civil goals in their Facebook use. With these findings in mind, we would like to end this chapter with a few recommendations for improving the educational value of Facebook. Like others who warn of the dangers associated with excessive levels of rumination, we are aware of the ways in which public conversations can enhance individuals' social self-consciousness and of the harm that might be caused by excessive levels of self-expression without feedback (Peled & Moretti, 2007; Rood, Roelofs, Bögels, & Meesters, 2012). Adolescents' self-focused intentions serve as an important reminder of the importance of personal reflection in successful social interaction. Thoughtful levels of anxiety, avoidance, and defensiveness seem important for personal growth and can be further encouraged.

Nevertheless, adolescents' reports of their Facebook activities suggest that more could be done to help individuals learn about social opportunities. We were surprised to find that so few of our participants were actively engaged in civic and civil discourse. Parents and educators can encourage more constructive online pursuits than adolescents are likely to invent using only their own experience as a guide. Adolescents can learn about the important causes that underlie discourse within and across communities if they actively study the perspectives of others. With more targeted guidance, educators can help adolescents learn how to form, maintain, and dissolve groups while remaining critical of the effects of their efforts on others.

Extensive fieldwork with adolescents suggests that they are more than ready to join existing groups on Facebook. Perhaps they can be encouraged to think deeply about how the choices they make offer insight into their overall behavioral signature (Mischel, 2004). Just as adolescents learn how to explore museums by participating in thoughtfully designed scavenger hunts, parents and educators can design exploratory activities to help students learn more about how Facebook informs members of society about important causes, consequences, and new directions for civil discourse. Likewise, adolescents can learn to brand and promote their own intellectual discoveries rather than passively react to corporate advertisements or detectably anticivil online events. Adolescents may learn to resist inventing ways to bully one another (Agans et al., 2014; Plaisier & Konijn, 2013).

The fact that so many adolescents maintained Facebook accounts, even at a time when there were age restrictions, offers an interesting baseline assessment of what might occur with limited supervision. Finding ways to encourage multiple forms of perspective-taking when using social media can broaden adolescents' understanding of their membership in society. Facebook users can learn more about various social positions, social causes, and human rights. Expanding into the realm of civil discourse, adolescents can also learn more about key relational ties between people and institutions or between institutions themselves. The types of self- and other-focused intentions evident in this study suggest that adolescents are ready to face such social challenges.

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