#Being Thirteen:  Social Media and the Hidden World of Young Adolescents' Peer Culture

Marion K. Underwood
School of Behavioral and Brain Sciences, The University of Texas at Dallas
Robert Faris
Department of Sociology, University of California at Davis

**Executive Summary**

CNN's Anderson Cooper 360° recently collaborated with UT Dallas Child Clinical Psychologist Marion Underwood and UC Davis Sociologist Robert Faris to conduct a study of how 13-year-olds use social media and how involvement with social media relates to their social psychological adjustment.  Dr. Underwood is an expert on social aggression among youth (Underwood, 2003; Ehrenreich et al., 2014) and on the effects of adolescents' digital communication on their relationships and adjustment (Ehrenreich, Underwood, & Ackerman, 2014; Underwood et al, 2012; and Underwood et al., 2015).  Dr. Faris is an expert on youth aggression, substance abuse, and delinquency, and has advanced the use of social network analysis to examine the emergence of these and other social problems (Faris & Felmlee, 2014, Faris, 2012; and Faris & Felmlee, 2011).
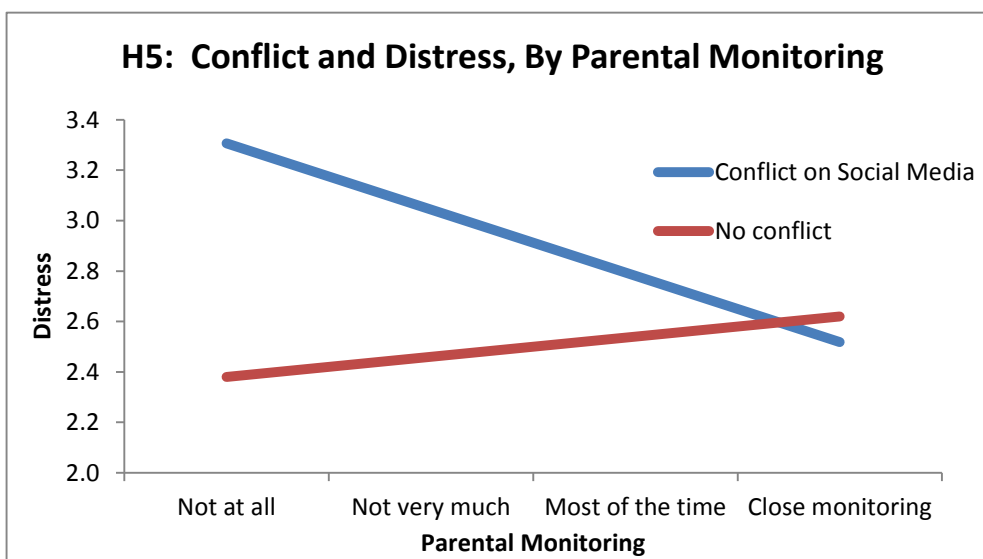
Studying online communication provides "a window into the secret world of adolescent peer culture" (Greenfield & Yan, 2006, p. 392).  This was the first investigation to examine how young adolescents use Instagram, Twitter, and Facebook to engage in social combat, to pursue social status, and to encourage and support and defend one another.  Two hundred sixteen 8th grade students from six different states agreed to complete an online survey, then enroll with Smarsh, an online archiving service, which stored all of their social media communication on Instagram, Twitter, and Facebook from September, 2014 - April, 2015 in a secure online archive.  The results revealed what adolescents actually say and do on social media and how involvement with social media relates to psychological health. These findings could guide parents in understanding how deeply teens care about social media and aid parents in socializing their children to use social media for good.

Examining the social media communication of these 13-year-olds made clear that there is no firm line between their real and online worlds. Social media is an extension of their social lives, a context in which real and meaningful relationships develop and at times take some seriously wrong turns, and is very much integrated with their ongoing daily lives and their offline interactions.  Social media seems to amplify young adolescents' personality characteristics rather than changing them.  Qualitative coding of the content of social media identified six important themes:  Addicted to Each Other, Fear of Missing Out, With Friends Like These…, Popularity Chess, A World Apart from Parents, and The Positive Side of Social Media.

The world of social media is full of subtle and maybe even hidden aggression, sins of omission, and at times strategic exclusion that causes great social pain.  Analyses of 13-year-olds' social media content in relation to their survey responses indicated that students were reading social media much more frequently than they were posting themselves, likely because they were eager to constantly know where friends were and with whom.  Young adolescents reported that a frequent source of pain from social media is feeling excluded by 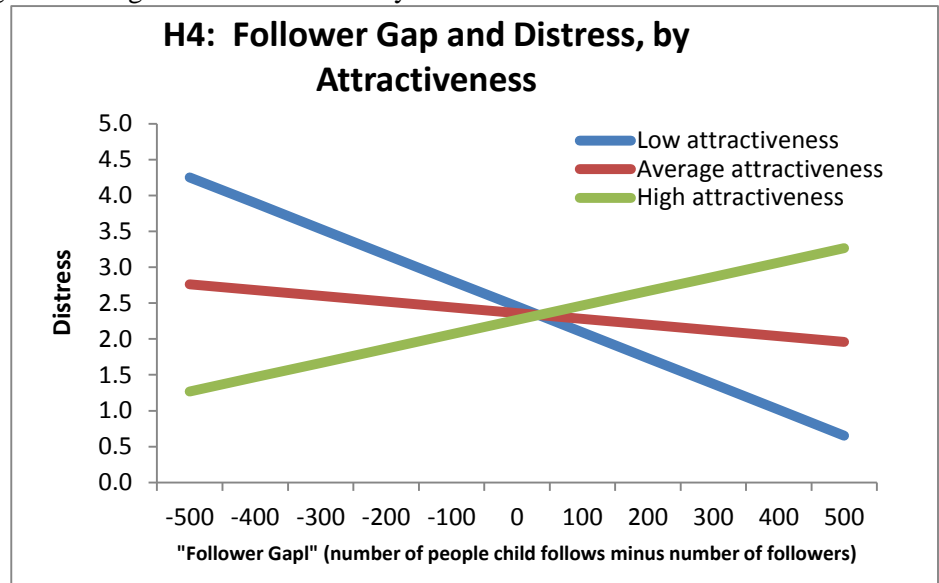others, seeing friends doing things without them.  We saw in their social media communication that some take great offense if they are in a picture but not tagged by the person who posted it.  The social media communication included many posts that were obviously seeking attention, which was often not received.  Although some of these subtle behaviors can hardly be called bullying because the intent is unclear, for those who constantly feel excluded or left out or not responded to, the pain is just as real.

Many parents reported trying to monitor their children's social media activities, but teens viewed

H5:  Conflict and Distress, By Parental Monitoring

(Distress vs Parental Monitoring: "Conflict on Social Media", "No conflict"; x-axis categories: Not at all, Not very much, Most of the time, Close monitoring)

parents' efforts as largely unsuccessful.  One reason for this may be that a lot of the social media activity that causes distress for young adolescents is so subtle that even parents who try their best to monitor their children's Instagram, Twitter, and Facebook feeds would not be able to recognize the subtle slights and social exclusion that cause such pain. However, our results indicated that parents' efforts at monitoring matter.  Young adolescents who experienced conflict online—which was most often with friends and other close ties—were more psychologically distressed than those who did not, but the conflict was more strongly related to psychological distress when parents were less engaged in monitoring.  Higher levels of parenting monitoring seemed to buffer 13-year-olds from the effects of online conflict.

The results revealed that the relations between social media use and psychological adjustment were complex, and depended on characteristics of the young adolescents.  The sheer volume of social media communication did not relate to adolescents' adjustment; what mattered most was the content of the communication and the ways they were using social media.  Youth who used social media to display their popularity—and those who reported being popular at school—were less distressed, but those who used social media to create the illusion of popularity were more distressed.  Similarly, teens who



H4:  Follower Gap and Distress, by Attractiveness

Distress

"Follower Gapl" (number of people child follows minus number of followers)

Low attractiveness
Average attractiveness
High attractiveness

frequently sought to redirect attention to themselves, and those who reported constantly complimenting their friends, felt more distressed. Youth who received inappropriate pictures were more distressed.  Distress was also associated with following many more people than who followed them on social media, particularly for physically attractive adolescents, who may have more expectations or desires for an online audience.  Finally, about half of the teens in our sample reported that they checked social media more than ten times a day on weekends (when there are fewer restrictions), and we found that the frequency of such "lurking" was strongly related to distress.

## A.  Background

Adolescents with access to computers and mobile devices are living their social lives online.   Over 20 million minors use Facebook, 7.5 million of who are under the age of 13 (Consumer Reports, 2011).  As adolescents begin to view Facebook as a province of adults, they are choosing new platforms for digital communication.  Adolescents are heavy users of social media: 71% use Facebook, 52% use Instagram, 41% use Snapchat, and 33% use Twitter (Lenhart, 2015).   Not only are they posting, sharing, and tweeting, adolescents are constantly reading massive feeds of their friends' online content.

Online communication provides important developmental opportunities for close communication with peers, microsocial planning, communicating about schoolwork, and exchanging information (Guan & Subrahmanyam, 2009; Subrahmanyam & Greenfield, 2008).   Adolescents use online communication to work through basic developmental issues about identity construction and sexual exploration (Subrahmanyam, Smahel, & Greenfield, 2008).  Online communication may also pose serious risks, such as interference with face-to-face communication and cyberbullying (Internet Safety Task Force, 2008).  Among social media users, 88% report having have witnessed someone be mean or unkind to a peer on a social networking site and 15% report having been the target of online meanness themselves (Lenhart et al., 2011).  However, it is also important to note that 69% of adolescents who use social media reported that teens are mostly kind on social networking websites.

This study breaks new ground in examining the actual content of young adolescents' communication on social media platforms:  Instagram, Twitter, and Facebook.  Almost all previous research on cyberbullying (Kowalski, Guimetti, Schroeder, & Lattanner, 2014) and social media (Lenhart, 2015) has relied on self-report surveys, which may be of questionable validity because young adolescents may want to present themselves in a positive light and be reluctant to admit any negative behavior that could result in adults taking their devices away (Underwood & Card, 2013).  Previous research suggests that the content of adolescents' text messaging has important consequences for their psychological

adjustment. Sending text messages with negative talk about others predicted increases in symptoms of anxiety and depression across the 9th grade year (Underwood et al., 2015). Texting about antisocial behavior predicted increases in aggressive behavior and rule breaking, also across the 9th grade year (Ehrenreich et al., 2014), perhaps because peers were providing not only positive reinforcement for antisocial behavior but possibly even instructing each other in such matters as the best places to smoke pot during school. Because social media communication is so much more public than text messaging, the possibilities for the content of social media communication mattering for 13-year-olds' social adjustment seem even greater. Social media is ripe for peer social influence, for good and for ill. Likes and comments and favorites and retweets provide immediate, real-time peer affirmation for all kinds of social behaviors, not just on the adolescents' own posts but on everything they see in the friends' and followers' feeds that they are constantly reading.

**Study Demographics and Methods**

Participants were 216 8th grade students (176 of whom completed archiving of their social media activity) from eight middle schools in Georgia, Indiana, New Jersey, New York, Texas, and Virginia. The sample was disproportionately girls (60%), though the racial breakdown of the sample approximated that of adolescents in the US as a whole: 61% white, 16% African-American, 11% Hispanic, 8% Asian or Pacific Islander, 3% Native American, and the remainder of mixed race. With 40% completing college and another 25% attaining a graduate degree, the parents of participants had substantially more education than average American adults, of whom 30% graduate from college. Compared to national averages, participant households also reported higher levels of income, with 32% earning more than $150,000 per year.

Students and their parents first completed online surveys to assess the child's use of social media, positive and negative experiences on social media, and feelings about being cut-off from digital communication, peer relationships, and social psychological adjustment. Parents answered questions about their child's and their own use of social media, children's positive and negative experiences with social media, and children's social adjustment. Then, these same students downloaded an application called Smarsh to their Instagram, Twitter, and Facebook accounts, and the content of students' social networking communication was captured and studied from September, 2014 – April, 2015 (except for direct messaging). In late February, students again responded to an online survey with questions about their use of social media, positive and negative online experiences, and their social psychological adjustment.

In the results outlined below, all verbatim *survey responses* appear in *italics*. All verbatim **digital communication** (comments, captions, Tweets, and posts) appears in **bold.**

**B. Addicted to Each Other**

Thirteen-year-olds in our study were intensely engaged with social media. One hundred fourteen (63%) of these 13-year olds were active on Instagram, with their number of followers ranging from 1 to 2,811. Sixty one (34%) of these 13-year-olds were active on Twitter, with the number of lifetime Tweets ranging from 0 – 17,900 and number of followers ranging from 0 to 1,533. Thirty six (20%) of these 13-year-olds were Facebook users, with the number of Facebook friends ranging from 1 to 1,221. Forty three participants (24%) were active on both Instagram and Twitter, and only seven students (4%) were active on Instagram, Twitter, and Facebook. The volume of social media content generated by our participants was impressive. From September 1 – February 28, these 176 students posted or commented 87,263 times on Instagram, 25,966 times on Twitter, and 12,077 times on Facebook.

Although adolescents are intensely involved with social media, our data suggest that they are reading others' online content far more frequently than they themselves post. This may be due to the fact that so many of our participants prefer Instagram, a platform on which adolescents typically post no more than once per day, primarily pictures that are highly groomed, made to look as beautiful as possible with filters and carefully selected group shots and self-portraits, almost always posed. Careful microcoding of posting on social media for one week, October 27 – November 2 (Figure B1), showed that these 13-year-olds posted an average of 3.95 times in one week (with a range of 0 – 29), which included an average of 1.99 posts on Instagram (the range was 0 – 18), an average of 2 Tweets (the range was 0 – 26), and an average of 1 post on Facebook (the range was 0 – 29). These

B1: Weekly Frequency of Posting
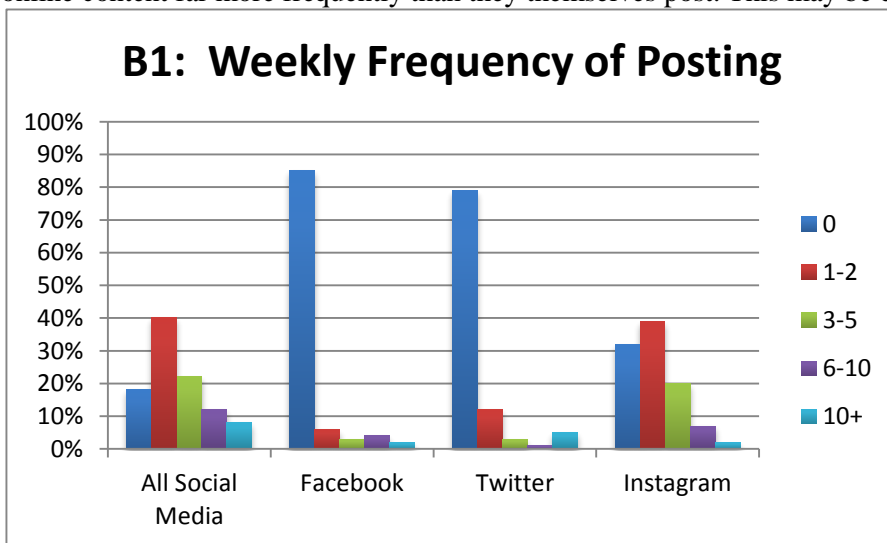
13-year-olds posted only rarely in the middle of the night (an average of .16 times between the hours of 12 – 6 AM, the range was 0 – 8 middle of the night posts), but somewhat more frequently during the school day (the average was .62 posts during the school day, with a range of 0 – 9). These observed posting rates largely correspond to what teens told us in our survey, where 20% reported posting multiple times a day during weekend days and 5% reported doing the same during the school week.

In contrast to the average of about 4 posts per week, participants reported looking at social media without posting much more frequently (Figure B2): more than one-third of respondents reported checking social media more than 25 times a day on a typical weekend. Figures are lower for school days, likely due to restrictions on devices during school hours.

The survey responses indicated that 13-year-olds likely check social media so often because they are eager to stay in contact with peers and see whether their posts are getting likes and comments, something that is incredibly important to most teens (Figure B3). Troublingly, one in five checks social media in order to make sure that no one is saying anything mean about them, and more than one-third check to see if their friends are doing things without them. But above all else, most teens check social media because they are bored (80%). The impact of all of this checking without posting, this constant lurking, is difficult to measure, but there are reasons to be concerned. In 2011, the American Academy of Pediatrics warned of the possibility of "Facebook depression," of young people becoming depressed from observing



B2: Frequency of Checking Social Media Without Posting



B3: Reasons for Lurking
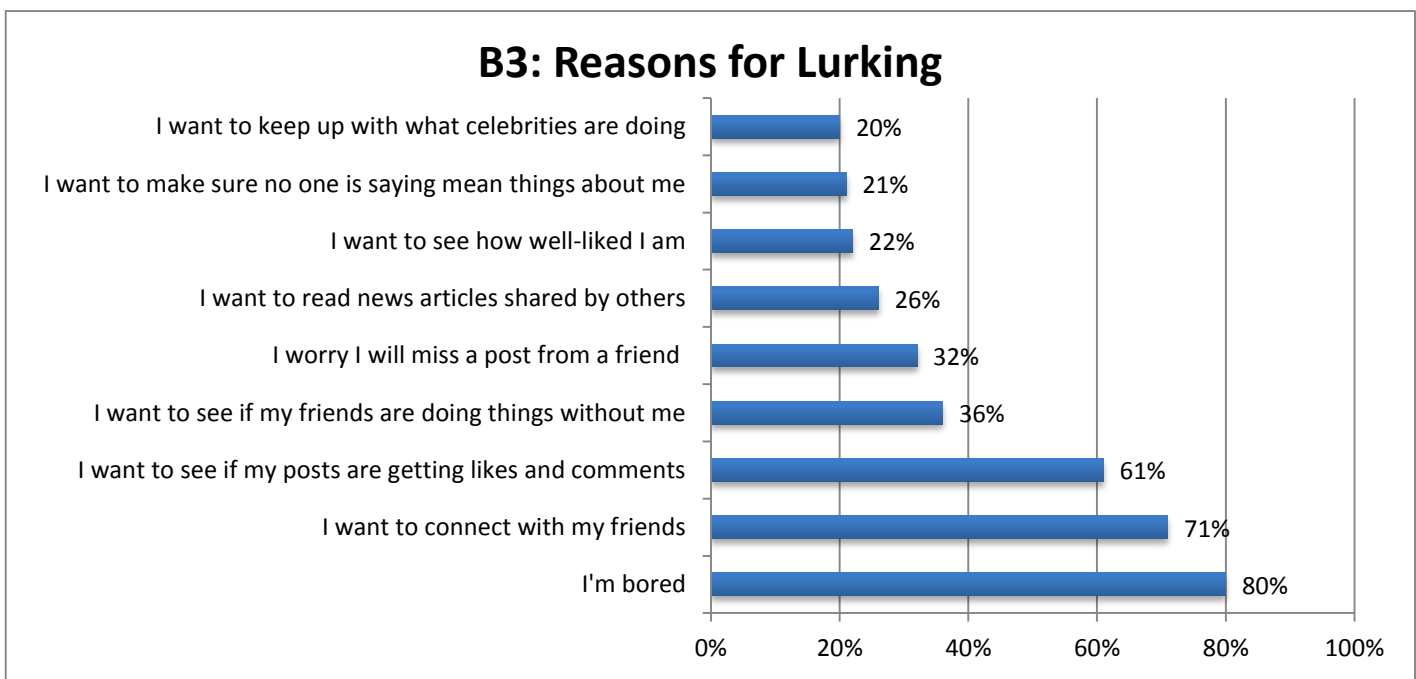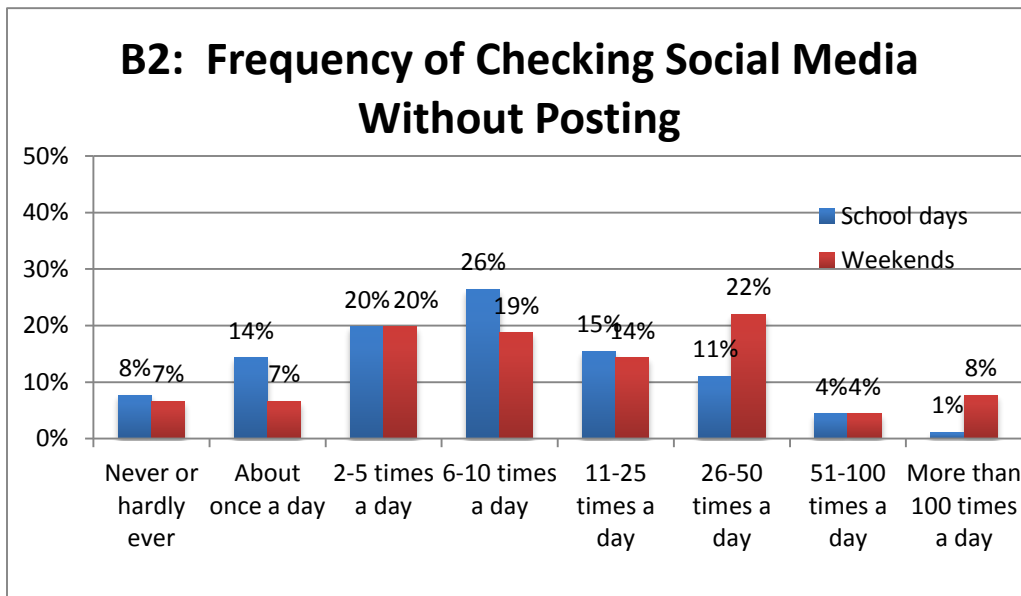
others' social activities, perhaps especially for youth with fewer friends and social opportunities (O'Keeffe, Clarke-Pearson& American Academy of Pediatrics Council on Communications and Media, 2011). A 13-year-old who is constantly lurking on social media could be hurt in ways that parents and other caring adults cannot possibly understand or imagine: seeing good friends getting together without you, seeing pictures of parties to which you were not invited, and trying out posting something on social media and getting few responses while watching peers who post similar content get many likes and favorites. All of these could have a dramatic negative impact on a young adolescent.

Even if a common reason for the constant checking and lurking on social media is boredom, the time spent engaging in this behavior comes at the expense of other cognitive activities: self-reflection, problem-solving, planning, daydreaming, and listening to ongoing in-person social activities in the worlds surrounding young adolescents, not to mention reading and studying and investing in social interactions. Constantly lurking likely comes at a cost, but one that is difficult to quantify and measure.

Although the potential harm of all of this lurking is great, it is not difficult to understand why young adolescents do it. Adolescents enjoy social media in part because it offers the peer connection that they so desperately crave. When asked "What is the best thing about social media", 13-year-olds responded:

*Being able to know everything that goes on.*

*communicating more with your friends!.*

*I get to keep in contact with all of my friends. I like sharing my thoughts and pictures of where I am.*

*Getting to connect with family or friends that have moved away or we have moved away from, and seeing a background on what people are constantly with each other. I love talking to friends from my old school and trying to get together more often.*

*Getting to talk to my friends without having to go all the way to their house.*

*I'm able to keep in touch with my friends over the weekend and over vacations. I'm able to share what I do over vacations and weekends with them.*

*Instagram allows me to communicate with my friends in a different way. I like it because you can see how your friends express themselves in a way they don't in person.*
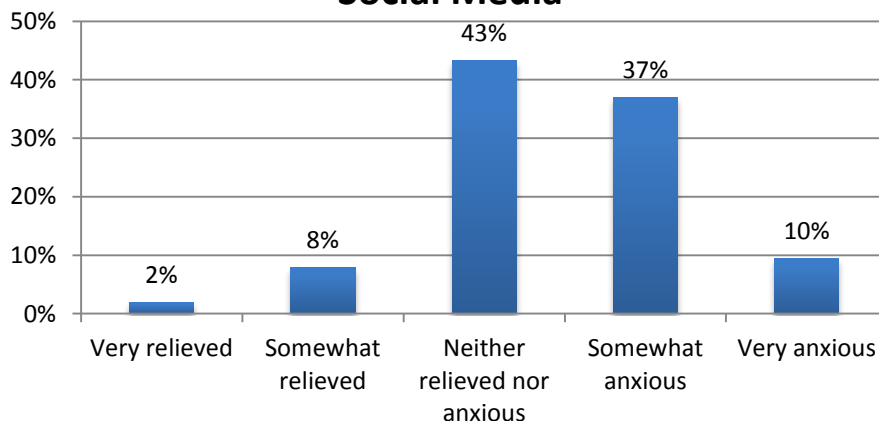
*That I'm connected with all my friends. They can see the cool stuff I do, and I see all the cool stuff they do!*

*The best thing about social media is that you can contact friends you've had anywhere and just talk to them through text message and other things.*

Thirteen-year-olds stand at the end of middle childhood and on the brink of adolescence. They seek peer inclusion by finding common ground, expressing amity and support, and using gossip in the service of moral negotiation, to determine peer norms for what is and is not acceptable (Gottman & Mettetal, 1986). As they move into adolescence, a key social process becomes self-exploration, via self-disclosure, gossip, problem solving and exploring differences with peers (Gottman & Mettetal, 1986). Social media offers youth many ways to check constantly, around the clock, to measure where they stand with peers. When they check social media, they can see who has liked or favorited any content they have posted, how many likes and favorites their peers have received, who is doing what and if anyone is doing anything without them. Overall, both the digital content and the survey responses make clear that "Teens are not addicted to social media, if anything, they are addicted to each other" (boyd, 2014, p. 80). Teens crave the social connection and peer affirmation that social media affords for some, but not for all. The downside of the pleasure taken in the peer connection afforded by social media is the feelings of desperation that could come from being cut off or excluded.

**C1: Feelings After Being Cut Off From Social Media**

| Very relieved | Somewhat relieved | Neither relieved nor anxious | Somewhat anxious | Very anxious |
|---|---|---|---|---|
| 2% | 8% | 43% | 37% | 10% |

### C. Fear of Missing Out

Another significant theme that emerged from our analysis of the survey responses and digital content was fear of missing out (FOMO), defined as "a pervasive apprehension that others might be having rewarding experiences from which one is absent" (Przybylski, Murayama, DeHaan, & Gladwell, 2013). FOMO may drive adolescents' intense involvement with social media and fuel their feelings of

anxiety when disconnected.  Half of all participants reported being cut off from social media in the past three months, typically either due to travel or parental restrictions. Whereas 43% of participants claimed that this cutoff period did not affect them, almost half (47%) experienced some anxiety, and perhaps more troubling, 10% reported feeling <u>relieved</u> (Figure C1). Being cut off from social media causes strong feelings, both positive and negative, in significant numbers of 13-year-olds.

When asked <u>why</u> they felt anxious or relieved about being disconnected from digital communication, participants' responses included:

*because i couldn't make plans with my friends, ask about homework, etc.*
*Because I felt disconnected from my circle.*
*Because I needed to keep up with my BAES* (stands for "Before All Else", often refers to a dear friend or romantic interest) .
*because I wanted to see what my friends were doing and I wanted to have it back.*
*Because it's like you're missing out on something even though it may be nothing. It's just like you have to know what's going on in people's lives and things like that.*
*because, I did not know what could be going on with my friends or if something really good or bad happened at school and someone could text me but i could not because I was cut off from electronics.  / and I could not contact my parents if I needed to.*
*I feel like I might miss something big or important.*
*I felt like I had lost contact with many of my friends.*
*it disconnects me from my social life and friends.*
*makes me feel left out.*

Even when not explicitly cut off from social media, 13-year-olds frequently worried that they were missing out on what their friends were doing online. In the fall, nearly 60% of participants had such worries at least once a week, though that figure dropped to 45% at the exit interview in January (Figure C2).   For the exit interview, we also added new questions about the fear of missing out, and found somewhat mixed results (Figure C3): although 39% of teens worried that their friends were having fun without them, most did not fear that their friends were having rewarding experiences without them, or feel anxious that they didn't know what their friends are up to.

**C2: Frequency Kids Worried About Missing Out on What Friends do Online**

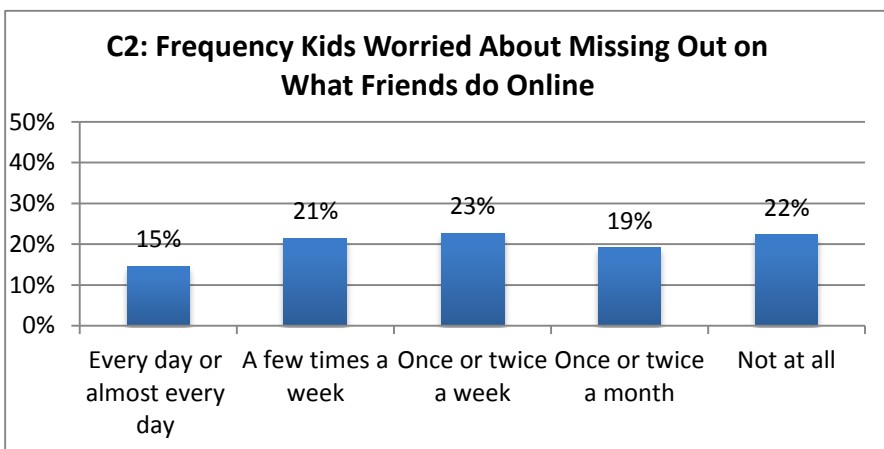| Every day or almost every day | A few times a week | Once or twice a week | Once or twice a month | Not at all |
|---|---|---|---|---|
| 15% | 21% | 23% | 19% | 22% |

Examining the content of the social media communication made clear that young adolescents also use social media to express despair and to seek reassurance, sometimes with mixed results.  One girl in our study posted this image, with the
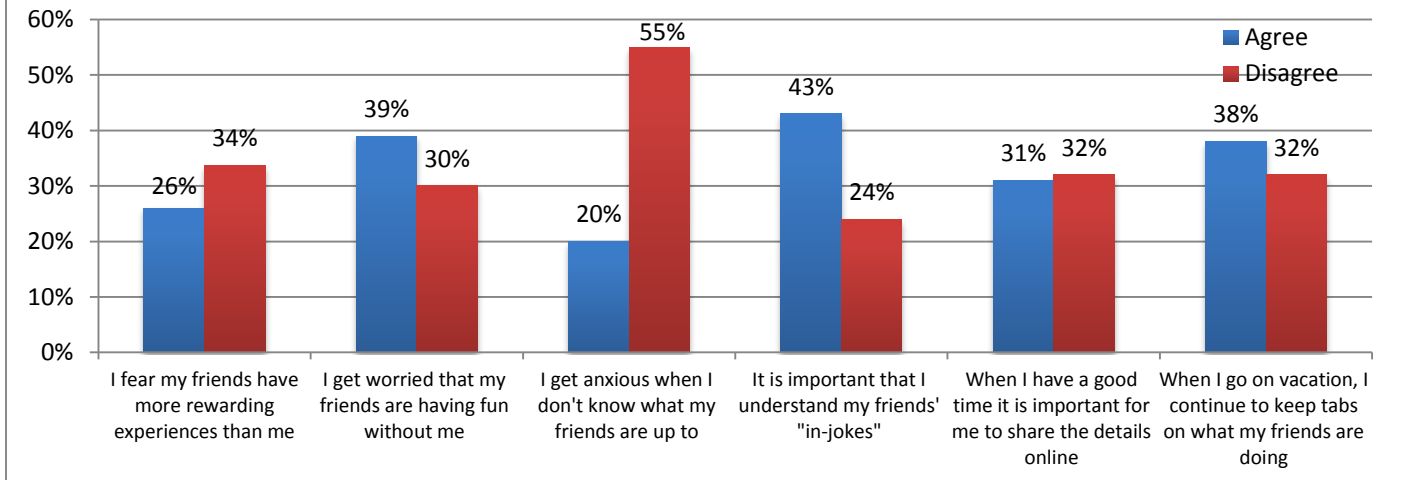
*I can do this*, I thought. Then: *And even if I can't, I have to.*
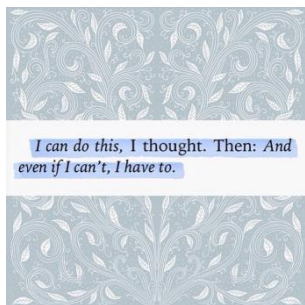
caption **Another lil** (little) **friendly reminder for yall so for the past few weeks I have been extremely stressed. The ambulance has had to come twice within the past 3 weeks for my father (he hurt his leg v** (very) **badly but he is doing much better and my grandma passed out today n** (and) **she has heart problems but she is also doing much better) and I have had an overload in schoolwork/projects/homework/music etc. my point is to focus on now and not worry no matter how bad things may seem. Just go for it. Try a new food, drink a new drink, see a movie that you have no idea what it's about. Try new things and just don't worry bc** (because) **everything will eventually turn out ok. Say what you've been holding in for a long time, wear something you've been waiting to wear, make yourself happy. My dears, just go for it bc you are so so so gr8. Live ya life and be happy lil nuggets.**  About 3 weeks later, this same participant posted a picture of a boy and girl dancing together, with the caption, **it's 11 PM rn** (right now) **and I'm about to read a book and then sleep and I wanna wake up to some nice comments !! So comment something good that happened today or comment something that made you happy** ☺.  Only three peers responded.

Lastly, FOMO is also apparent in the effort that young adolescents expend to monitor those who do and do not follow them on social media.   One of our participants established a fake account to determine who was blocking her primary account, and would frequently post comments like ***why'd you block me?***

## C3: Fear of Missing Out

Chart legend: Agree (blue), Disagree (red)

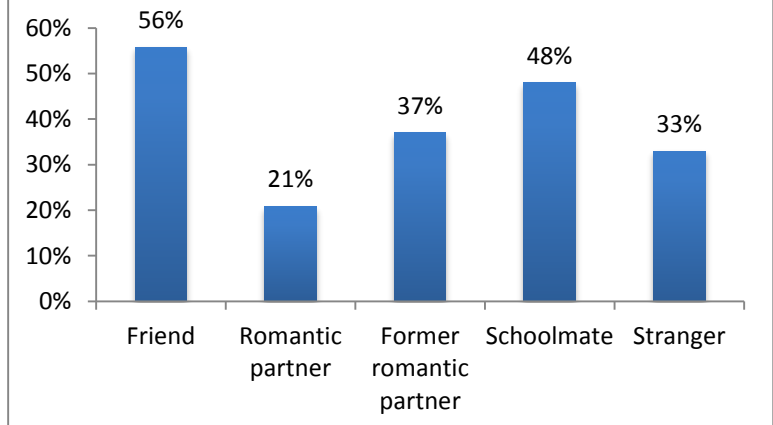| Statement | Agree | Disagree |
|---|---|---|
| I fear my friends have more rewarding experiences than me | 26% | 34% |
| I get worried that my friends are having fun without me | 39% | 30% |
| I get anxious when I don't know what my friends are up to | 20% | 55% |
| It is important that I understand my friends' "in-jokes" | 43% | 24% |
| When I have a good time it is important for me to share the details online | 31% | 32% |
| When I go on vacation, I continue to keep tabs on what my friends are doing | 38% | 32% |

Fear of Missing Out likely generates greater anxiety for young adolescents than it does for adults. Young adolescents care deeply about being included by peers, and at this developmental stage, most have one peer group on which they stake their souls: peers at school. If they see something on social media suggesting that they are not included in this group, the stakes are high and young adolescents can quickly become anxious and desperate. Most adults move in multiple social circles, so if they see on social media that a small group has gathered without them, they can take solace in having other groups of friends and other social networks. Young adolescents still see popularity as a unitary concept, something you have or do not, and therefore FOMO likely looms larger for them. Social media likely appears to young adolescents as a way to assuage FOMO, but for youth who are lonely or lack friends, social media likely amplifies the effects of FOMO. And, the constant lurking likely fueled by FOMO means that many 13-year-olds miss no opportunities for feeling slighted or maligned by friends on social media.

### D. With Friends Like These…

Social media both fuels and provides a public stage for conflicts among young adolescents, and thus is a source of social pain, often at the hands of friends. In the initial survey in the fall, 42% of participants reported having had at least monthly conflict with someone online. When asked with whom they had had conflict, the majority reported friends as the source of strife (D1). This is consistent with research on youth aggression, where a significant amount of cruelty—both in person and online (Faris & Felmlee, 2011; Felmlee & Faris, 2015)—is directed toward friends and current and former dating partners. Adolescents often jockey with friends and rivals for status in school social networks, a process we refer to as "social combat," with tactics ranging from gossip, ostracism, and verbal harassment, to threats and even physical attacks. Research has shown that aggression, particularly social or "reputational" (as opposed to physical) aggression, can be effective for social climbing—especially when aggressors target peers who are high status, aggressive, and in the same friendship circle (Faris 2012). Not surprisingly, social media is a critical front line on this battlefield, and teens use both subtle slights and overt harassment in their efforts to tear down rivals—who are often their friends—and boost their own standing.

To understand the power of social media platforms like Instagram, Twitter, and Facebook, it is important to remember that 13-year-olds are not only spending time posting material and reading comments on their own posts, but are fairly

## D1: Source of Most Serious Online Conflict

| Source | Percent |
|---|---|
| Friend | 56% |
| Romantic partner | 21% |
| Former romantic partner | 37% |
| Schoolmate | 48% |
| Stranger | 33% |

constantly reviewing large feeds from their hundreds if not thousands of friends and followers. Adolescents review their social media feeds to stay in touch with what is happening in their peer groups, to see who is doing what with whom, and to assess their own social status by seeing how much their posts are being liked and favorite by peers, in comparison to how much peer affirmation their friends are receiving. In the words of Rachel Simmons (2014), "Instagram is the homework girls always do."

When asked, "What is the worst thing that happened to you on social media?" responses included the following.
*Being excluded to some parties."*
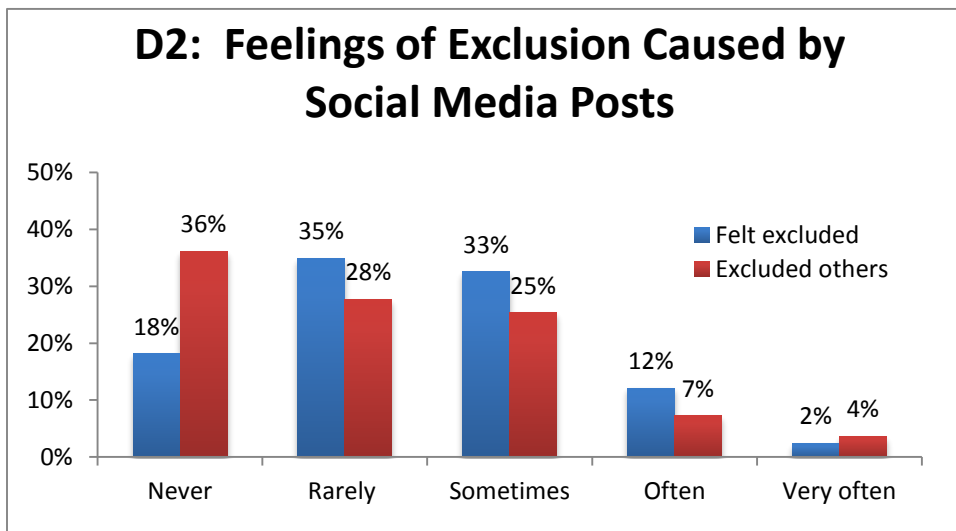*"I figured out a girl that I knew and we were friends blocked me."*
*My best friends hung out without me, and posted it on instagram.*
*My friends went out without me and posted pictures on instagram then denied they were out together.*
*Not anything specific, but I don't like when people post pictures or tweet about a party that I wasn't invited to.*
*Seeing pictures posted by my friends doing things where I wasn't included.*

Other survey responses confirmed that a significant source of pain related to social media was feeling excluded by friends. Almost half (47%) of participants felt excluded by their friends at least sometimes, and more than a third (36%) reported that they at least sometimes made posts that might cause others to feel left out (Figure D2). Without a doubt, social exclusion is a form of social aggression (Underwood, 2003). What is so powerful about this type of social aggression on social media is that is so subtle. Many 13-year-olds frequently post pictures of small group gatherings on social media in a manner that on the surface, seems to be nothing but fun and friendly sharing. However, these same pictures could easily make other friends feel excluded, but because the picture posting is socially sanctioned, those who post could never be faulted and those who feel excluded are reluctant to say anything. Although it is striking that almost half the sample reported feeling the pain of this form of social exclusion, it is even more troubling that more than a third admitted to engaging in this behavior when they knew it could hurt and exclude others. Social exclusion via social media is a form of social aggression that is highly effective because it is public yet exercised seemingly without any negative consequences, from the victim or from the peer group. On the rare occasion that victims have the courage to speak up about feeling left out, they seem to face negative sanctions from peers.

A girl in our study posted a picture with the caption **"here's to true friends❤thank you for being there for me through the rough times ily** (I love you) **guys, bad picture but."** This was posted by a girl who thought she was friends with the group pictured at a party, but had not been invited, so she posted the picture of the event from which she was excluded with a sarcastic caption about true friends. A seemingly higher status girl responded early the next morning to the original poster, commenting **you need to stop, you need to stop holding a grudge against them, it was a party that was almost 2 months ago. sweetie I suggest you stop being a bitch about it. bye hun, at least try to be happy today** ❤❤.

In addition to the pain of social exclusion, all out conflicts among friends unfold on social media. On New Year's eve, a 13-y-o boy posted the picture to the right on Facebook, with the caption, **Me when I'm playing at my bands concert... or you know when my girls tryn** (trying) **to get my attention**, which resulted in over 130 harsh, negative, critical comments, including some peers attacking the poster and some friends defending him. One girl responded, **Dude that doesn't happen to you....ever...." and another joined "HA HA TRUUEEE.** The original poster claimed that the event depicted in the picture does indeed happen to him often, and his exchange with several girls became nasty and profane. The original poster

said, **Fuck you Haley I'm not gay I have a girlfriend -_- you know this** and asked the girl to **shut up**, to which she responded **DONT TALK TO BOO** (my friend or boyfriend) **LIKE THAT ILL RIP OFF YOUR NUTSACK.** As the exchange unfolded over 24 ours, the original poster tried to cut it off, saying **Okay thats it evrybody leave everyone else the fuck alone this is not going any further if you have a problem with someone shut the fuck up and keep it to yourself... if you have a problem with me I dont give a fuck.. just shut up and do something else than bitch I'm ending this now** but the comments continued over several days. An adult intervened, urging the original poster to take the post down, which he did.

Cyberbullying on social media can also be directed at peers outside the friendship group. In the post to the left on Instagram, a boy posted this picture with the caption, **So I found this migos** (person of Hispanic descent) **ass lookin dude at aquia 10 movie theater I started dying of laughter when I saw him he looked at me and said "so funny?" I said nuthin bruh** (brother) **something that some one texted me he's like "ight** (alright)**" so little does this nigguh know I'm taking like three goodass pictures then I'm right next to my older brother im like **whispering** "ryan..Ryan look this nigga look like the dude off rocket power(#Rocketpower if u don't know what it is a cartoon show back in 2004) then I looked at my phone thinkin o got good shots I got side shots of this nigga then he turned around and BAM I got this nice ass photo after that I went up to this dude was like "aye man I like yo joggers** (running shoes)**.... Where u get them at?" He said "Macy's" I was like cool cool then in my mind this nigga had rocket power lookin ass dread lock head ass was wearing these clown lookin ass shoes I was done and I was taller than this** (boy) **he was 5'5 he had on some maroon vans** (a brand of sneakers) **I believe I was straight roasting this nigguh in my mind but he had his girl with him so I wasn't gonna do that cuz he probably act like a bitch plus I was tryna see my movie Top 5 with Chris rock and shit after this I was like Shiitt Boii  Society Fuckin black people up .** Peer responses to this post were mixed. A male peer first commented "**tf**" (the fuck, short for "what the fuck?"), but two other male peers quickly commented **That's 45 seconds of my life I'll never get back**. and **I wasted 3 mins of my life reading this shit**. The boy pictured in the original post commented, **Ight fuck boy i knew you were taking pictures im not stupid. I just thought your gay ass wanted something sexy to beat to later so i let you have it faggot** and a harsh, profane exchange unfolded between the two boys. Other peers chimed in to defend both boys involved in the conflict, **Awwh boy we bouta come for ya life. Mess with one us you mess with all of us. Lookin like the welfare check hasn't come in yet. Lil bill lookin ass. Can't even put a profile picture of your self witcho** (with your) **ugly ass."** Between November 15 and December 15, this same 13-year-old boy who posted this picture of a peer at the movie theater posted seven times about substance abuse, and three times about sex.

Other conflicts on Instagram can start out seeming negative and profane, but then take on a playful, joking, self-congratulatory tone, where no one really seems to really care all that much about the nasty comments being exchanged. The post to the right, a screen short of a tbr ("to be rude" or "to be real") exchange, was posted by a boy with the caption "@(girls name). In this post, the boy is accusing a particular girl of stuffing her bra and her pants, in a very direct, public manner by posting this screen shot with @ (the girl's Twitter handle). The girl the post was directed to immediately responded, **nah I don't stuff shit"** and another girl who appears to be the targeted girl's friend said **I know this is a "TBR" but you took it too far…** The boy who made the original post responded, ....**I umm don't know you...get off my page plz its was a joke.... If she feels that she deserves a sorry she can hit my phone herself...now bye** @ (to the girl who told him we went too far). The girl responded, **No need to be a asshole, and I'm her cousin and you are a complete douche bag. And I don't care if you don't know me. & I wanted to say something because it was rude of you to say shit like that**. A conflict ensued that generated 690 comments on the original post over the next 16 hours, starting about 10 PM on a Saturday night and ending at 2 AM early on Monday morning. Many of the comments were profane. Other peers became involved, but the tone seemed joking and self-congratulatory, including posts noting the number of comments

Tbn was your damn face and hair why are they so oily

Tbr my b

TBR you prolly be stuffin she in your pant and shirt...cuz that shit be to big for your ugly ass SHHHHIIIIIIIITTTTTTTTT

Bruh you dated her chill..

For like 2 months

Tbr yo pimples bouta have hella eruptions, this picture wtf possessed you to post this you know how many niggahs dropped they phone. got me chopped

they were generating.  One of the peers commenting noted **We broke 300** and then later the same peer commented **WE BROKE 500!!!**  A female peer and the original poster both responded with smiley face emoji's.  The exchange finally seemed to lose steam with various peers saying "goodnight", including one of the last salutations **Goodnight yall** ✌ **love yo squads** (group of friends, like a crew or a posse) 😊🎦💯**.**  The boy's original post drew some initially angry reactions from female peers, but the drama that unfolded seemed to be enjoyed by all and ended with an expression of love for the squad.

      Other 13-year-olds frequently express very personal sentiments conveying harsh negativity and alienation via social media which seems to be directed toward the peer group in general, and seem to get little in return.  This seems to occur most often on Twitter, where peer norms dictate the frequent posts are welcomed and where the brief, 140 character format pulls for harsh, direct statements.  Although only about a third of the students in this study used Twitter, those who used it seemed more prone to posting negative or antisocial remarks than others in the sample.  One 13-year-old girl had more than 17,900 tweets, followed 1444 people on Twitter, and had 1533 followers.  In the month of January, her Tweets included the following:

> **I really hate people**
> **I hate people who lie about stupid shit.**
> **I hate when somebody tell me about how loud my music is**
> **If you stop riding me every weekend maybe your relationships would last**
> **Yall can't never worry about yall own relationship**
> **I guess I'll just forever be mad**
> **I'm really bouta** (about to) **make sum people mad this year**
> **I HAVE NO BEEF WITH NOBODY.    KEEP MY FUCKING NAME OUT OF THAT DRAMA. K** (ok)**?**
> **Thanks.**
> **I really wann** (want to) **choke that girl and sling her cross a bridge.**

Other tweets from this same girl shared great loneliness and alienation.

> **I need a life**
> **I need these months to hurry yup cause I cannot stand living here**
> **I don't' never show emotions.  It's either mad or happy asf** (as fuck)**.**
> **It's really to the point where I don't wann be here no more.**
> **I don't have no type of friends.**
> **But I be bored asf all day everyday**
> **Don't anybody really fwm** (fuck with me) **no more**
> **I wish I had somebody to text late at night**
> **Even on my birthday I can't have a good day**
> **Shawty** (a fine looking woman, here referring to herself) **don't smile no more**
> **Up with no one to talk to**
> **I wish I could skip a couple of years.**

      The format of Twitter pulls for frequent, brief statements.  The design of the platform does not encourage replying or commenting (just favoriting and retweeting).  For these and perhaps other reasons, this 13-year-old received very little peer response for all of these angry, lonely posts.

      Many frequent users of social media posted a great deal of negative content. However, other active users were much more positive, even strategic, in how they used social media to enhance their status.

### E.  Popularity Chess

      Many 13-year-olds care deeply about being popular. Almost 80% of young adolescents in our sample report that they fall in the middle or are somewhat popular, with 11% claiming to be very popular and another 11% admitting to being somewhat or very unpopular. These self-assessments are not merely speculative, but are grounded in what they see on social media, which has become their primary means of assessing where they stand in the school social hierarchy. Status is now measured in tags and likes and comments. In our survey, many students reported feeling sad when they were excluded from parties or not tagged in pictures, and happy when they got a lot of likes.

      Many teens view social media as a sort of popularity barometer: almost 80% of 13-year-olds agreed that you can tell how popular a peer is by looking at his or her social media profile, and about the same number agreed that their social media profiles either very or somewhat accurately reflected their own popularity. However, the barometer readings are subject to distortion, and  where there are discrepancies, profiles tend to exaggerate rather than understate status, with

more than one quarter of teens reporting that their profiles exaggerated their popularity, and the same proportion admitted that they deliberately use social media to inflate their status at least sometimes. Below, we explore the troubling implications of using social media to erect a façade of popularity.

Some middle schoolers are extremely sophisticated strategists. They use Instagram to jockey for popularity and power by promoting themselves. Several students in our study, all girls, had impressively high numbers of followers on Instagram. Some of these girls were highly attractive and appeared much older than their actual age. Some of these Insta-Celebrities posted fairly infrequently, but received much peer affirmation when they did post, sometimes over several months. One particularly attractive girl in our study has nearly 3,000 followers on Instagram, and herself follows almost 1,500 people. During the six months of our study, she posted or commented only 192 times, but everything she posted received many positive peer comments. On September 1, she posted a beautiful picture of herself, with the caption, **You Will Go On And Meet Someone Else And I'll Just Be A Chapter In Your Tale, But For Me, You Were, You Are, And You Always Will Be, The Whole Story** (a quote from a Marian Keyes novel, *The Other Side of the Story*). She received more than 45 flattering comments over many months, including **Tbh** (to be honest) **••ur super pretty and u seem really nice., Omg your so beautiful \*~\***, and **Ur stunning x**. These comments continued until at least March 2, when a boy commented **Dm?** (direct message?), inviting her to direct message him. In the month between November 15 and December 15, this girl posted 7 appearance related comments and 2 prosocial comments.

Other Insta-Celebrities posted frequently and commented frequently on others' posts, and also received a great deal of peer support. One girl posted a self-portrait ("selfie") at 5:30 PM on Thanksgiving with the caption **Happy Thanksgiving**, and one hour later, her Instagram post had 70 comments, most of them highly flattering remarks about the picture: **Oh my God stop being so freaking perfect! I'm just kidding I'm so lucky to have u as my friend love Ya**. These flattering comments were almost always followed by a thank you from the original poster often with a compliment to the commenter's appearance, which served to further inflate the number of comments: **thank you perfect, I LOVE YOU. and I am beyond blessed to have you as my sweet friend**, and **Aww thanks sweet thang!❤ ilym** (I love you much)**.** The frequency and intensity of this girl's posts suggested heavy engagement with social media. In the one month period between November 15 and December 15, she posted 144 comments involving appearance, 19 comments that were prosocial and supportive, 15 that were self-enhancing, and 10 that were bullying.

Other youth are highly skilled in putting others down in ways that deliver ego boosts and sucker punches. One beautiful, high status girl was part of a TBR ("to be real") group text including 76 peers. One of the girls involved in the group text posted a screen shot on Instagram of a mean comment directed at the Insta-Celebrity in our study, **tbr** (to be real)**: OO I don't like you, you have no butt, nor do you have boobs, don't know why you try so hard…just explained everything. FISHY…you and (another girls' name).** The InstaCelebrity in our study posted the following comments: **I didnt do nothing to yall, and just cuz im white dont mean I got no booty... Girl you flat so i dont know why your talking at school yall say im pretty but behind the screen you bout fake af** (as fuck)**, Okay then you embrace lookin like a mothafucking cow,I gettin to yo level it aint worth it, Aghh that geeks me cause yall dont even know me like shit and why tf** (the fuck) **you smellin me, I never had shit to say to yall at the fucking game but then yall had to fucking start shit, and finally Ard** (affirmative or alright) **so im done with yall, all this shit happened cause if a fucking tbr i wont mess with yall just get out my fucking lane** (leave me alone, stay out of my business)**.** When this seemingly high status, highly attractive girl was attacked on Instagram, she wasted no time in responding harshly.

Other attempts to garner social attention via social media seem sad and almost desperate, yet seem to result in peer affirmation. One girl posted a selfie with the caption **Comment on my pic "RIP"** (Rest in Peace) **or "You will be missed." Something bc I wanna scare my friends ☺ I will follow u if u do.** Almost immediately, 13 peers complied by commenting with **remarks like RIP. you're in a better place now.😇, you will be missed,** and **rip.** What looks like a tasteless prank to adult eyes got immediate approval from the peer group.

Other young teens try to use Instagram to attain popularity and status, but are less successful. A close friend of the girl who posted the Happy Thanksgiving selfie with over 70 comments in one hour would post frequently with little peer response. She posted or commented 940 times on Instagram during five months of the study. She posted a picture with the caption **"like for a rate** (a comment providing a rating of the person usually on scale of 1 to 10) **{ only doing some**, meaning she will only rate some of the people who like her picture **}** with no peer response. She would frequently post elaborate birthday greetings for friends. She would also insert herself into others' exchanges, for example, commenting profusely on others' posts, often in an exaggerated manner, for example, **AW HUN IMYSM** (I miss you so much) **I HAVENT SEEN YOU IN FOREVER LIKE WHAT** one minute after her friend posted a picture at 1 AM with the two of them, to which the friend almost instantaneously responded **OK WHAT @** (friends Instagram handle). Many of her comments expressed love for her friends **in love w/ u, love you beautiful, and i ❤ u both A LOT.** Her

frequent posts did not seem to receive the level of commentary and peer support that she offered; it was not clear why her attempts were not as successful of those of other girls.

Other 13-year-olds in the study posted on Instagram in ways that invited peer interaction, but met with no response to all. One boy posted a selfie with often used caption **#ss** (for Selfie Sunday) **Like for a tbh** (to be honest) **or rate** with no response whatsoever from his 380 followers on Instagram. These "**Like for a tbh**" type captions are commonly used on social media. For some, these result in many dozens of likes, so many that the poster will have to say from the start "only doing some." For other 13-year-olds, these pleas for attention, these explicit requests for positive reinforcement, are met with deafening silence from the peer group, which likely hurts a great deal. Again, this is the type of painful experience that would not likely be apparent to parents or other watchful adults, but can be seen by the larger peer group, adding to the shame and humiliation.

The rules of the game of using Instagram and Twitter to attain status are unclear, and some clearly do not understand why they get so little peer support for their posts on social media platforms. The rules of Twitter and Instagram are even less clear to parents.

## F. A World Apart from Parents

Parents are often at a loss when it comes to social media. Most attempt to control or monitor their children's use of social media, with varying degrees of success. Two-thirds of parents reported that they restrict their child's use of social media or prohibit it altogether. Of those that restrict use, 54% limit the amount of time spent online (often by keeping their children's phones at night), 44% limit use to certain sites (most commonly Instagram), and 40% use surveillance (controlling passwords, following their child, following their children's friends, etc.). More than half of the teens reported being social media friends with their mom (56%) and dad (59%). Despite their efforts, we found notable gaps between the accounts of parents and



F1: Parental Monitoring of Social Media



F2. Parents' Use of Social Media
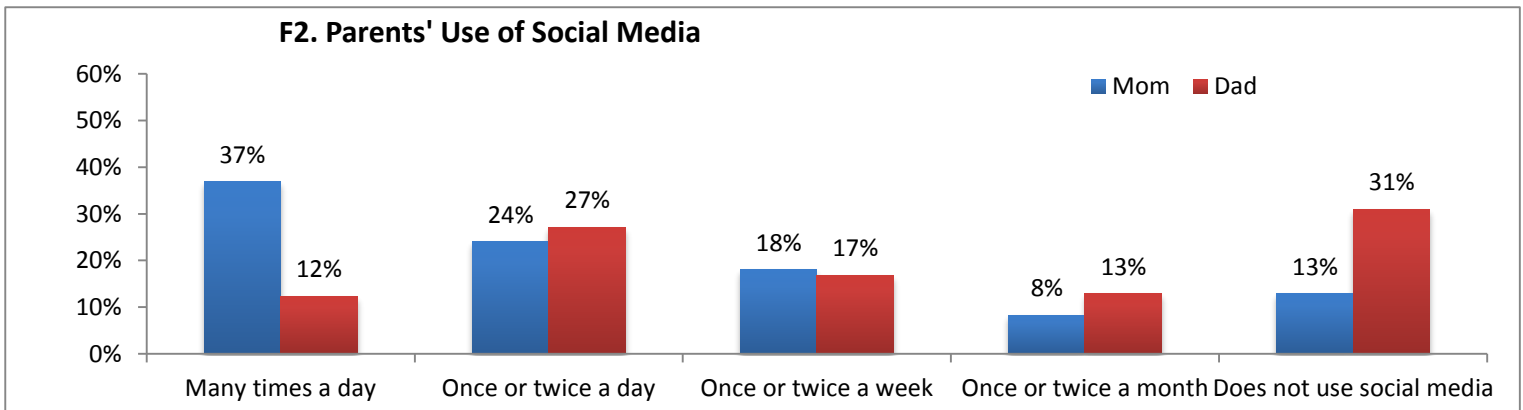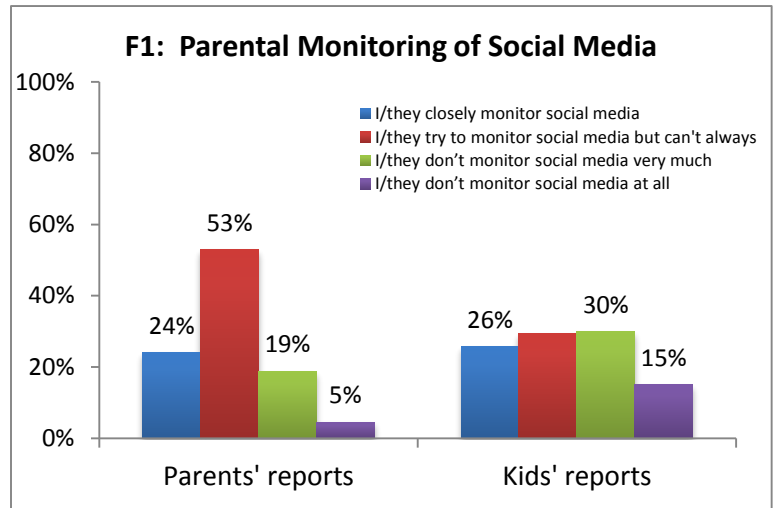
their children.

Both young adolescents (55%) and parents (77%) agreed that parents at least tried to monitor their children's use of social media (Figure F1). Even so, just 17% of parents reported "always or almost always" knowing when their child was using social media, whereas one-third reported only "sometimes," "rarely," or never knowing. Additionally, when we matched 13-year-olds to their parents' reports, we found some important discrepancies. Of the 22% of parents who reported "closely monitoring" their child's use of social media, nearly half of their own children disagreed, reporting more relaxed levels of scrutiny.

Large numbers of parents and children both reported that the child's use of social media (44% and 50%, respectively) and texting (41% and 42%) was a source of weekly frustration. Heavy social media use was not limited to teens, however, who report high levels of use by their parents, particularly their moms (Figure F2).

We asked 13-year-olds a series of questions about how they were doing, from feeling left out to getting into trouble at school. When we matched their responses to their parents' reports of how they were doing, we found that parents have overly optimistic perceptions of how their children are faring emotionally (Figure F3). Parents systematically underestimated how much negative emotion and problematic behavior their children were experiencing, and overestimated how much happiness and fun their teens were having.
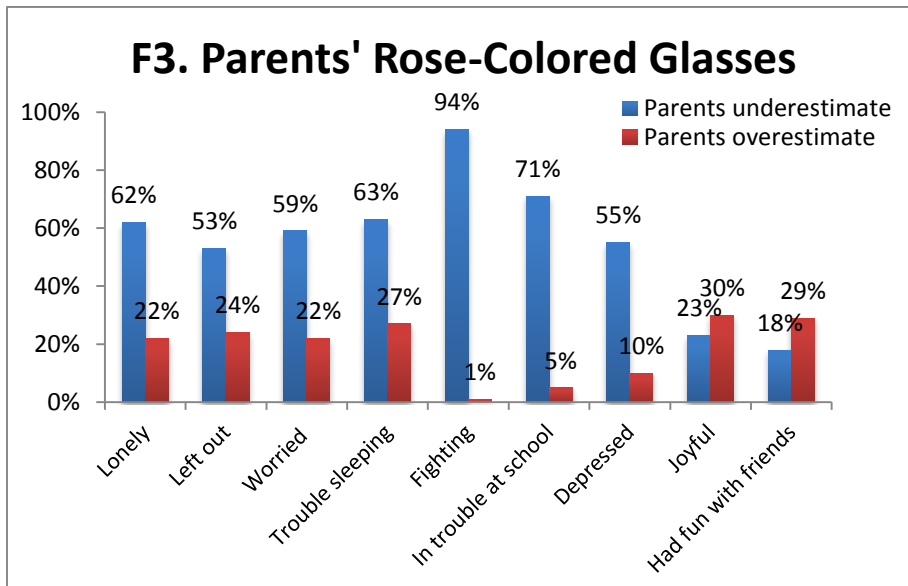
## F3. Parents' Rose-Colored Glasses

Parents underestimate
Parents overestimate

| Category | Parents underestimate | Parents overestimate |
|---|---|---|
| Lonely | 62% | 22% |
| Left out | 53% | 24% |
| Worried | 59% | 22% |
| Trouble sleeping | 63% | 27% |
| Fighting | 94% | 1% |
| In trouble at school | 71% | 5% |
| Depressed | 55% | 10% |
| Joyful | 23% | 30% |
| Had fun with friends | 18% | 29% |

Parents were almost entirely absent from the content of adolescents' communication on social media. During the five months of our study, the word "parents" was mentioned only 145 times. Most digital comments about parents were negative: **Sometimes I wish my parents were more laid back** (Twitter)**, The worst thing is when your parents can't pick you up and you have to walk to subway.** (Instagram)**, Both my parents said they've never heard of Ariana Grande…I've failed at being a child in this generation** (Twitter)**. and I am really questioning why I volunteered to be a girl scout troop leader...how can the girls learn leadership with the parents can't stop fighting…classic** (Facebook)**.** However, there was the occasional compliment for parents:  **parents notice your fake friends before you do so true but so sad** (Twitter) and **Best couple ever, my parents** (Instagram).

What was striking from the responses to open-ended questions on the survey was the serious disconnect between what some parents thought their children were doing online, and the content of some 13-year-olds' digital communication. The mother of one of the most, frequent, profane Twitter users shared the following comments about her daughter's use of social media:

> *She is allowed to use only after school and before 8pm on weekdays.  Don't really have restrictions on the weekends. Also i must know all passwords to accounts that she has signed up for.*
> *Children tend to not realize that everything ca not be posted online and will follow them for the rest of their lives either negative or positive.  Also they get too emotionally involved with social media letting it let them affect them personally.*
> *Yes i do believe they learn positive things like what not to post and how negative things could affect your schooling and jobs in the future.  sharing experiences with others*

Another parent whose daughter was very active on Instagram and Twitter, including posting about substance use, provided the survey responses.

> *No "screen time" --during school nights until homework and piano practice is done.  If grades falter, then phone is restricted.*
> *It's now how they stay connected.  It can be a positive or negative thing depending on the child.*
> *Apps that encourage anonymous questioning and do not filter content.*
> *I saw a post on her Instagram wall from one of her friends that was not appropriate.  I asked her to delete those comments, and she did*
> *They can connect with a larger group of friends who share the same interests.  My daughter sings in a metro-wide chorus and can stay in touch with those kids even though she can only see them once a week at rehearsals*
> *They can learn a lot about what is good and bad provided they have guidance from home.  (Parents still MUST shape the values they wish to see in their children.*

The content of 13-year-olds' digital communication in juxtaposition to the survey responses suggested that parents are either not attempting or not succeeding at monitoring their children's online behavior.  It also was not clear how much parents were talking with children about their online experiences.  Episodes of cyberbullying or fights on social media occur infrequently, but the impact is enormous.  And, as noted above, adolescents are frequently hurt by subtle forms of social exclusion that even the most vigilant parent could not possibly see.  Thirteen-year-olds care a great deal about their online experiences, and they seem willing to discuss them with adults who ask.  We agree with boyd (2014), who proposed "What makes the digital street safe is when teens and adults collectively agree to open their eyes and pay

attention, communicate and collaboratively negotiate difficult situations. Teens need the freedom to wander the digital street, but they also need to know that caring adults are behind them and supporting them wherever they go. The first step is to turn off the tracking software. Then ask your kids what they're doing when they're online–and why it's so important to them."

## G. The Positive Side of Social Media

Thirteen-year-olds in our study perceived many aspects of social media as positive.  Despite the frequent feelings of exclusion and relatively common—and distressing—conflicts that erupt on social media, 13-year-olds generally believed that looking at social media made them feel good, not bad, about themselves (Figure G1).

**G1: Frequency Social Media Makes Kids Feel Good or Bad About Themselves**

When asked about the best things that have ever happened to them on social media, responses included:
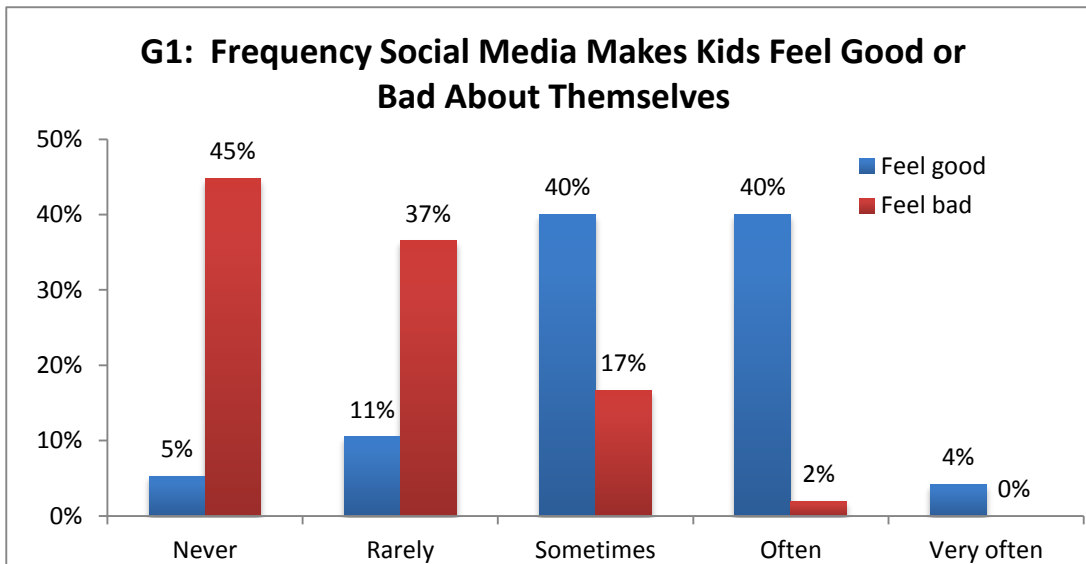
*A whole bunch of people posted and commented things on instagram about my birthday.*
*Gaining more followers on twitter and instagram and gaining more likes on my posts on instagram.*
*I found out who truly cared about me out of my friend group & I got to be informed on topics I didn't even know were happening.*
*I met a person. And we starting talking and became really close. He was like my best friend. We always talked 24/7. He told me like everything. he was kinda like a brother I never had. We could be ourselves and speak our mind to each other without having to worry about if it was gonna hurt feelings.*
*My cell phone is the way I communicate with friends and get information about school and church. Therefore, keeping up with everything and being involved is the best thing to me.*
*One of my friends on instagram left me a comment saying that I am really nice and says that if you ever need to talk, she is here for me.*

The digital communication we collected on Instagram, Twitter, and Facebook included many examples of elaborate shows of affection, especially around birthdays.  Instagram has a collage feature which seems to be the ultimate birthday tribute, often posted with a lengthy caption. One collage was posted with the caption, **It's your birthday! Happy birthday you crazy chicken! I'm glad that I have a friend like you. we haven't been friends for long (compared to other people), but in the little time that we've known each other, we've made so many fun memories and a lot of them still crack us up. it seems like everyday results in a new inside joke with you. □we don't ever really fight, but we sometimes give our opinions we never take it too harshly though, and I think that's why we can still stand each other. haha. since I already sent you a long text, I don't feel like writing anymore, but of course I have to do this bc you made me WELL HOPE YOU HAVE A GOODER DAY THAN EVER!! ;D** (emoticon for happy winking face) **hbd**  (Happy Birthday) **ugly."**

Examining online content also revealed examples of young people defending each other from peer attacks, some of which occurred in real life and some of which happened online.  One boy commented on another boy's self-portrait on Instagram, **When haley tells you to stop fucking touching her you fucking do it**.  Girls would comment to each other, **dont be mean.**  In response to an Instagram post of an obviously anorexic woman with the caption, **When you say 'LMAO'** (laughing my ass off) **so much**, a girl in our study responded with the comment **THIS IS SO MEAN.**

The online content also included examples of prosocial behavior, of 13-year-olds standing up for what is right.  In response to a peer who posted a picture with a caption that opened with the statement, **I am reposting this pic because some of you guys are so retarded you thought I was promoting a honey company…**  One of the girls in our study commented, **Please don't use the word retarded out of context.  retarded is defined as someone who is mentally**
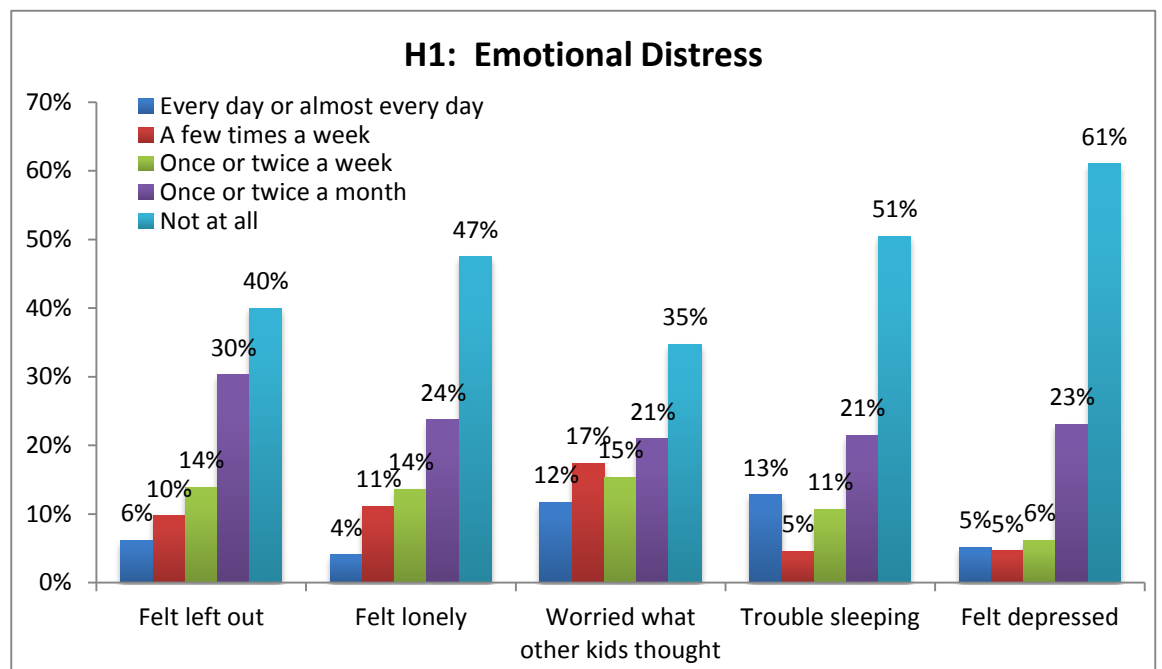
**slow. It should not be used to call someone stupid** and continued to respond to others' criticism of her with **retarded is not supposed to mean stupid or dumb. It is a word to describe a person who has a mental problem that makes them slower than others. All I said is he shouldn't use retard as an insult because it is demeaning to someone who is actually retarded**, and **He doesn't HAVE to, I just think he should because it is considered insensitive.**, and **a lot of people care. You don't have to but I know I'm not the only one who cares. I am just said he shouldn't use retarded as an insult.**

These young adolescents also used social media to lift each other up, to encourage and support each other. In response to a peer posting a graphic on Instagram with the words, **I'm sorry that I'm not everything you wanted, and I'm sorry that my best isn't good enough. I'm sorry that everything I do disappoints you**, a girl in our study responded with the comment **You are everything I ever wanted, a strong person who loves themselves because they are unique. You're best is the greatest thing I have ever seen, even if it is only a step at a time. You are beautiful, kind, caring... YOU'RE THE WHOLE PACKAGE! So before you second guess yourself, you are the best you can be, and you are admirable! Keep on being yourself!!.**

## H. Social Media and Psychological Adjustment

Given how intensely 13-year-olds are engaged with social media, we wanted to examine how features of their involvement with social media relate to their psychological adjustment. We assessed a number of aspects of social media involvement with the surveys and by examining social media content. To assess adjustment, youth answered a number of questions about general well-being (Figure H1), Almost one-third of respondents felt left out (30%) or lonely (29%) on a weekly basis, and even more (44%) worried what other teens thought of them at least once a week, some (29%) to the point of having trouble sleeping. Fortunately, fewer (16%) felt depressed on a weekly basis.

Because they are highly correlated, we averaged these five items, plus results for worrying about "missing out what friends were doing online" (presented in Figure C2) into a general



**H1: Emotional Distress**

measure of **emotional distress.** Thankfully, slightly more than one-third of all teens' average scores fell between 1 and 2 (corresponding to "not at all" and "once or twice a month") and but nearly one-quarter were experiencing frequent (at least weekly) distress.

We used regression analysis to analyze how social media usage related to emotional distress. The factors we examined were:

- Teens who would rather be **grounded** than lose their cell privileges (yes or no)
- Teens who are **friends with their parents** on social media (yes or no)
- **Parental monitoring** of teens' social media (a four-point scale, ranging from "closely monitoring" to "not at all")
- Experiencing a **conflict** with someone on social media (yes or no)
- Physical **attractiveness** (an average of three independent ratings of profile pictures)
- Number of **followers** (total number of followers on Instagram, Twitter, plus Facebook friends)
- Number **following** (total number of people followed on Instagram, Twitter, plus Facebook friends)

- Social media **posts**: total number of posts during one week
- Social media **usage**: total number of one-hour time periods during one week where there was some social media activity
- **Ways of using social media**. Each adolescent's social media activity over a one-week period was coded on the following aspects:
    - Attempting to seem more **popular**
    - **Prosocial** activity
    - Attempts to **refocus attention on oneself**
    - Posts intended to prompt **peer affection** or support
    - Posts that make oneself seem more **sexy**
    - Posts that **exclude others**

Additionally, in a second analysis using new variables collected in the winter survey, we examined how the following factors related to the emotional distress (measured the same way as in the fall):

- "Lurking" (frequency of checking social media without posting) on weekends
- Self-reported popularity
- Frequency teen uses social media to appear more popular to others
- Frequency teen compliments friends on social media
- Whether someone they knew had sent them an inappropriate picture of themselves someone else known to the teen

In addition to these factors, we also controlled for a number of demographic and background characteristics, such as gender, race, household structure (e.g., two-parent home), household income, and parent's education. With the exception of the mixed race and other minority category (who were more distressed than whites), none of these background factors were significantly related to distress.

Overall, we did not find clear or simple relations between involvement with social media and psychological adjustment. There was no evidence that frequency of posting or commenting on social media is related to poor mental health. There were no correlations between psychological adjustment and numbers of followers, friends, number of posts, or social media usage. However, we did find that the frequency of lurking was significantly related to distress (H2): compared to a typical teen in our sample (who checks social media 2-5 times a day on schooldays), those who check 26-50 and 51-100 times a day are 28% and 37% more distressed, on average, and the nearly 10% of teens who check more than 100 times a day are expected to be 47% more distressed, on average. We found similar results for weekend lurking in a separate analysis (also plotted in H2). We caution these results do not necessarily indicate causal relationships, and can only conclude that there is a correlation between lurking and distress. In general, the relation between social media and psychological adjustment was more subtle, and depended on reasons for involvement with social media and other characteristics of individual adolescents.
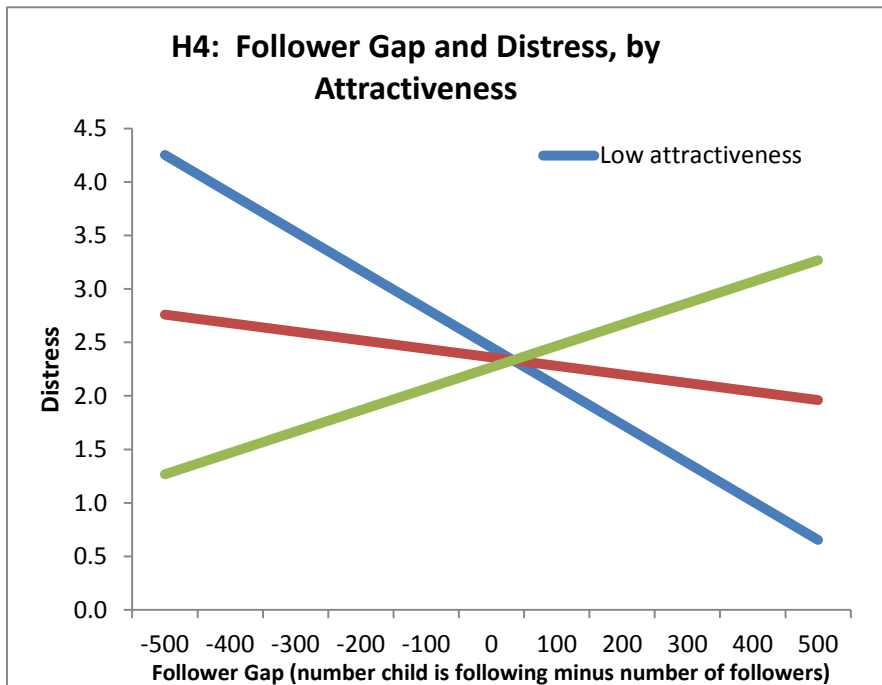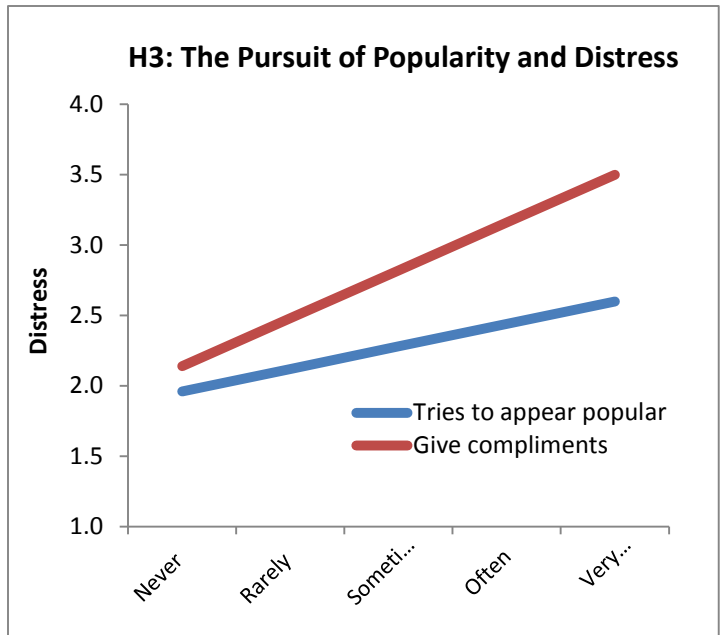


H2: Lurking And Distress
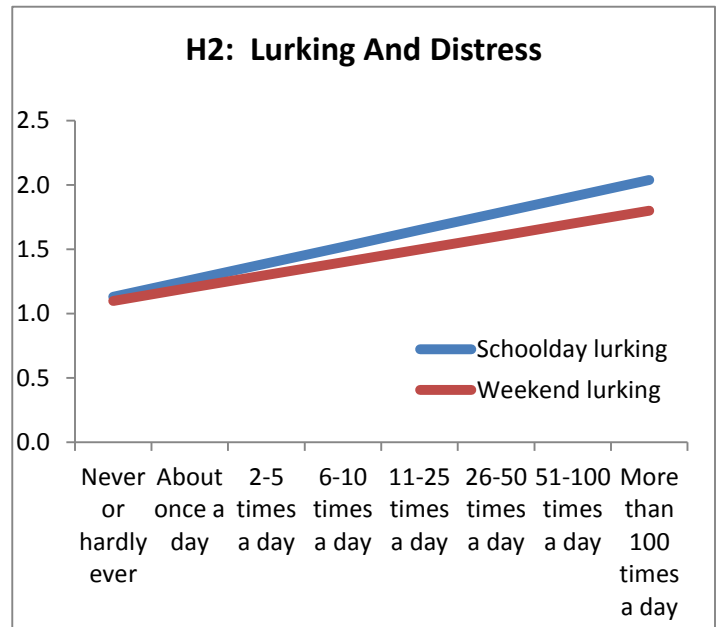
*Peers and Popularity*

Although one's total number of friends and followers on social media was unrelated to well-being, we found, perhaps unsurprisingly, that social media activity (during the weeklong coding period) indicative of popularity was associated with lower levels of distress: those coded at the highest level of popularity were half as distressed as the average teen in our sample. We also found that self-reported popularity was negatively related to distress: a teen who reported being "very popular" was just 27% as distressed as a teen "in the middle."

We observed a sharp disparity between those who had attained popularity and those who sought it. Teens who reported using social media to <u>appear</u> more popular were more distressed, on average, as were teens who frequently gave compliments to their friends—a behavior that can seem like a desperate attempt to garner compliments in return (Figure H2). Additionally, adolescents who frequently attempted to redirect attention to themselves on social media (according to our coding of a full week of activity) were 37% more distressed than the average teen in our sample.



H3: The Pursuit of Popularity and Distress

We also found complex results with respect to physical attractiveness (a strong correlate of popularity) and an adolescent's "follower gap", defined as the total number of people they follow on social media minus the number who follow them (e.g., negative values imply the teen follows fewer people than follow him or her). Because teens in our sample invariably reported wanting more followers, a gap can indicate that their social media audience is smaller than they would like. Surprisingly, neither this follower gap nor physical attractiveness (as rated by three independent coders) alone were linked to distress. However, these two factors combined to produce divergent effects on distress:  whereas attractive teens who had more followers than they followed experienced very low levels of distress, attractive teens with large follower gaps were significantly more distressed than their less attractive peers (Figure H3).  Perhaps this is because their expectations or desires for social media attention are more positive because it such a visual medium, and because attractive youth may elicit such positive reactions from others in offline social environments (Langlois et al., 2000). It is possible that physically attractive teens both desire and expect large social media followings, and so are disappointed when their audience is smaller than anticipated.



H4:  Follower Gap and Distress, by Attractiveness

These teens may also be quite insecure about their appearance; one attractive teen reported taking over one hundred selfies before she was satisfied with one and could post it.

Finally, we asked adolescents whether they had ever received an "inappropriate picture of themselves or someone else you know." Fifteen percent of teens had received such photos, and, controlling for other factors, they were almost 50% more distressed than those who had not.

*Parents*

We were also interested in examining how parental involvement with children's social media related to the 13-year-olds' adjustment.  We found that merely being friends with children on social media was insufficient to protect them

17

**H5: Conflict and Distress, By Parental Monitoring**
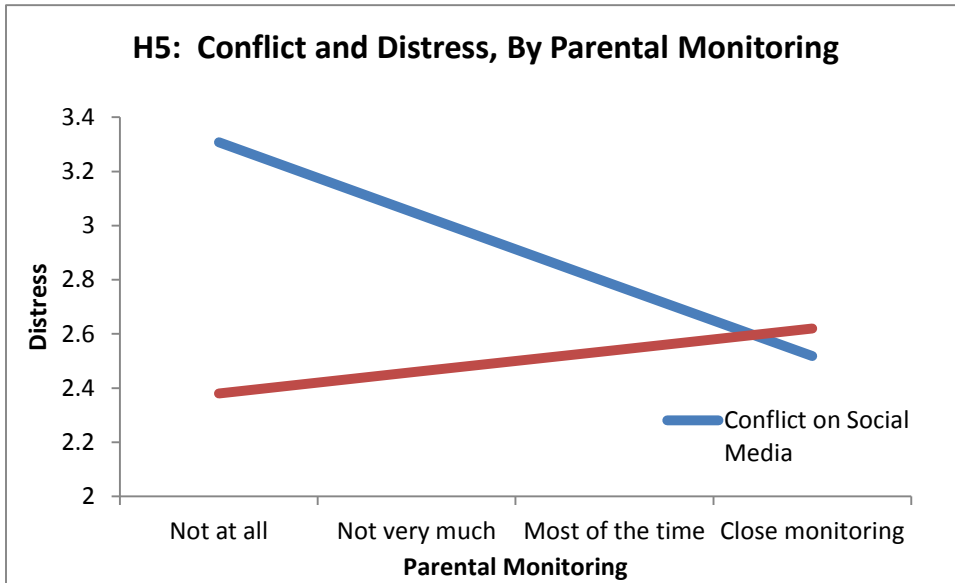


from distress, as these teens were no less distressed than others. This may be due to the fact that teens reported that some of their most upsetting experiences with social media were so subtle that their parents may not have been able to see them from reading the child's social media feed, for example, seeing pictures of friends doing things without you, seeing parties you are not invited to, or feeling hurt by how many likes and comments friends' posts get in comparison to yours. However, parental monitoring appeared to make a difference, though primarily for 13-year-olds who had experienced conflicts on social media. Teens who had experienced conflict were significantly more distressed than others, but mainly when their parents were not monitoring their online activities (Figure H4).

## I. Conclusion

This study of the hidden world of adolescent peer culture revealed by Instagram, Twitter, and Facebook found that 13-year-olds care deeply about their online social interactions, at least as much and perhaps even more than some of their face-to-face interactions. The teens in this study were fervently involved in social media, not because they were addicted to the technology, but because they are addicted to each other (boyd, 2014). Social media offers the peer connection and affirmation of peer status that young adolescents crave. Teens read social media content more frequently than they themselves post, in part because they are desperate to know what friends are doing and who they are doing it with, for fear of missing out (FOMO) and as a way to gauge their own social status. Relationships cultivated via social media are real social relationships, often extensions of offline friendships. Thirteen-year-olds reported that the most frequent source of online conflicts was friends. A great source of social pain experienced from social media was feeling excluded by seeing pictures of friends at social gatherings to which they were not invited. Young adolescents fervently hope to fit in with their peer groups, and are constantly seeking information about the extent to which they fit in and are liked. Social media provides something akin to rocket fuel for this normal developmental need; young adolescents can constantly and immediately gauge their own and others' social status by monitoring social media for followers, likes, favorite, retweets, and friends.

By all accounts, parents know little about adolescents' intense engagement with social media. And, even parents who monitor carefully by reading their children's social media feeds may miss the hurtful nature of some of the content: the pictures of gatherings of friends to which your child was not invited, the discrepancy between the number of likes and comments your child's posts receive in relation to others' posts, and the efforts to invite peer reinforcement that do not yield much positive response. Still, our results suggest that 13-year-olds benefit from parents trying to monitor their social media activities. At low levels of parental monitoring, conflicts on social media are strongly linked to distress, but when parents engaged in close monitoring, the relationship between social media conflicts and distress disappeared.

Perhaps the most surprising results of our study related to which groups of 13-year-olds were most vulnerable to negative effects of social media. One group highly vulnerable to distress related to social media was highly attractive youth who followed many more people than who followed them; for attractive teens only, having a larger follower gap was related to reporting more emotional distress. Another group vulnerable to negative effects of social media was youth who use social media to be popular. These social media platforms may be so attractive to youth because they offer easy ways to constantly monitor one's own social status, so it is worrisome that youth who report using social media to try to be more popular are about 25% more distressed than other youth.

Concerns about the possible negative effects of social media must be qualified by the fact that much of the online content we observed was positive. Young adolescents in this study reported that social media makes them feel good sometimes (40%), often (40%), or very often (4%). Adults who care about adolescents should invest time and energy in socializing teens to use social media for good, to encourage and support others, and to exercise positive leadership.

References

boyd, d.  (2014). *It's Complicated:  The social lives of networked teens.*    New Haven, CT:  Yale University Press.

Consumer Reports (June, 2011).  *Online exposure:  Social networks, mobile phones, and scams can threaten your security.*

Ehrenreich, S.E., Beron, K.J., Brinkley, D.Y., & Underwood, M.K.  (2014). Family predictors of continuity and change in social and physical aggression from ages 9- 18. *Aggressive Behavior, 40,* 421-439.  doi: 10.1002/ab.21535

Ehrenreich, S.E., Underwood, M.K., & Ackerman, R.   (2014). Adolescents' text message communication and growth in antisocial behavior across the first year of high school.  *Journal of Abnormal Child Psychology, 42,* 251-264.  .  doi: 10.1007/s10802-013-9783-3

Faris, R. & Felmlee, D. (2014). Casualties of social combat: School networks of peer victimization and their consequences. *American Sociological Review, 79,* 228-257.  doi: 10.1177/0003122414524573

Faris, R. (2012). Aggression, exclusivity, and status attainment in interpersonal networks.  *Social Forces*, *90*, 1207-1235.  doi: 10.1093/sf/sos074

Faris, R & Felmlee. D. (2011). "Status Struggles: Network Centrality and Gender Segregation in Same- and Cross-Gender Aggression." *American Sociological Review,* 76:1:48-73.

Gottman, J. & Mettetal, G.  (1986). Speculations about social and affective development:  Friendship and acquaintanceship through adolescence.  In J.M.  Gottman & J.G. Parker (Eds.), *Conversations with friends:  Speculations on affective development* (pp. 192-237).  New York:  Cambridge University Press.

Greenfield, P. & Yan, Z.  (2006). Children, adolescents, and the internet: A new field of inquiry in developmental psychology.  *Developmental Psychology, 2006*, 391-394.  Doi:  10.1037/0012-1649.42.3.391

Guan, S.A., & Subrahmanyam, K.  (2009).  Youth internet use:  Risks and opportunities.  *Currrent Opinion in Psychiatry, 22,*351-356.

Internet Safety Technical Task Force.  (2008). Enhancing child safety & online technologies:  Final report to the multi-state working group on social networking of State Attorneys Gender of the United States.  Retrieved July 20, 2009, from http://cyber.law.harvard.edu/sites/cyber.law.harvard.edu/files/ISTTF_Final_Report.pdf .

Kowalski, R.M., Giumetti, G.W., Schroeder, A.N., Lattaner, M.R.  (2014). Bullying in the digital age:  A critical review and meta-analysis of cyberbullying among youth.  *Psychological Bulletin, 140*, 1072-1137.  http://dx.doi.org/10.1037/a0035618

Langlois, J.H., Kalakanis, L., Rubenstein, A.J., Larson, A., Hallam, M., & Smooth, M.  (2000). Maxims or myths of beauty?  A meta-analytic and theoretical review.  *Psychological Bulletin, 126,* 390 – 423.  doi: 10.1037//0033-2909.126.3.390

Lenhart, A.  (2015). Teen, social media, and technology overview 2015.  Retrieved from http://www.pewinternet.org/2015/04/09/teens-social-media-technology-2015/

Lenhart, A., Madden, M., Smith, A., Purcell, P., Zickuhr, K., & Rainie, L. (2011). Teens, Kindness and Cruelty on Social Network Sites: How American teens navigate the new world of "digital citizenship", downloaded from http://pewinternet.org/Reports/2011/Teens-and-social-media.aspx

Madden, M., Lenhart, A., Cortesi, S., Gasser, U., Duggan, M., Smith, A., & Beaton, M.  (2013). Teens, social media, and privacy.  http://www.pewinternet.org/Reports/2013/Teens-Social-Media-And-Privacy/Main-Report/Part-1.aspx

O'Keeffe, G.S., Clarke-Pearson, K., & American Academy of Pediatrics Council on Communications and Media.  (2011). Clinical report – The impact of social media on children, adolescence, and families.  *Pediatrics, 127,* 800 – 804, doi:  10.1542/peds.2011-0054

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013), "Motivational, emotional, and behavioral correlates of fear of missing out." *Computers in Human Behavior* **29** (4): 1841–1848.  doi: 10.1016/j.chb.2013.02.014

Simmons, R.  (2014). The secret language of girls on Instagram.  *Time*, retrieved from http://time.com/3559340/instagram-tween-girls/

Subrahmanyam, K. & Greenfield, P.  (2008). Online communication and adolescent relationships. *The Future of Children, 18,* 119 – 146. doi:  10.1353/foc.0.0006

Subrahmanyam, K., Smahel, D., & Greenfield, P.  (2006). Connecting developmental constructions to the Internet: Identity presentation and sexual exploration in online teen chat rooms.  *Developmental Psychology, 42,* 395-406. doi:  10.1037/0012-1649.42.3.395

Underwood, M. K.  (2003). *Social Aggression among Girls*.  NY:  Guilford Press.

Underwood, M.K. & Card, N.A.  (2013). Moving beyond tradition and convenience: Suggestions for useful methods for cyberbullying research.  In S. Bauman, D. Cross, & J. Walker (Eds.), *Principles of Cyberbullying Research* (pp.

125-140). London, UK:  Routledge and Psychology Press.

Underwood, M.K., Ehrenreich, S.E., More, D., Solis, J.S., & Brinkley, D.Y.  (2015). The BlackBerry Project:  The hidden world of adolescents' text messaging and relations with internalizing symptoms.  *Journal of Research on Adolescence, 25,* 101-117.  doi: 10.1111/jora.12101

Underwood, M.K*.,* Rosen, L.H., More, D., Ehrenreich, S., & Gentsch, J.K.  (2012). The BlackBerry Project:  Capturing the content of adolescents' electronic communication.  *Developmental Psychology, 48,* 295-302.  doi: 10.1037/a0025914