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Micro Social Networks: Building Bonding Capital Online

New forms of social interaction have been developed rapidly in the last decade. With the introduction of text messaging, social networking and video chatting, along with dozens of other technologies, came excitement that new technology would help us stay in touch with friends and relatives. Many believe that these new technologies enable us to be more social, to share more with friends, and to develop our personal relationships. Others are perhaps more skeptical. Although it is unclear whether the use of these technologies truly improves relationships, technology is certainly changing the way we interact with each other. Many competing conclusions have been drawn about the usefulness of social networking sites (SNS) in building human relationships, but recent research which differentiates between use patterns provides greater insight into relationships which exist online.

The concept of social capital, discussed in detail in Robert Putnam's book, *Bowling Alone*, provides a useful framework for discussing the effects of social networking on relationships. Putnam differentiates between two types of social capital, *bonding* and *bridging* (22). Bonding capital is the form of social capital which describes the development of strong personal relationships, while bridging capital describes weaker ties which may connect us with acquaintances. A trend is emerging in research which distinguishes between types of social capital formed using social networking sites. Although social networks may be useful in building *bridging* social capital, most current research shows that their use does not lead to an

increase in an individual's *bonding* social capital. The use of social networking sites may be useful for maintaining relationships, and interacting with acquaintances, but it does not lead to closer personal relationships.

Most studies which draw this conclusion have focused on conventional social networks, such as Twitter or Facebook. Currently, micro-social networks, which attempt to capture a focused subset of a user's social connections, including Path, are being introduced. Path purports to offer a more personal network for sharing with those whom we have close relationships with, in an attempt to build bonding social capital. Path limits the number of allowed contacts based on Robin Dunbar's research which introduced the concept of a fixed cognitive limit upon the number of stable relationships one may maintain ("Coevolution" 692). This research places the limit somewhere between 150 and 200 ("Coevolution" 692). Path correspondingly limits users to maintaining a maximum of 150 friends. In order to examine the potential effectiveness of Path in building *bonding* social capital, an understanding of the failings of existing conventional social networks in building this form social capital is needed.

Failings of Conventional SNS in Building Bonding Social Capital

Most social network users amass a relatively large number of online connections on the sites compared to the so-called Dunbar number, a mean of approximately 180–250 friends (Burke et al., Pollet et al., Ellison et al.). These online friends don't necessarily equate to real-world connections. Research performed by Thomas Pollet, Sam Roberts, and Robin Dunbar indicates no correlation between increased social network use and number of offline relationships. To perform this study, Pollet et al. divided the offline social networks of participants into three sub-groups, the support group, sympathy group, and an outer layer containing the remainder of offline network members. The support group represents friends

which were contacted weekly and scored high on an emotional support measure (Pollet et al. 254). "The size of the online social network did not correlate with the size of any layer of the offline social network," reported Pollet et al. (255). Friends in the support group would provide the participant with increased bonding capital. However, increased online social network size did not correlate with more members of this group. Pollet et al. also tracked the number of friends which a user contacted weekly on online social networking. Results indicated an average of fourteen individuals weekly, but "the size of contacts contacted weekly online via SNS also did not correlate with the size of any network layer" (Pollet et al. 255). Finally, Pollet et al. collected data about time spent on social networking sites. Although increased time may allow for increased contact with online friends, perhaps explaining the correlation between time spent on social networking sites and number of online contacts, this time did not affect any of the offline layers. "The amount of time spent on IM [Instant Messenger] or SNS did not correlate with emotional closeness at any network layer" (Pollet et al. 255-256). Furthermore, users of social networking sites did not report increased closeness with their sympathy groups, showing that they did not have greater bonding capital. The lack of correlation between use of social networking, measured with time or behavioral characteristics, and amount of bonding capital demonstrates that social network users do not have closer personal relationships.

The effect of social networks on personal relationships, or lack thereof, may be better validated by examining changes in relationships over time for social network users. Although somewhat more difficult to perform, longitudinal research which surveys social network users to determine if their online behaviors lead to increased social capital is becoming available. Cameron Marlow, a Facebook employee, assisted Moria Burke and Robert Kraut of Carnegie Mellon University in comparing the use of Facebook obtained through the server logs to survey

data collected twice over a period of eight months. The server log data was used to separate behavior of users into three subcategories: "directed communication with individual friends," "passive consumption of social news," and "broadcasting" (Burke et al. 572-573). The survey data provided researchers with an indication of the amount of bridging and bonding social capital users possessed (575). Their findings indicated that use of Facebook did lead to increased social capital. Doubling of inbound communications was found to increase the calculated bridging capital score of a user (out of 5) by .14 points, comparable to an increase in social capital felt by users moving to a new city (576). Interestingly, Burke et al. found that directed communication had significantly more impact on increased bridging social capital than other behavior on Facebook, suggesting that broadcasting capabilities of social networking sites are less useful in building any type of relationship (576). Despite the usefulness of Facebook in building bridging capital, Burke et al. found that increased time spent on Facebook does not lead to more bonding social capital (576). Additionally, no type of differentiated site usage led to bonding capital growth (576). These results disagree with research performed using a cross sectional study. In a study of undergraduate students, bonding social capital was shown to correlate with intensity of Facebook usage (a combined measure of number of Facebook friends and time spent on Facebook) (Ellison et al. 1150-1159). The results showed that about 22% of the variance in users' bonding capital was accounted for by Facebook usage (1163). Although this result may seem to indicate that Facebook leads to greater bonding social capital, it simply shows that the two are associated. Ellison et al. did not perform a longitudinal study. Their results, combined with Burke et al.'s results which indicate that Facebook usage does not lead to increased bonding capital, may indicate that individuals with greater bonding capital have a tendency to use

Facebook more than other individuals, but this increased usage does not generate more bonding capital or closer personal relationships.

Micro Social Networks

Although Facebook and similar SNS have failed to generate increased bonding social capital, it is possible that the distinguishing characteristics of Path will positively affect users' bonding capital. Path makes strong claims to provide this functionality, and it is certainly its target use case. On the home page of Path's website, the service is described as "the place for your personal life," to be used with "the people in your life who matter most" (Path). Path's self-acclaimed company mission is to create happiness with tools which bring people closer together through "meaningful conversation" and "true connection" (Path). Path's website emphasizes the importance of authenticity and happiness in the communications on their social network. While these claims are part of marketing materials, the differentiating features of the application provide potential for a social network which does assist in building *bonding* capital.

Perhaps the most apparent differentiating feature of Path is the limitation of a user's network size. Every user is only allowed to maintain 150 friends on the service. This makes path a micro-social networking site (micro-SNS). For purpose of comparison, networks such as Facebook and Twitter, which don't have this limitation, may be considered conventional SNS. This number corresponds to Dunbar's number. Instead of focusing on increasing size, Path attempts to limit it. This limitation cannot hurt the potential of Path in building social capital due to the lack of correlation between with size of online social network and bonding capital (Pollet et al. 255). How can a limited network assist users in generating bonding social capital? Research performed by Bruno Gonçalves et al. developed a model of the behavior of Twitter users which reveals that smaller active network size correlates with a greater strength of directed

communication. They measured the amount of directed communication users sustained between other network users using replies, which direct a post to certain users, rather than the friend or follower relationship (2). Gonçalves et al. found that a user's maintained relationships reach a maximum "average social strength" when the user has active directed contact with between 100 and 200 of their friends, corresponding with Dunbar's number (2). Although Twitter users are able to follow as many users as they want, this data indicates that they will only be able to successfully maintain strong directed contact with 100 to 200 of them. Burke et al.'s research shows that only this directed contact has an effect on social capital growth on conventional SNS. Path's limited network size will enhance the ability of users to maintain directed communication between their friends, thus leading to social capital growth.

Although Burke's research only demonstrates that directed communication leads to bridging social capital growth on conventional SNS, Path's focus on a personal network has potential to provide bonding social capital growth as well. Path's marketing material and website focus heavily on the use of the service for personal relationships. Assuming users of the service are aware of this, and have knowledge of the 150 friends limitation, they will add friends who they are closest with to the service first. Path's application clearly displays the network size limitation when accessing the "friends" interface (fig. 1)[1]. Ellison et al. conclude that SNS users are significantly more likely to "maintain existing offline relationships" using the services. It is unlikely that users will use the sites to develop offline relationships from those initiated online
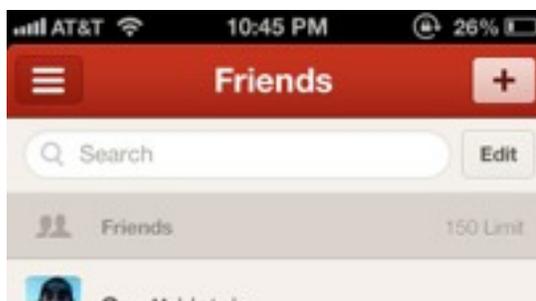
Figure 1: Path's display of friend count limits.

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[1] As of Path version 3.2.

(1155). Path users will follow this usage pattern, adding their offline friends to the network first. A feature known as "inner circle" encourages users to select a subset of their friends which they trust the most to share specific posts with. As a result of this, the network of Path users will be highly focused. Unlike conventional SNS, it is likely that Path users will curate their network to contain only their true friends, due to size limitations, marketing materials, and in-application interface features which encourage them to do so. This will result in a more trusted network of friends. A person will have greater trust in their friends than acquaintances whom they add on Facebook[2]. Social trust may be considered as a collective property of a social system which has the potential to raise social capital (Wu et al. 248). In a survey study of conventional SNS users, Wu et al. collected data which analyzed users' levels of bonding and bridging social capital and social trust on Facebook. "Social trust had a significantly positive correlation with bonding social capital and bridging social capital, indicating a higher level of social trust leads to better bonding social capital and bridging social capital," concludes the study (250). Putnam differentiates between two varieties of trust, "thin trust" and "thick trust." Thick trust is described as "embedded in personal relations that are strong, frequent, and nested in wider networks," whereas thin trust is described as "trust in the 'generalized other'" mostly to be shared between acquaintances (136). Putnam calls social trust "strongly associated" with social capital (136). It seems that thick trust draws a parallel with bonding social capital, as it is shared in more meaningful relationships. Path, contrasted with conventional SNS, builds a network which will contain a greater concentration of thick trust, provided that the members of users' networks contain friends with whom they share strong personal relationships, as the service

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[2] Ellison et al.'s research indicates that 80% of survey respondents consider total strangers at their university an audience for their Facebook profile (1156).

directs. This will greater enable users to build bonding social capital than on other services, such as Facebook, where trust is limited to the thin variety, as many friends are only acquaintances.

Another property of SNS which influences bonding capital is positivity of interactions on the site. In a study of teenager's experiences on Facebook conducted by June Ahn, about 20% of participants indicated that interactions were "neither positive or negative" (105). Mean scores indicated that the average positivity out of 5 was 4.27, corresponding with "sometimes positive" on the survey (101, 105). Ahn's study additionally collected information about respondents bonding and bridging capital. Notably, "positive experiences were significantly related to bonding social capital," but not to bridging social capital (105, 106). A network such as Path, which is significantly interested in building bonding social capital, must therefore maximize the amount of positive experiences on the site. Path's constraint of friend size helps increase the positivity of interactions. Negative or neutral interaction which survey respondents experienced on conventional SNS will be significantly mitigated or removed altogether by interacting with a network composed entirely of trusted friends. Path provides the framework for such a network.

Like conventional SNS, Path's functionality may be differentiated into categories similar to those used in Burke et al.'s study. Path allows users to conduct directed communication, broadcast, and browse. Burke et al. conclude that "as both inbound communication and consumption are tied to bridging social capital in some respect, features which stimulate these behaviors may lead to systemic increases in social capital" (579) They recommend the inclusion of directed communication features, such as liking on Facebook, to increase generation of bridging social capital (579). Under the assumption that these findings will apply to micro-SNS, and that Path will enable directed communication to build bonding capital due to the nature of a network with high trust and positivity, users who exhibit directed communication behavior on

Path could increase their bonding social capital in addition to bridging social capital. Path's feature set is consistent with the recommendations of Burke et al. in providing directed communication features. In fact, Path manages to turn broadcasting, which provides extremely low social capital growth, into directed communication (Burke et al. 576). When users on Path engage in the act of broadcasting, they are given the option of selecting which friends their broadcast will be sent to. They may choose their "inner circle" or a specific subset of friends to create a "private post." Most importantly, according to Path's own documentation of the features on their website, users who have been targeted in a private broadcast or inner circle broadcast will be aware of the directed nature of the incoming communication by the presence of a lock
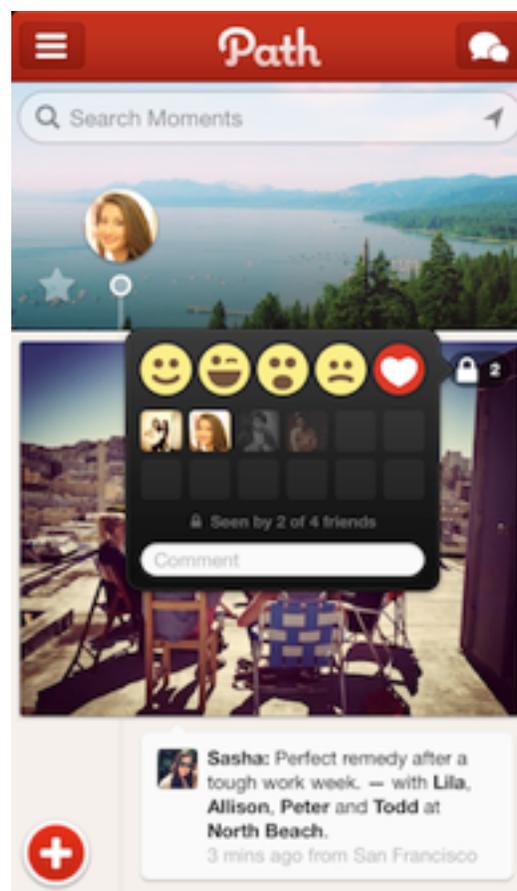
Figure 2: A private post in Path, indicated by the lock icon.

icon or star displayed in the interface (fig. 2). This is significant because Burke et al. have shown

that incoming directed communication is strongly associated with social capital increases (576). In order for broadcasts to become incoming directed communication, users must be aware that the broadcasts they are consuming were directed specifically to them. In addition to offering directed broadcasting features, Path also provides more lightweight directed communication features, which Burke et al. recommend (579). Users may reply to a post with comments, heart a post, or respond with other emoticons, such as smiles, winks, or surprise. Furthermore, in the comment area of the interface, Path indicates who has seen a broadcast. This converts passive consumption into directed communication. When a user sees that others have read their post, they are receiving a form of inbound directed communication. Thus, when users consume Path broadcasts, they are engaging in outbound directed communication.

Although conventional social networking sites offer little prospect in building true personal relationships, new micro-social networks like Path do. Path's specific differentiating feature set maximizes the qualities of SNS which could lead to bonding capital. Networks on Path contain a high amount of social trust and positivity, both factors which contribute to the growth of bonding capital. Based on the application of existing research regarding conventional social networking sites to Path, and assuming that users follow Path's recommended usage patterns of filling their network with personal relationships, it seems very likely that Path can help users build bonding social capital. In order to confirm these findings, the extensive body of research which has been performed on conventional social networking sites must be replicated on micro-social networking sites, perhaps using Path as a case study.

More than a decade ago, Putnam asked "whether 'virtual social capital' is itself a contradiction in terms" (170). Despite indications that Path may lead to increased bonding social capital, it is unlikely that this increased capital will be reflected in increased offline relationships.

Path has potential to increase bonding social capital by aiding users in maintaining relationships, but, like conventional social networking sites, will not turn casual relationships into close, personal ones. When the telephone was introduced, many speculated that it would "liberat[e] our intimate social networks from the constraints of physical space," but in reality it seemed to reinforce existing ties more so than distant ones (Putnam 168). Social networks serve us best when they perform the same purpose of strengthening existing ties. Path is better suited for this purpose than conventional social networking sites, as it provides a network which can affect bonding capital. In Putnam's calls to reverse the decline of social capital in many areas of American life, he asked the entertainment industry to "find ways to ensure that by 2010 Americans will spend less leisure time sitting passively alone in front of glowing screens and more time in active connection with our fellow citizens" (410). Perhaps Path is the social network which will finally encourage a return to real connections by fostering interaction between true friends. Path's emphasis on maintaining personal relationships will highlight our social ties in the real world, reminding us of the value of meaningful relationships.

3113 Words

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