

**Young People and New Media: A Grounded Model for
Connecting Communication Channels and Social Ties in Social Media Engagement**

*David Zemmels, PhD, MFA
School of Mass Communication
Loyola University New Orleans*

Introduction

This activity-based pilot study of American teens (13-17 years of age) was designed to enhance understanding of their engagement with new media in networked spaces and the everyday practices that surround their participation by answering such questions as: How do youth, particularly teens, use new media technologies in their daily lives; What meanings do they attach to the technologies and their uses of them; and, How do the technology, usage, and meanings participate in the constitution of their identities? These questions are not new. They are asked of all communication media as each emerges into society, but *new media*, defined here as Internet and mobile phone-based digitalized forms of communication, entertainment, and information, pose new challenges for research in particular and society in general.

Answers to these questions were sought in the auto-ethnographic reports of a panel of teen respondents. Each participant received a laptop for one week, where oral reports and on-screen activities were recorded by the computer as respondents participated in the networked public space of the Internet. Using a qualitative grounded approach to data analysis (Glaser & Strauss, 1967; Strauss & Corbin, 1990), the activities were coded and analyzed for insights into how the teen respondents developed and maintained strategies for navigating the complexities of

social participation in new media spaces and how they use networked technologies to engage in social interactions.

The focus of this report is a result of the study suggesting a model of the relationship between the relative *co-presence* of interpersonal communication channels and the *social ties* between participants in a social interaction. This relationship represents a significant structuring influence on communication practices of youth in networked publics. After coding and analysis grounded data was complete, a return of the literature provided support for these results in theories that understand media in terms of *social presence* (Short, Williams, & Christie, 1976) and their relative *richness* (R.L. Daft & Lengel, 1984), and *social ties* theory (Granovetter, 1973). The latter is an analytic framework for studying social relationships between individuals and within organizations, the relevance of which was further demonstrated by the study because of evidence that study participants manipulated the affordances and limitations of specific SNS technologies to compensate for the relatively limited ability to differentiate those same social ties: As Gilbert and Karahalios (2009) note, “Social media treats all users the same: trusted friend or total stranger, with little or nothing in between” (p. 1).

First, the theoretical and methodological orientations of the study are outlined, and then a major code theme that emerged as the results of the grounded approach is discussed in the context of the theoretical perspectives of social presence, media richness, and social ties. The model for communication practices suggested by the theme brings together and expands on these theoretical perspectives.

Theoretical Orientation

Per grounded theory, this study set aside traditional frameworks and *a priori* conceptions about media influences and youth audiences’ relationship to new media. This approach is

appropriate with regard to online and mobile networked forms of socializing among young people because traditional media studies theories fail to acknowledge the lived experience of childhood and the child's relationship to media (Drotner & Livingstone, 2008; Heim, Brandtzeig, Kaare, Endestad, & Torgersen, 2007; Ito, 2010; Livingstone, 2002; Selwyn, 2003; Steele & Brown, 1995; Wartella & Jennings, 2000). The voice of young people themselves is often missing from media and audience research, although there are notable exceptions (for example, boyd, 2008b; Ito, 2010; Livingstone, 2008).

This study recognizes and examines youth as a social and cultural category in order to fully account for the role of new media in their daily lives (Livingstone, 2002; Wartella & Jennings, 2000). Media undoubtedly have an influence on the way youth think, act, and learn, and therefore participate in the social construction and maintenance of youth identity and culture, but the influences are understood as reciprocal (Hall, 1980; Livingstone & Bovill, 2001). The influence of media becomes a circular rather than a linear process of media participation in everyday life: "That daily life represents both the start and the end of this process serves to underline its cyclic nature; technologies both arise from, and find their place within, the conditions, practices, and meanings of ordinary people's lives" (Livingstone, 2002, p. 47).

Methodology

This study employed protocol analysis methodology and a unique application of technology tools to collect data on how the teen respondents developed and maintained strategies for navigating the complexities of new media participation.

With protocol analysis, study participants were asked to orally report on what they were experiencing (Ericsson & Simon, 1993), in order to "verbalize their thoughts in a manner that does not alter the sequence and content of thoughts mediating the completion of a task and

therefore should reflect immediately available information during thinking” (Ericsson, 2006, p. 227). A hybrid form was employed in this project because the goal was not an analysis of thinking processes related to assigned tasks, but of the “thought sequences” of the participants in the moment of their engagement with new media.

Study participants were given a laptop computer with software to access the Internet, but also to record their activities and oral reports. The laptop computers documented the study participants’ activities in real-time and in the context of difficult-to-observe private domains that make up the participants’ everyday lives. The methodology provided unique access to the “content, context, and communicants,” where Anderson and Meyer (1988) argued that meaning is made.

This protocol analysis used the experience sampling method (ESM), which is a set of techniques to document human behaviors, thoughts, or feelings as they occur in real-time. Larson and Csikszentmihalyi (1983) coined the term to refer to any assessment of experiences having three characteristics: in natural settings, in real-time, and on repeated occasions. The sample data can include “naïve” accounts of events because validity comes from repetition, not specific responses (Csikszentmihalyi & Larson, 1987).

Typically, subjects are asked to self-report in response to any number of signals or cues, but in this study, the participants were asked to self-report on particular events in naturally occurring new media activities. The oral reports and activities online were recorded and stored together on a study laptop for analysis. The participant choose what to report, making each report an indicator of what was considered important or pertinent during online activities. Reports and actions were cross-coded to help make these connections. This hybrid implementation of ESM

has been referred to as “image-based experience sampling” (Intille, Kukla, & Ma, 2002) and is appropriate when stopping to report disrupts the flow of users’ activity.

Participants

The study was conducted over a 10-week period between late May 2010 and mid-July 2010. Eleven young people ranging in age from 13 to 17 were selected: Four young men, and seven young women. Two of the male respondents were African-American, one female respondent was Euro-Asian-American and the rest were Euro-American. All live in the City of New Orleans and attend four different public and private schools in the area.

The small sample was primarily a result of the quantity of equipment available and the time frame allotted for the study. As a grounded pilot study, testing the methodology took priority over sample size and diversity as critical elements of the study.

Procedure

Each participant was given a laptop computer for one week with the Microsoft Explorer web browser and other communication and graphic software. Also installed was *Morae*, by TechSmith, a usability testing and user experience research software package that has three elements, of which two were used: the *Recorder* and the *Manager*. The *Recorder* captured, processed, and stored data from the user experience on the respondent’s study laptop computer. Upon the return of the laptop, data were transferred to a desktop office computer with the *Manager* for analysis.

Many of the inherent challenges of media audience research were mitigated by the use of this computer setup. The study laptop computer was both the point of access to online mediated networks *and* the instrument for capturing data on new media experiences and activities in the “natural context of their occurrence, among the actors who would naturally be participating in

the interaction, and follows the natural stream of everyday life” (Alder & Alder, 2000, p. 81).

The data represent contextualized and situated communicative practices as they are negotiated and enacted because the data collection instrument becomes a part of the study participants’ everyday lives. Since the laptops were portable, data about the participants’ experiences were captured in the context of several difficult-to-observe private domains that make up the participants’ everyday lives, like the home and the bedroom.

Data Analysis

Data consisted of more than 26 hours of recordings captured on the laptops. During the multistep coding process, it became clear there was a need to differentiate between the *use events* themselves—coded by case, episodes, and actions—and the study participants’ *reports*. Initially, the two texts were coded separately because *use events* were always actions and *reports* could be related to the actions, but often were not. Some reports were descriptions of the actions, while others could be talking about the friend they are chatting with, why “kids” like social media, how much they hate it when people do certain things online, and so on. The interrelation of these two coding processes was accounted for later in the axial coding step of the analysis.

For *use event* data, the *case* was the initiation of access to the Internet (opening a web browser), and the unit of analysis was the *episode* of visitation to a web site. This study coded 106 cases with the average number of cases per participant of 9.09. Two hundred-two (202) episodes, over the 106 cases, were coded by type of site and duration of the visit. Duration of episodes varied widely, from 15 seconds to 2 hours. Specific actions within an episode were also the object of coding, such as chatting, posting a status update, visiting a photo album, updating personal profile information, adding a Facebook friend, etc.

For *reportage* data, an oral report was the *case* and *thought structure* was the unit of analysis. A report was defined as a case if it represented at least one complete verbalized thought that related to the observed activities, and 896 cases were identified and coded. Reports on other topics unrelated to Internet use, such as relationship with parents or siblings, feelings about school, etc. were coded but not considered a case for analysis.

A complete thought could be structured to relate to a specific activity, but thought structures also could, and often were, a sequence with more than one complete thought: For example, the following oral report from the study contains several individual codes and a code theme relating to deliberately providing misinformation, using this particular practice to elicit responses, and criteria for online popularity and success in social media interactions:

VR-S-St (Verbal Report-Status-Status content)

Sonya (0001): I like lying in my statuses (De-Inf) because people are like freaking out. I love people's reactions to my statuses because no matter what, I always have a little comment or a little "like" symbol (VR-S-Not). I feel liked, I don't know why... I love when there are like 20 comments on my status. I'm like I'm so cool. People actually care.

De-Inf Deceptive-Misinformation

VR-S-Not Verbal Report-Status-Notifications

TH-Not Theme: Notifications/direct messages/like=popularity/cultural capital

After initial coding, conceptual groups of use event and report codes were organized to make coding more manageable, and then groups were placed into broad *categories*. Categories were combined and eventually reduced to four in the final codebook: *Interaction with Technology, Interactions in SNS (Social Network Sites), Oral Reports, and Strategies in Mediated Engagement*. Two conceptual code groups in the category, *Interactions in SNS*, constitute the code theme that is the topic of the discussion.

Results and Discussion

The results were brought together through theoretical level *axial coding* across the four categories outlined above, as described by Strauss and Corbin (1990) in their reconfiguration of the grounded approach. This process related conceptual groups and categories to each other, using both inductive and deductive thinking processes, to identify relationships and properties of the code groups for further analysis and look for common characteristics across categories.

Overall, ten code patterns and themes emerged from axial coding. One, a *leitmotiv* theme labeled *Level of Co-presence and Social Ties*, is the focus of this discussion. *Leitmotiv* is a term most often associated with music and literature, which refers to a dominant or recurring theme. The term is used here to clearly identify the dominant idea or theme that motivates participants' actions and dictates their choices, because the theme appeared to structure all the communication practices observed.

The implication of this theme is that the strength and nature of the social network tie strongly influences the choice of communication channel, and not particular attributes of any one channel, SNS, or attitudes toward particular social media by young people. An outcome of the coded actions and reports in this theme are some new tensions created by the constraints of the technological architectures of the SNS engaged by participants in this study.

This discussion continues by explicating the connections between the two conceptual code groups and how these led to the *leitmotiv* theme. That is followed by an explanation of the hierarchical structure identified in each conceptual group. The discussion is intertwined with the literature that was identified to supplement the study results derived from grounded data.

Throughout the rest of this document, a pseudo name and the case number in parentheses identify quotes from study participants, as in “Amy (0016).” Also, a capital underlined “F” is

used to denote online (mostly Facebook) “Friends,” and lower-case “f” when referencing offline friendships. The difference in the first letter is significant for this discussion, and will perhaps become more significant as social media evolve. The notion of “friend” is being disrupted by the term’s adoption by social network sites (SNS) and the outcome is still unclear (boyd, 2006).

Channels and Affiliations: The Ties That Bind Social Media

Table 1 is a thematically ordered matrix showing a connection made between two conceptual code groups. The left-side group, *Interaction with Other: Voice and Textual Engagement*, consists of coded data representing primarily offline (OF), mobile (CL), and textual (TX) engagement with others, and listed roughly in the order of priority and immediacy of each channel of social engagement as observed in the study. On the right, the group, *Interaction with Other: Social Ties*, consists of codes representing the type of social affiliation (AF) and roughly in the order of intimacy or closeness of the “social tie.” Social Tie Theory is discussed below. A hierarchy of communication preferences on the left has a horizontal relationship with the hierarchy of social affiliations on the right, as exhibited by the gray rows connecting the two groups.

As an example of how this relationship manifested itself in this pilot study, one participant cried out, while interacting with Facebook: “*Ooh, who's texting me. (Reads message on mobile phone) Ah, that boy is going to get it so fricking bad...*” After sending a text message back, she returned to Facebook. This report and her actions are an example of the seamless connection between online and offline actions and reports, but also the priority of the text message channel in terms of immediacy, as compared to the channels offered by Facebook. Participation in the less immediate and less intimate experience of Facebook halted upon reception of the more immediate and more intimate text message, probably from a close friend

Table 1: Interactions in SNS

Interaction with Other - Voice and Textual Engagement		Interaction with Other - Social Ties	
HI Co-presence	Private - 1 to 1/few Public/Ntwk - 1 to all	AF	Affiliations
OF	OF-Fam/Fri Talking/sharing w/Family/Friend	AF-C	SNS & Non-SNS strong ties
	OF-Phone Landline phone		close friends
CL	Cellular Engagement Off-line		immediate family
	CL-Vc voice		extended family in same age group
	CL-Tx text		
Vid	Vid-Ch chat video/conf.		
TX	Textual Engagement (UGC) On-line Messages		
	TX-Ch IM/chat	AF-P	SNS weak ties
	TX-DM direct mess		school peers
	TX-Cm post comment to other		extra-curricular
	TX-Cm-Wal post FB Wall (status)		neighborhood
	TX-Ry reply to comments		extended adult family
	TX-Tg tag photos		others in age group
	TX-Lk "like" (fb)		consequential strangers
	TX-Pk poke (fb)		
	TX-Sta provide status update		
	TX-Grp group (fb)		
	TX-Rel relationships (fb)		
	TX-App apps (fb)		
	TX-Shr "share" news/info (fb)		
	TX-Gi gift (fb apps)		
	TX-EM e-mail	AF-W	non-SNS weak ties
	TX-Doc attachments, etc.		teachers, coaches, bosses, strgrs
			ident. conf./security

Level of Priority & Immediacy-----> HIGH

Level of affiliation/social ties-----> strong

because of the apparent personal nature of the message. Further, as a 1-to-1 medium of expression, the text message allows for a more private form of communication, versus the networked publics of most OSN (Online Social Networking) message exchanges, like many of the SNS Facebook channels.

The logic of these hierarchies and the connections between the two conceptual code groups are discussed next, beginning with the role of face-to-face communication in a study of mediated communication practices.

Face-to-Face Versus Mediated Socializing

The study was of mediated online experience, but the hierarchy of priority in the first code category representing communication channels in Table 1 places offline communication at the top of the hierarchy. Participants seemed to make little distinction between on- and offline activities, and the various online channels. They moved seamlessly between them, so the coding process ultimately had to account for this. The data suggest that young people in this study seemed to privilege face-to-face engagement over online or mobile device forms of socializing. The evidence of this includes a sentiment that social media are too time consuming, almost a chore, as in this report:

Amy (0016): (reading out loud Facebook's login screen) *'Facebook helps you connect and share with people in your life.'* *More like Facebook is a time-sucker.*

Amy's statement, and others like it throughout this discussion, begins to address questions of the relationship between social media and youth culture. A rhetorical interpretation of the statement implies that she had other things she would prefer to do than spend time on Facebook. What were the other things? It was summer, so she had no homework. She did not have a job at that moment, so no time consideration there. She could be talking about family

time, although she referred in some reports to not wanting to deal with parents and siblings. That leaves face-to-face time with her friends as the likely suspect. That may be what is missing in the time spent on Facebook. At the very least, Facebook may not be to blame for her not spending time with friends, but it may be seen as a reminder that the experience is not the same as being with them in person.

Another clue is the days of the week that saw the most cases and episodes, as displayed in Table 2. Even though the study took place in the summer, so no school, weekends saw the least number of cases. Each had the laptop for seven to eight days, so over a weekend, but the pattern was consistent. Several participants referenced this idea, reporting that they were not online much because they had a fun weekend with their friends. This suggests that weekday online interaction is a substitute for the kinds of social activities possible on weekends when face-to-face isn't an option because of transportation issues, etc.

A rebuttal to this interpretation might be that when they are face-to-face, they simply did not have time, opportunity, or need for mediated socializing because of the face-to-face activities. However, there was evidence that they are not mutually exclusive activities: Sonya and Amy both went online with a friend in the room with them and others reported using their

Table 2: Cases by Time, Day, and Location					
Time		Day		Locations	
Morning (5-11a)	14	Monday	8	Public/Family	57
Mid-day (11a-5p)	37	Tuesday	20	Bedroom	44
Evening (5-11p)	51	Wednesday	23	Other	3
Night (11p-5a)	4	Thursday	24	Unknown	3
	106	Friday	15		107 ¹
		Saturday	11		
		Sunday	5		
			106		

1=Jake changed location during one case.

mobile device to access SNS while with friends. These activities also serve to further demonstrate the blurring of lines between on- and offline socializing.

Interrogating Theories of Mediated Co-presence and Social Ties

The distinct but intertwined conceptual groups displayed in Table 1 came from analysis of grounded data, but a return to the literature found theoretical support for the findings in a synthesis of the perspectives offered by media presence theories and social tie theory. Judith Donath (2004) confirms the relevance of a synthesis of these perspectives when she defined “sociable media” as “media that enhance communication and the formation of social ties among people” (p. 1).

The connection between communication channels and social relationships is supported by two additional closely related claims. First, the hierarchy of communication channel preferences in Table 1 also parallels the perceptual sense of *co-presence* of each channel, a dimension defined by levels of immediacy and intimacy. Second, the sense of co-presence can be used to map choice of communication channels to social tie strength between participants.

Presence and media. Research on social media in the context of social co-presence is limited. First, let us focus on the concept of *presence* in mediated experiences, which is the more common dimension used in media research. The production of *presence* has been conceptualized in mediated communication primarily by Computer Mediated Communication (CMC) researchers beginning in the 1970s. Successful media presence is often defined as the sense of “being there” (Riva, Davide, & IJsselsteijn, 2003), and CMC research focuses on how users compensate for the missing information. Research is devoted to comparing face-to-face communication to mediated interaction (Whittaker, 2003) and was conceived in a time when electronic communication was voice or text-only. These channels, by their very nature, constitute

the reduction of face-to-face social cues, which are assumed essential in efficient and effective communication. A lean, impoverished communication environment has been shown to lead to negative behaviors and misunderstandings (Lea, 1992; Sproull & Kiesler, 1986, 1991).

In particular, two distinct theoretical positions from CMC help to inform discussion of the study's findings in terms of supporting the significance of immediacy and intimacy in mediated communication. First, social presence theory (Short, et al., 1976) examines how different levels of social cues impact communication during synchronous interactions. They define social presence as “the degree of salience of the other person in a mediated interaction and the consequent salience of the interpersonal interaction” (p. 65). The focus is on the emotional phenomenon of social perception, but not the medium itself.

Second, media richness theory, introduced by Daft and Lengel (1984), focused directly on a medium and its richness, which is defined by its information carrying capacity. The research looked at primarily asynchronous communication channels and compared rich and lean media for their task solving abilities. As shown in Figure 1, Daft, Lengel, and Trevino (1987) outlined a media richness hierarchy which incorporates four media classifications in descending order of richness. The assumption is that increased information decreases uncertainty and equivocality.

Notably, there are distinct similarities between Daft, Lengel, and Trevino's (1987) diagram in Figure 1 to the hierarchy of social media channels in Table 1. However, the hierarchy in Table 1 reflects the relative immediacy and intimacy of the channels, as well as the rich or lean properties for conveying information. This connection suggests that the patterns of use found in this study provide a theoretical link between the constructs of synchronous emotional communication studied in social presence theory with asynchronous mediated communication under investigation in rich media theorizing.

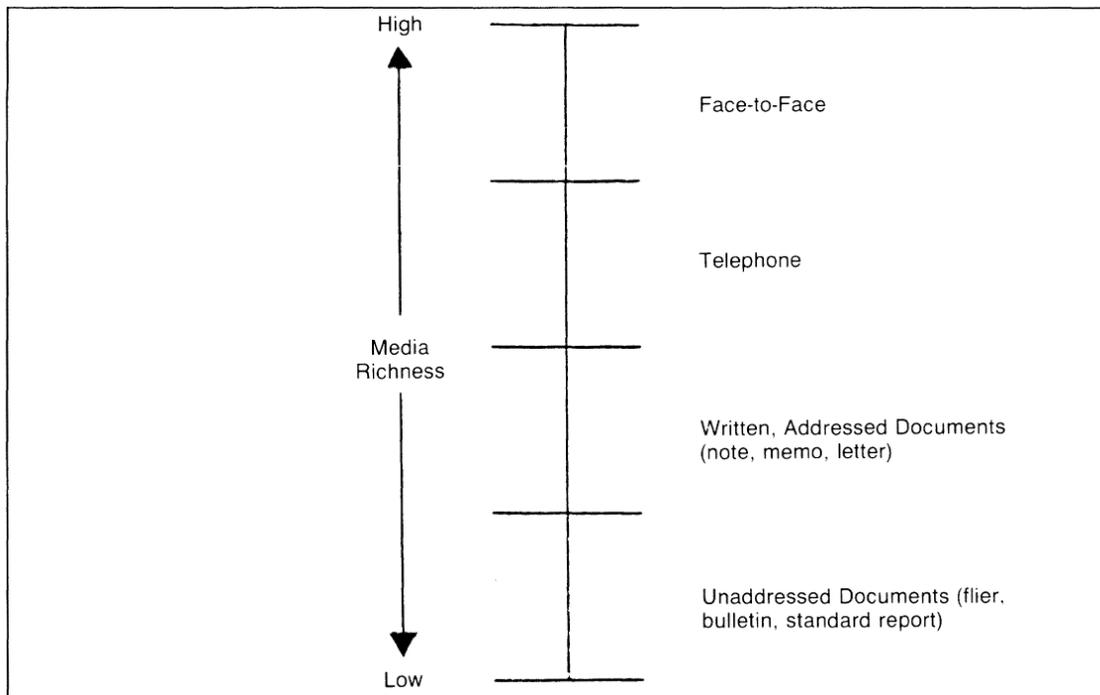


Figure 1: Hierarchy of Media Richness
Daft, Lengel, and Trevino (1987)

Copyright © 1987, Regents of the University of Minnesota. Used with permission.

Another research agenda for theorizing presence has been to improve the technologies as a means of improving the sense of presence in mediated experiences, such as in gaming environments and other visually immersive environments (Lee, 2004; Lombard & Ditton, 1997), which would make it less necessary to produce a positive aesthetic quality of social communication. But all of these research areas may not be able to completely solve the question of ideal mediated communication practices or conditions, and as discussed next, may not really be necessary with regard to social media.

Co-presence in mediated spaces.

The proposed model suggests that efforts to increase a sense of *presence* by replacing or compensating for missing social cues in mediated spaces may not be as necessary as assumed by the theoretical perspective discussed above. For the participants of this study, when face-to-face is not an option, they seemed to easily engage in mediated options without a noticeable sense of

loss or degradation of the experience, as long as they were satisfying their drive to communicate with others. Despite their relevance to the analysis of study data, social presence, rich media, and mediated presence perspectives were found to fall short when theorizing online-mediated social experiences because they do not account for the context: They do not, and perhaps ultimately cannot, take into account many other factors that affect the quality of online mediated communication. Deeply intertwined in mediated exchanges are factors such as familiarity with the technology, technological factors such as screen size and network speeds, knowledge of and relationship with others in the exchange, motivations for interacting, and social contexts of the interactions. Perhaps most importantly, they do not account for all the ways of maintaining and building social networks that we use in everyday life.

Further, the perspectives discussed above fail to recognize the “communication imperative” (Walther, 1994) that drives people to use media for interpersonal purposes. If people are driven to communicate, then perhaps people are more willing to develop strategies to overcome the barriers and limitations perceived as inherent in mediated interpersonal communication than is assumed. The model outlined here represents those tactics.

In a reconsideration of the dimension of presence, the sense of “being there,” as a primary element of successful social media interaction, perhaps a more useful way to conceptualize successful social media engagement is as the sense of “being with” others in online domains. The dimension of *co-presence* (Zhao & Elesh, 2008) represents the sense of *being with* someone, where the critical dimension for positive interactions in mediated communication environments is immediacy and intimacy, rather than the mere sense of being present at a particular place and time as someone else.

New media technologies have created even more channels for socialization than ever before. This model expands beyond the attributes and use of individual mediums and examines all available media channels in the context of “who is online with whom” (Haythornthwaite, 2005, p. 126), leading to social tie theory as an element of the model.

Social ties theory. Social media has reignited the debates over the influence of the media on community and society. Specifically, concerns about how online social media affect the offline community is a reemergence of a centuries-old debate about how large-scale social changes affect *social ties* between friends, neighbors, family, and work related connections in a community (Wellman & Leighton, 1979, review this debate).

Introduced by Mark Granovetter (1973), social tie theory has become an important analytic framework for studying social relationships between individuals and within organizations. Social tie theory assumes that all relationships are social, but not created equal. Strong ties are trusted friends and close family members, whose social circles overlap your own the most. Weak ties are loose acquaintances with only partial overlap with your own social circle, but are still important and valuable because they often provide access to novel and creative information and ideas (Burt, 1992; Granovetter, 1973).

Social tie theory is a useful lens for understanding online social interactions as well. As Haythornthwaite (2002) argues, “the strength of ties between communicators can help reconcile disparate results on the impact of new media on social relations” (p. 385). Much as people tend to select different means of communication based on the levels of social ties in offline social interaction, the study participants selected the channel—text messaging, e-mail, and Social Networking Sites (SNS), etc.—based on the social relationship with others.

Offline social life is a complex combination of friendship types; from close friends to

acquaintances to people you meet in day-to-day activities but really don't know well. The inability to differentiate between various levels of friendships and relationships was something missing in the privacy functions of SNS and several reports were coded for this pattern, which brings the "Affiliations" conceptual group into the *leitmotiv* theme and the tensions that result from limitations in SNS architectures. This pattern represented an aspect of problems with the one-size-fits-all privacy settings of Facebook, where every Friend has full access:

Sonya (0001): (sees suggested Friend and clicks) *Oh, (XX) she's really cool, like, she's nice, but she's kinda creepy.*

Tina (0002): (referring to a Friend) *I love her and I hate her. I love her. She's like one of my best friends, but she's just so popular. It's just so hard to keep up with her.*

Tina (0002): (referring to a Friend) *Oh jeez, (XX), I hate her, so slutty.*

Amy (0000): (looking at her list of Friends) *Just annoying having all these people... I didn't really know.*

Since this study, Facebook appears to have started to address this issue with the addition of "favorites" lists that allow the user some control over which Friends see what types of content. Despite these privacy changes, Facebook may not have significant motivation to address such issues because their trend is toward making user content more available, not less (boyd, 2008a).

New media technologies like SNS, mobile phones, and instant messenger are found to have key roles in reinforcing both close friendships and weaker peer group relationships (Boneva & Quinn, 2006; Gross, 2004; Subrahmanyam & Greenfield, 2008). However, scholars who have applied social network theory as an analytical framework for Internet-based communication find that OSN (Online Social Networking) help maintain strong ties, but do not appear to have

significant influence over them. Conversely, OSN do enhance and increase contact among weaker ties in online communities (Haythornthwaite, 2002) as well as offline ones (Hampton & Wellman, 2003). SNS are particularly well suited to enable broad networks of weak tie relationships and are unique in their ability to allow for many less intimate, more public, levels of interaction with weaker tie connections, which affects the quality and importance of such relationships. Facebook's popularity can probably be attributed to the opportunities it provides to interact widely with those outside the immediate circle of friends and family, or the weak tie peers.

Gilbert and Karahalios (2009) have been successful in applying social network theory to OSN research by developing a predictive model to distinguish between strong and weak ties with over 85% accuracy. Their conclusion is that fusing a tie strength model with social media design practices can greatly improve socio-technical systems of social media.

Luke provided some examples on the differences between strong tie friends and weak tie Friends in everyday OSN participation:

Luke (0003): *Uh, 467 Friends...At (school name), I saw like almost all of them almost every day, but now that I am going to (school name), like maybe 50 of them. The rest of them, I'll stay in touch with Facebook.*

Luke (0003): (referring to one of his Facebook Friends) *It's cool that he got Facebook because he's a really good friend of mine, I'm going to (school name) next year...so this is how we'll keep in touch since he doesn't have a phone.*

Mapping Social Ties onto Communication Channels and Practices

Table 1 brings together social co-presence and social ties theories by proposing that the hierarchy of strong to weak tie relationships have a direct influence on the choice of social media channels used and the priority of messages on those channels for youth engaged in mediated spaces. For the youth in this study, the more immediate and intimate lines of communication consistently were reserved for strong ties relationships and always had top priority for their attention. Weaker tie communication was accomplished through less immediate and intimate channels.

At the top of the hierarchy is offline communication. As discussed, study participants still seem to privilege face-to-face, offline social relationships over mediated ones. This represents the most potential for intimate and immediate channel for social communication.

Of mediated communication options, study participants gave priority to channels that represent one-to-one or one-to-few social interactions, as might be considered typical of most offline socializing. Indeed, OSN is still primarily used by young people to connect with friends they already know (Hargittai, 2008; Lenhart & Madden, 2007; Zhao, Grasmuck, & Martin, 2008). At this level of interaction, they appear to use social media to enact practices in ways that are similar to and support offline activities (Reich, Subrahmanyam, & Espinoza, 2012).

At the top of the hierarchy are mobile device channels, although assigning a priority to verbal conversations versus texting was difficult, which is discussed later. Following that are synchronous online communication technologies such as I/M and chat. In terms of producing a sense of co-presence, these two interpersonal channels for communication come closest to “being with” others, at least as is possible with the technologies observed in the study.

At the next level down are channels of communication that represent one-to-many message distribution methods. As such, they are more public, making them less intimate, and/or less immediate, thus presumably a “degraded” sense of co-presence. These channels tend to be used primarily for weak tie connections because such social ties do not necessarily require immediate and intimate forms of communication. Conversely, they remain important to young people because a distinct advantage to this level of mediated channels is they provide an alternative space for contemporary youth culture to be enacted. Luke (0003) helps to demonstrate this: *“Yeah, sometimes on Facebook we’ll kind of open up and say stuff on Facebook we would never really, uh, say in front of Mr. (XX), our social studies teacher...”* Luke’s statement does not necessarily mean that online engagement is preferred over offline face-to-face conversations, but it does express the value for youth of having a space in which they can talk without the eavesdropping of authority figures.

Thus, Facebook in particular presents youth with the advantage of building and maintaining connections that metaphorically resemble the publically co-present acts of “hanging out” at school, in coffee shops, and around shopping malls (Ito, 2010). For several decades, shopping malls were a primary location for supporting both weak tie bonds for youth (Crawford, 1992), but now teens are seen as nuisances in public places even as they are targeted as consumers (boyd, 2008c). Add to this the decline of public leisure facilities, after-school activities, and “street corner culture” (Livingstone, 2002), and these changes in teen social geography probably account for the apparent success of new weak tie but publically co-present channels of communication like Facebook’s wall-to-wall posts, status updates, pokes, like, and so on.

This discussion does not suggest that navigating between weak or strong ties channels are mutually exclusive activities. Many participants in this study actively cultivated weak ties affiliations through the more asynchronous modes of communication in the hierarchy, even as they were simultaneously engaged in conversations with close tie friends using more immediate and intimate channels.

Despite the hierarchy presented here, there was little evidence of the young people consciously assigning a value to the choices of communication channels, at least not explicitly. They appear to move seamlessly between them, choosing the one that is most convenient, or the one most appropriate given the recipient of the message, without much conscious thought.

Consequential Strangers as Social Ties

Toward the bottom of the hierarchy are channels for the very weakest social ties, which tend to involve people who were outside peer and family networks, and therefore not usually Friends on Facebook. These were SNS such as Yahoo Answers (answers.yahoo.com) and Formspring (formspring.me), which are well-suited to enabling broad networks of weak tie relationships formed and maintained in order to bring together the unique and complimentary functions of “consequential strangers” (Blau & Fingerman, 2009). Blau and Fingerman argue that relative strangers in our lives are far more important than we realize, from a car mechanic to someone we meet while walking the dog. When we have problems, they are more likely to help than close friends and family by providing meaning, comfort, social connections, and expose us to new ideas and perspectives. In other words, very weak tie consequential strangers provide some of the same benefits as intimate strong ties, as well as many other unique and complimentary functions and support systems.

One participant repeatedly demonstrated the importance to her of these diverse networks of consequential strangers. Seeking a way to deal with a recent disappointment over news about a problem, she reported, *“this is kind of stupid but I like looking up things that might help me, like, how to get over not... (types her question).”* Later, she reported, *“Going to Yahoo to see if anyone answered my question about my... [problem.]”* When she accessed her account, there was evidence that she had asked many questions seeking help with self-esteem issues, fighting with a friend, weight problems, and what to do about a “guy.” The consequential strangers she encountered clearly serve a meaningful purpose for her. The anonymity available in SNS of this type is likely the attraction for her, since she asked the kinds of questions that she might be uncomfortable asking of her strong tie friends and family.

Email as Communication Channel

For the study participants, email held the lowest priority in the communication channel hierarchy. Every participant had an email account, so it serves a necessary purpose, but for contacting a very limited range of communicants: people or organizations that are outside their social networks such as teachers, bosses, coaches, and others with whom they must communicate.

Young people seem to use email as a functional and formal communication channel. Email is probably perceived as the least co-present, so is not well suited for socializing. As such, it has little value to young people beyond functional interactions with adults and organizations. The study data suggest it is probably the only channel for mediated communication with these types of people for the participants.

A Mitigating Factor for the Channel Hierarchy

An apparent inversion, in some circumstances, existed at the top of the channel hierarchy of mobile phone versus textual engagement. If cellular-based talk and text are both at the top of this communication hierarchy of channels, then why do young people appear to prefer texting on their mobile phones rather than call their friends? Voice conversations would be a richer mediated experience and serve to reduce the impoverishment of social cues of other mediated communication channels.

The hierarchy proposed in Table 1 accounts for cellular-based talk or text while participants were engaged with the laptop only, so few claims can be made here about overall use of mobile devices for voice or text communication. While the study data provide little insight into this quandary, there is research suggesting that cellular-based talk and text have only recently become inverted from that shown in Table 1. According to a recent Pew study (Lenhart, Ling, Campbell, & Purcell, 2010), texting by American teens shot up in the 18 months before the report, from 38% texting daily in February 2008 to 54% in September 2009. Texting “has become the primary way that teens reach their friends, surpassing face-to-face contact, email, instant messaging and voice calling as the go-to daily communication tool for this age group” (Lenhart, et al., 2010, p. 2).

Conversely, the Pew study found that the hierarchy in Table 1 remains accurate with regard to family ties. Voice calling is still the preferred mode for reaching parents and siblings for most teens: 55% say they were most likely to talk by voice with brothers, sisters and other family, while 38% say they are most apt to text with other family members.

Two reasons may account for the inversion described in the Pew findings. Multitasking may provide one answer. Young people can and do carry on textual conversations with multiple

people at the same time, like in chat sessions in Facebook, but could only carry on one voice conversation at a time. The tyranny of traditional media has always been its linearity.

The second reason may be a question of control and privacy: youth may avoid voice calls because of the very intimacy and immediacy described above. Perhaps voice calls are seen as more invasive of personal space. The Pew study (Lenhart, et al., 2010) supports this notion by finding that youth use text messages to schedule voice calls because they believe that young people fear being seen as rude or intrusive for unannounced calls, a characteristic that directly relates to the immediacy of the channel of communication. This suggests that the co-presence and richness of voice communication is probably innately understood by youth, so they adapt their practices to accommodate this conflict.

Conclusion

A leitmotiv model of mediated socializing emerged from grounded data suggesting that the study participants have developed specific online practices in response to the one-size fits all approach to online Friend-based communities. Social tie theory has proved to be a useful analytical tool to understand certain practices observed in the study, especially when mapped onto the various forms of communication available for socializing. SNS do not typically allow for the multiple levels of social ties that exist in offline world, so young people choose from multiple channels of social communication to control communication to different levels of social ties in online socializing.

The model displays how young people in the study choose communication channels, but there was also evidence that study participants manipulated the affordances and limitations within each SNS technologies themselves to compensate for the relatively limited ability to differentiate those same social ties. Several study participants reported on how they designate

those friends closest to them on Facebook by listing them as relatives (spouse, sibling, cousin, etc.)

This pilot study was a snapshot in the rapidly changing environment of networked public and private spaces. Media researchers must recognize that new media practices tend to be much more migratory and fragmented than mass media ones, especially among young people. Changes in social media can disrupt communication systems, and established links between channel and tie strength can break down. As Haythornthwaite (2002) explains, “changes in media can also disrupt communication pathways and recast whole social networks” (p. 386). Haythornthwaite goes on to explain how weak tie bonds are more susceptible than strong ties, because strong ties typically use multiple communication channels to maintain ties, giving those communication networks some level of redundancy. Weak ties are more easily created in OSN, by simply accepting a request, but they are probably more easily broken, too.

Despite these migratory and fragmented practices associated with new media participation, the stable relationship this model proposes between specific communication channels and social ties in interpersonal communication is susceptible to change as technologies evolve, but the reasons for selecting channels should remain constant: The sense of co-presence as it relates to the tie strength of social relationships.

Looking to the future, the model suggests two trends in social media: more mobile and more visual (i.e., video chat and video messaging.) Although the study was conducted via laptop, mobile phones appear to be an essential ingredient in youth online socializing. Typical of such reports was Luke (0005); *“I haven't been on the computer for a couple of days because I've been working. I have been checking Facebook on my phone.”* Luke often reported using his mobile phone for online media:

Luke (0003): *But yah, you know, every once in a while I'll run into a computer.*

It's pretty cool having a laptop, but I go on the Internet a lot on my phone because it's small and I carry it with me.

Desktop access to social media may become obsolete if this trend continues, at least among young people. This would also serve to make research methods such as those used here less useful.

If the theorized relationship between co-presence and social ties are generalizable, then continuing this reasoning with newer SNS technologies suggests that video chat could be a central function in the future of social media. Study participants provided support for this in their actions because two downloaded and used video chat software on the study laptop.

Unfortunately, they conflicted with the *Morae* software, so those cases were not recorded, which demonstrates a definite limitation of the methodology employed here in the future.

Perhaps most significantly, this model for social communication is grounded in the voice of new media users, the young people who participated in the study, in partnership with the researcher, not simply as objects of study. As respondents, they were able to speak for themselves, providing a personal narrative of media use. As Lindlof and Taylor write, “narrative is absolutely central to art, spirituality, community, and a sense of self, and thus encodes human desire at the deepest levels” (p. 180).

Bibliography

- Alder, P. A., & Alder, P. (2000). Observational techniques. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage.
- Anderson, J. A., & Meyer, T. P. (1988). *Mediated Communication: A Social Action Perspective*. Newbury Park, CA: Sage.
- Blau, M., & Fingerman, K. L. (2009). *Consequential Strangers: People Who Don't Seem to Matter...But Really Do*. New York: W. W. Norton.
- Boneva, B. S., & Quinn, A. (2006). Teenage communication in the instant messaging era. In R. E. Kraut, S. Kiesler & I. Shklovski (Eds.), *Computers, phones, and the Internet: Domesticating information technology* (pp. 201-218). Oxford, England: Oxford University Press.
- boyd, d. (2006). Friends, Friendsters, and Top 8: Writing community into being on social network sites. *First Monday*, 11(12).
- boyd, d. (2008a). Facebook's Privacy Trainwreck: Exposure, Invasion, and Social Convergence. *Convergence: The International Journal of Research into New Media Technologies*, 14(1), 13-20.
- boyd, d. (2008b). *Taken out of context: American teen sociality in networked publics*. PhD, University of California, Berkeley, Berkeley, CA. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1344756
- boyd, d. (2008c). Why Youth ♥ Social Network Sites: The Role of Networked Publics in Teenage Life. In D. Buckingham (Ed.), *Youth, Identity, and Digital Media* (pp. 119-142). Cambridge, MA: The MIT Press.
- Burt, R. (1992). *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.
- Crawford, M. (1992). The World in a Shopping Mall. In M. Sorkin (Ed.), *Variations on a Theme Park: The New American City and the End of Public Space* (pp. 3–30). New York: Hill and Wang.
- Csikszentmihalyi, M., & Larson, R. (1987). Validity and Reliability of the Experience Sampling Method. *Journal of Nervous and Mental Disease*, 175, 526-536.
- Daft, R. L., & Lengel, R. H. (1984). Information Richness: A New Approach to Managerial Behavior and Organizational Design. In L. L. Cummings & B. M. Staw (Eds.), *Research in Organizational Behavior* (pp. 191-233). Homewood, IL: JAI Press.

- Daft, R. L., Lengel, R. H., & Trevino, L. K. (1987). Message Equivocality, Media Selection, and Manager Performance: Implications for Information Systems. *MIS Quarterly*, 11(3), 355-366.
- Donath, J. (2004). Sociable Media. In W. S. Bainbridge (Ed.), *The Encyclopedia of Human-Computer Interaction*. Great Barrington, MA: Berkshire Publishing Group.
- Drotner, K., & Livingstone, S. (2008). *The International Handbook of Children, Media, and Culture*. London; Thousand Oaks, CA: Sage.
- Ericsson, K. A. (2006). Protocol Analysis and Expert Thought: Concurrent Verbalizations of Thinking during Experts' Performance on Representative Tasks. In K. A. Ericsson, N. Charness, P. J. Feltovich & R. R. Hoffman (Eds.), *The Cambridge Handbook of Expertise and Expert Performance*. Oxford: Cambridge University Press.
- Ericsson, K. A., & Simon, H. A. (1993). *Protocol Analysis: Verbal Reports as Data* (Revised ed.). Cambridge, MA: The MIT Press.
- Gilbert, E., & Karahalios, K. (2009). *Predicting Tie Strength With Social Media*. Paper presented at the CHI 2009, Boston, MS.
- Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Piscataway, NJ: Aldine Transaction.
- Granovetter, M. (1973). The Strength of Weak Ties. *The American Journal of Sociology* 78(6), 1360-1380.
- Gross, E. F. (2004). Adolescent Internet use: What we expect, what teens report. *Journal of Applied Developmental Psychology*, 25(6), 633-649.
- Hall, S. (1980). Encoding/decoding. In S. Hall, D. Hobson, A. Lowe & P. Willis (Eds.), *Culture, Media, Language: Working Papers in Cultural Studies, 1972-79* (pp. 128-138). London: Hutchinson.
- Hampton, K., & Wellman, B. (2003). Neighboring in Netsville: How the Internet Supports Community and Social Capital in a Wired World. *City & Community*, 2(4), 277-311.
- Hargittai, E. (2008). Whose Space? Differences among Users and Non-Users of Social Network Sites. *Journal of Computer-Mediated Communication*, 13(1).
- Haythornthwaite, C. (2002). Strong, Weak, and Latent Ties and the Impact of New Media. *The Information Society*, 18, 385-401.
- Haythornthwaite, C. (2005). Social Networks and Internet Connectivity Effects. *Information, Communication & Society*, 8(2), 125-147.
- Heim, J., Brandtzeig, P. B., Kaare, B. H., Endestad, T., & Torgersen, L. (2007). Children's usage of media technologies and psychosocial factors. *New Media & Society*, 9(3), 425-454.

- Intille, S., Kukla, C., & Ma, X. (2002). *Eliciting User Preferences Using Image-Based Experience Sampling and Reflection*. Paper presented at the CHI 2002, Minneapolis, Minnesota.
- Ito, M. (Ed.). (2010). *Hanging Out, Messing Around, and Geeking Out: Kids Living and Learning with New Media*. Cambridge, MA: MIT Press.
- Larson, R., & Csikszentmihalyi, M. (1983). The experience sampling method. *New Directions for Methodology of Social and Behavioral Science*, 15, 41-56.
- Lea, M. (1992). *Contexts of Computer Mediated Communication*. New York: Harvester-Wheatsheaf.
- Lee, K. M. (2004). Presence, Explicated. *Communication Theory*, 14(1), 27-50.
- Lenhart, A., Ling, R., Campbell, S., & Purcell, K. (2010). *Teens and Mobile Phones*. Washington, DC: Pew Internet & American Life Project.
- Lenhart, A., & Madden, M. (2007). *Teens, Privacy and Online Social Networks*. Washington, DC: Pew Internet & American Life Project.
- Livingstone, S. (2002). *Young people and new media: childhood and the changing media environment* London; Thousand Oaks, CA: Sage.
- Livingstone, S. (2008). Taking risky opportunities in youthful content creation: teenagers' use of social networking sites for intimacy, privacy and self-expression. [Article]. *New Media & Society*, 10(3), 393-411.
- Livingstone, S., & Bovill, M. (2001). *Children and their Changing Media Environment: A European Comparative Study*. NJ: Lawrence Erlbaum Associates.
- Lombard, M., & Ditton, T. (1997). At the Heart of It All: The Concept of Presence. *Journal of Computer-Mediated Communication*, 3(2).
- Reich, S. M., Subrahmanyam, K., & Espinoza, G. (2012). Friending, IMing, and hanging out face-to-face: Overlap in adolescents' online and offline social networks. *Developmental Psychology*, 48(2), 356-368. doi: 10.1037/a0026980
- Riva, G., Davide, F., & IJsselsteijn, W. A. (2003). *Being There: Concepts, Effects and Measurements of User Presence in Synthetic Environments*. Burke, VA: IOS Press.
- Selwyn, N. (2003). 'Doing it for the kids': re-examining children, computers and the 'information society'. *Media, Culture & Society*, 27, 351-378.
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of communication*. New York: John Wiley & Sons.

- Sproull, L., & Kiesler, S. (1986). Reducing social context cues: electronic mail in organizational computing. *Management Science*, 32(11), 1492–1512.
- Sproull, L., & Kiesler, S. (1991). *Connections: New Ways of Working in the Networked Organization*. Cambridge, MA: MIT Press.
- Steele, J. R., & Brown, J. D. (1995). Adolescent Room Culture: Studing Media in the Context of Everyday Life. *Journal of Youth and Adolescence*, 24, 551-576.
- Strauss, A. C., & Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* (2 ed.). Thousand Oaks, CA: Sage.
- Subrahmanyam, K., & Greenfield, P. (2008). Online communication and adolescent relationships. *Children and Electronic Media*, 18(1), 119-146.
- Walther, J. B. (1994). Anticipated ongoing interaction versus channel effects on relational communication in computer-mediated interaction. *Communication Research*, 20(4), 473-501.
- Wartella, E., & Jennings, N. (2000). Children and Computers: New Technology, Old Concerns. *The Future of Children*, 10(2), 31-43.
- Wellman, B., & Leighton, B. (1979). Networks, Neighborhoods, and Communities: Approaches to the Study of the Community Question. *Urban Affairs Review*, 14(3), 363-390
- Whittaker, S. (2003). Theories and Methods in Mediated Communication. In A. C. Graesser, M. A. Gernsbacher & S. R. Goldman (Eds.), *The Handbook of Discourse Processes* (pp. 243-286). Mahwah, NJ: Lawrence Erlbaum.
- Zhao, S., & Elesh, D. (2008). Copresence as 'Being With': Social contact in online public domains *Information, Communication & Society*, 11(4), 565 - 583.
- Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on facebook: Digital empowerment in anchored relationships. *Computers in Human Behavior*, 24, 1816-1836.