

Making Friends with Strangers Online: Transitions Across Public, Bounded Private and Private Communications Channels

Yining Z. Malloch, Ph.D.
University of California, Davis

Laramie D. Taylor, Ph.D.
University of California, Davis

ABSTRACT: The study examined what communication channels people utilize in initiating and developing friendships with others in online communities, and if such connection is beneficial to individual well-being. A public (forum participation) - bounded private (forum messaging) - private (mobile phone) path of channel transitions was proposed based on social penetration theory. The study context was set in online substance addiction support communities. An online survey with 354 community members confirmed the proposed path. Forum messaging, but not mobile phone communication, contributed to health efficacy. Theoretical and practical implications were discussed.

Keywords: Communication Channels; Social Penetration Theory; Mobile Phone; Online Support Forum

Introduction

Online communities such as public forums offer a place for people to find similar others and form friendships (Peter et al., 2005; Walther & Boyd, 2002). Having close friends is important to individual well-being (Chan, 2015; Green-Hamann & Sherblom, 2014). How online relationships develop, therefore, becomes a crucial research question. Drawing on social penetration theory (Altman & Taylor, 1973; Taylor, 1968), this study tries to map the path of communication channel transitions when relationships progress. While much research has focused on online-offline modality switching in online dating (e.g., McEwan & Zanolla, 2013), friends meeting online do not necessarily meet offline; mediated communication remains the primary channel of interaction. The contribution of this study thus lies in decoding the specific communication media used to develop relationships that started in online settings. It also provides an alternative, “invisible” path that forum

users gain benefits, compared to the well-studied, “visible” path of benefiting through content sharing on the boards (e.g., Mo & Coulson, 2008).

Specifically, the context is set in substance addiction support forums. It is predicted that when members participate in these forums, they will identify a possible friend based on user-generated content (public channels). To initiate and develop the relationship, they will then engage in one-to-one conversations with the target through forum messaging (conceptualized as “bounded private channels”). When the interactants build intimacy, they will transit to mobile phone communication, an intrusive and private channel. Having close friends will eventually contribute to individuals’ well-being, as indicated by health efficacy in the current context.

Making Friends with Strangers in Public Forums

Dr. Yining Z. Malloch is a Research Associate of the Department of Communications at University of California, Davis. **Dr. Laramie Taylor** is a Professor of Communication at University of California, Davis. Please address all communication to the corresponding author Yining Z. Malloch, Department of Communication, University of California, Davis, Davis, CA 95616. Email: ymalloch@gmail.com

Many users of public forums are motivated to connect with others from the same community, and they are able to do so (Parks & Roberts, 1998; Peter et al., 2005). Connecting with others is a fundamental human need, and being with similar others provides a sense of belonging and acceptance (Thoits, 2011). Making friends online can compensate for a lack of social connections offline (Mesch & Talmud, 2006; Zywicki & Danowski, 2008). In health contexts such as substance addiction, people with similar situations can offer understanding that offline friends and family, lacking similar experiences, can ill offer (Walther & Boyd, 2002).

As suggested by social penetration theory (Taylor, 1968), the exchange of personal information pushes interpersonal relationships to progress. Intimacy level and the amount and range of information revealed increase as the relationship develops (Taylor, 1968). On- and offline, friendship develops through reciprocal self-disclosure (Gibbs et al., 2006; Peter et al., 2005).

However, not all communication channels are well-suited for self-disclosure (Altman & Taylor, 1973; Falk & Wagner, 1985). Increasing intimacy often involves migrating other online contexts or communication channels (McEwan & Zanolta, 2013). One-to-one communication channels indicate higher levels of privacy and intimacy than public channels (e.g., forum posting and commenting), and are therefore more likely to be utilized to develop close relationships than public channels (Bazarova, 2012; Jiang & Hancock, 2013). For example, dating relationships with online origins start with self-disclosure and identifying similarity with each other; then interactants send one-to-one private website messages; they finally progress to offline in-person meeting (Baker, 2008). Transitioning from public to private communication channels is likely to happen when the relationship becomes increasingly intimate.

In the current study, we further make a nuanced difference among different private channels and suggest a forum posting and commenting (public) – forum messaging (bounded private) – mobile phone (private) communication channel transition path.

Public, Bounded Private and Private Communication Channels

Making friends in online forums starts when a target is identified based on the target's activities in the forums. Disclosing private information, thoughts and emotions is prevalent in online communities (Malloch & Taylor, 2018; Rains et al., 2015). The self-disclosure in forum posting increases viewers' interest in building a relationship with the poster (Falk & Wagner, 1985).

Identifying the target thus requires active participation in the forum, including visiting the forum frequently, spending time browsing the forum and/or engaging in posting and commenting (e.g., Best & Krueger, 2006).

After identifying the target, people are likely to initiate one-to-one conversations with the target, and the private messaging that commonly built in forums is the ideal channel. Messages sent through the forum messaging are tailored to the specific recipient. A long text written for a specific person is much more meaningful for the recipient than browsing others' posts aiming at the wide public (Burke & Kraut, 2016). Additionally, forum messaging is a "bounded private communication channel" because forum messaging is dependent on the access to the forum, thus if the interactants do not go on the forum and check the inbox, the communication will be interrupted. Forum users can also remain anonymous rather than revealing real identities. Such characteristics make it easy for the interactants to withdraw from future interaction if any of the interactants loses interest in the other.

In sum, individuals identify the target through participating in online communities. Forum messaging will be utilized to interact with the target:

H1: Participation in forums (i.e., visit frequency, visit duration, types and duration of activities on the forum) is positively related to using forum private messaging to communicate with others from the forum.

Once interactants build trust and intimacy through forum messaging, they are likely to go one step further: connecting on mobile phone. Mobile phone (i.e., texting, calling) is commonly used to communicate with intimate social connections (Sheer, 2011). Mobile phone numbers are private information compared to online anonymous forum account (Barnes, 2006). Exchanging mobile phone numbers and texting on mobile phones thus implies high levels of trust and intimacy (e.g., Yang et al., 2014). Evidence shows that mobile phone communication is positively related to the number of friends one has and the closeness to one's friends (Chan, 2015; Ishii, 2017).

Compared to forum messaging, the bounded private channel, mobile phone is a private communication channel. Mobile phone is intrusive and calling and texting does not necessarily require the Internet (Choi & Toma, 2014). Mobile phones are portable media channels so that users can interact with each other whenever and wherever they want (Jiang & Hancock, 2013). Calling on the phone is real-time interaction (Baker, 2008). When people interact through calling and messaging on mobile phones, they are expecting a

reciprocal and dyadic conversation (Ishii, 2015; Quan-Haase & Young, 2010). Therefore, communication through mobile phones will be the third channel people utilize after talking on forum messaging:

H2: Using forum private messaging to connect with others from the health-related forum is positively related to using mobile phone to connect with them.

In sum, people will likely follow a public - bounded private - private trajectory in communication channels when making friends online.

Effects of Having Close Friends from Online: Health Efficacy

Having close and intimate friends can contribute to one's well-being (Chan, 2015). In health contexts, health efficacy is an important predictor of well-being for those who have adverse health conditions or concerns (Strecher et al., 1986). Health efficacy refers to the confidence in one's ability to actively deal with and improve the health condition (Lee et al., 2008).

Having close friends from online, as indicated by communicating through mobile phone, could be beneficial to health efficacy. Close friends who share the similar health concerns can provide encouragement, companionship, and comfort, which is beneficial to one's mental health and general satisfaction with life (Chan, 2015; Thoits, 2011). Similar others can also provide useful advice and role-modeling that is tailored to one's situation so that the distressed individual can effectively cope with the situation, indicating a positive effect on health efficacy (Thoits, 2011). As argued, communicating with intimate friends was mainly through mobile phones. Thus, mobile phone interaction can presumably enhance health efficacy.

Such a hypothesis is important as it proposes an alternative path through which forum members can benefit from the forum. Mounting research had documented how individuals were empowered by exchanging messages anonymously on the online public board (Coulson & Greenwood, 2012; Mo & Coulson, 2008). However, the need for connecting to similar others and expanding social networks (Tanis, 2008; Walther & Boyd, 2002) may not be sufficiently fulfilled by content exchange; the proposed communication channel transition facilitates such goals and ultimately contributes to coping.

H3: Communication with people from online health communities through mobile phone is positively related to health efficacy.

Method

Sample

An online survey was conducted on Amazon Mechanical Turk. Qualified participants had to 1) have used online support forums related to addiction, such as alcohol, nicotine, cannabis/marijuana, cocaine, or opioid in the last month; 2) be able to write down the name of the forum.

A total of 354 respondents finished the survey. There were more male than female respondents. Age of respondents ranged from 19 to 73 ($M = 30.38$, $SD = 8.12$). Most identified as Caucasian or Asian. The full demographics profile can be seen in Table 1.

Demographics of the Sample

Characteristics	Frequency	Proportion (%)
Sex		
Male	221	62.43
Female	133	37.57
Ethnicity		
African American	24	6.68
Asian	140	39.55
Caucasian	155	43.79
Hispanic	24	6.78
American Indian or Alaska Native	19	5.37
Native Hawaiian or Pacific Islander	6	1.69
Other	4	1.13
Education		
Less than high school degree	2	.56
High school graduate (high school diploma or equivalent including GED)	22	6.21
Some college but no degree	56	15.82
Associate degree in college (2-year)	35	9.89

Bachelor's degree in college (4-year)	169	47.74
Master's degree	67	18.93
Doctoral degree	3	.85
Professional degree (JD, MD)	0	0
Marital status		
Never married	161	45.48
Married	172	48.59
Separated	6	1.69
Divorced	11	3.11
Widowed	0	0
Other	4	1.13
Household Income		
Less than \$19,999	102	28.81
\$20,000 to \$49,999	126	35.59
\$50,000 to \$79,999	78	22.03
\$80,000 or more	48	13.57
Substance		
Alcohol	166	46.89
Nicotine (smoking/tobacco)	70	19.77
Amphetamine	12	3.39
Cannabis/marijuana	44	12.43
Cocaine	19	5.37
Ecstasy	4	1.13
Ethnobotanicals	3	.85
Magic mushrooms	10	2.82
Opioid (such as Oxycodone, Demerol, Vicadin, etc.)	15	4.24
Other	11	3.11
Addiction history		
Less than one year	89	25.14
One to two years	102	28.81

Two to three years	55	15.54
More than three years	95	26.84
Not sure	13	3.67

Note. Respondents were allowed to select more than one ethnicity choices.

Measures

Forum participation was measured on four dimensions: visit frequency, duration, forum activity and posting frequency (Batenburg & Das, 2015). Participants were asked on a typical week, how often they visited the forum on a scale from 1 = less than once a week to 5 = multiple times a day. Visit duration was rated on a scale from 1 = less than 10 minutes to 4 = more than one hour. Regarding forum activity, participants reported in last month, whether they: 1 = only read others' posts, 2 = responded to others' posts, 3 = started new topics, 4 = started new topic and responded to post. Finally, in post frequency, participants were asked to recall in last week, how often posted new topics from 1 = none to 4 = one time every day or more.

Forum messaging use was measured by three items: "I sent forum private messages to people on the forum", "I got forum private messages from people" and "I had conversations through forum private messages with people" (Cronbach's $\alpha = .92$). Items were rated on a seven-point Likert-type scale ranging from 1 = "never" to 7 = "quite often". A composite score was created by averaging the three items.

Mobile phone communication was rated on three items: "I know mobile phone numbers of someone from the forum", "I chatted on text messaging with people from the forum" and "I talked to people from the forum on the phone". Participants reported on a seven-point Likert-type scale ranging from 1 = "never" to 7 = "quite often". The items had good consistency (Cronbach's $\alpha = .95$). The mean of the three items was calculated to create a composite score.

Health efficacy was measured by a set of five items used in Keating and Rains' (2015) study on a seven point Likert-type scale ranging from 1 = "Completely disagree" to 7 = "Completely agree." An example item includes, "I am confident I can have a positive effect on my health." The measure showed good reliability (Cronbach's $\alpha = .86$). Items were averaged to create a single, composite score.

Demographics. Participants were asked to report their biological sex, age, ethnicity, income, marital status and education.

Results

Structural equation modeling was used to test the proposed model with the lavaan package in R. Forum participation was treated as four ordinal variables predicting forum messaging, which then led to mobile phone communication, which finally contributed to health efficacy. Fit indices and modification indices were obtained to improve the model fit. Correlations and descriptive data can be seen in Table 2.

Table 2

Correlations, Mean and Standard Deviation of Variables

	1	2	3	4	5	6	7
1. Visit frequency	1						
2. Visit duration	.30***	1					
3. Activity	.32***	.24***	1				
4. Posting frequency	.35***	.35***	.50***	1			
5. Forum messaging	.18***	.14**	.34***	.43***	1		
6. Mobile communication	.11*	.11*	.28***	.42***	.78***	1	
7. Health efficacy	-.03	.002	-.07	-.07	.14**	.06	1
M	2.21	2.16	1.88	1.91	3.87	3.49	5.21
SD	1.01	.73	.83	.87	1.68	1.93	1.03

Note. Entries of correlations are Pearson’s r. * p < .05, ** p < .01, *** p < .001

The original model had a fair fit: $\chi^2(9) = 30.21, p < .001, CFI = .95, RMSEA = .082, SRMR = .035$. Modification indices suggested that adding a path from forum messaging to health efficacy can improve the fit ($\Delta \chi^2(1) = 7.19, p < .01$). The post-Hoc model showed good fit: $\chi^2(8) = 23.03, p = .003, CFI = .96, RMSEA = .07, SRMR = .039$.

The post-hoc model (Figure 1) revealed that forum activity and post frequency were only two significant and positive predictors of forum messaging. Thus, H1 was partially supported. As predicted, forum messaging led to mobile phone communication (H2). Forum messaging, not mobile phone communication, had positive effects on health efficacy. Therefore, H3 was rejected.

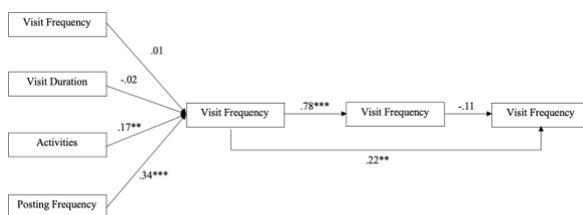


Figure 1. Path Model of Effects of Forum Participation on Health Efficacy. Entries are standardized regression coefficients; ** p < .01, *** p < .001;

Discussion

The study established the public – bounded private – private path of channel transitions in online friendship development. Bounded private channels such as forum

messaging created a comfortable self-disclosure space, but allowed interactants to easily withdraw from future interaction; private channels such as mobile phone are much more intrusive and intimate (Jiang et al., 2013; Sheer, 2011), signaling high trust and relationship closeness.

The study revealed that it was members’ forum activities and posting frequency rather than visit frequency and duration that contributed to the use of forum messaging. Active participants will likely be aware of what other members are like and how forum features work. Therefore, they are likely to identify a potential target from the community, and utilize the forum messaging feature to reach out.

Mobile phone conversations did not help with health efficacy. One reason could be that mobile phone communication, compared to forum messaging, no longer had the particular forum topic as the context, instead, interactants may discuss topics that were not relevant to the health condition anymore, thus exerting no effects on health-related outcomes.

Findings also indicate that participating in support communities does not necessarily have direct effects on individual well-being; rather, the participation facilitates health efficacy through enabling people to connect to others on forum messaging. Such results echo the finding on social capital gaining as the mediator between online social interaction and positive outcomes (Chan, 2015).

The study contributes to social penetration theory by revealing that for relationships initiated online, increasingly intense self-disclosure drove people to utilize intimate communication channels. Therefore, as relationship develops, communication channels also become more and more private and personal (Altman & Taylor, 1973). Regarding practical implications, health care practitioners can encourage patients to participate in online support groups and make connections through sending forum messaging. Forum managers can improve messaging features so that members find them easy to use.

Regarding implications for future research, individuals use forums in far more diverse and sophisticated ways than exchanging content on the public boards (e.g., Coulson & Greenwood, 2012). We revealed that members will utilize private messaging to make friends with members in the community. Future research can further explore some of the other activities users do in these communities.

Study limitations include only one type of online community, substance addiction support forums, was

examined. Researchers can test if the pattern of communication channel transitions will be consistent across different online communities. Other outcomes, in addition to health efficacy in the current study, could be included in exploring positive or negative effects of having online friendships. Even though structural equation modeling can provide some support to a sequential path model (Biddle & Marlin, 1987), longitudinal methods can be adopted to observe the channel transition patterns and infer the causal relationships.

References

Altman, I., & Taylor, D. (1973). *Social penetration: The development of interpersonal relationships* (Vol. viii). Holt, Rinehart & Winston.

Baker, A. (2008). Down the rabbit hole: The role of place in the initiation and development of online relationships. *Psychological Aspects of Cyberspace: Theory, Research, Applications*, 163-184.

Barnes, S. B. (2006). A privacy paradox: Social networking in the United States. *First Monday*, 11(9).

Batenburg, A., & Das, E. (2015). Virtual support communities and psychological well-being: The role of optimistic and pessimistic social comparison strategies. *Journal of Computer-Mediated Communication*, 20(6), 585-600. <https://doi.org/10.1111/jcc4.12131>

Bazarova, N. N. (2012). Public intimacy: Disclosure interpretation and social judgments on Facebook. *Journal of Communication*, 62(5), 815-832. <https://doi.org/10.1111/j.1460-2466.2012.01664.x>

Best, S. J., & Krueger, B. S. (2006). Online interactions and social capital: Distinguishing between new and existing ties. *Social Science Computer Review*, 24(4), 395-410.

Biddle, B. J., & Marlin, M. M. (1987). Causality, confirmation, credulity, and structural equation modeling. *Child Development*, 4-17. <https://doi.org/10.2307/1130287>

Burke, M., & Kraut, R. E. (2016). The relationship between Facebook use and well-being depends on communication type and tie strength. *Journal of Computer-Mediated Communication*, 21(4), 265-281.

Chan, M. (2015). Mobile phones and the good life: Examining the relationships among mobile use, social capital and subjective well-being. *New Media & Society*, 17(1), 96-113.

Choi, M., & Toma, C. L. (2014). Social sharing through interpersonal media: Patterns and effects on emotional well-being. *Computers in Human Behavior*, 36, 530-541.

Coulson, Neil. S., & Greenwood, N. (2012). Families affected by childhood cancer: An analysis of the provision of social support within online support groups. *Child: Care, Health and Development*, 38(6), 870-877. <https://doi.org/10.1111/j.1365-2214.2011.01316.x>

Falk, D. R., & Wagner, P. N. (1985). Intimacy of self-disclosure and response processes as factors affecting the development of interpersonal relationships. *The Journal of Social Psychology*, 125(5), 557-570.

Gibbs, J. L., Ellison, N. B., & Heino, R. D. (2006). Self-Presentation in Online Personals The Role of Anticipated Future Interaction, Self-Disclosure, and Perceived Success in Internet Dating. *Communication Research*, 33(2), 152-177. <https://doi.org/10.1177/0093650205285368>

Green-Hamann, S., & Sherblom, J. C. (2014). The influences of optimal matching and social capital on communicating support. *Journal of Health Communication*, 19(10), 1130-1144.

Ishii, K. (2015). Mobile Internet use in Japan: Text-message dependency and social relationships. In Z. Yan (Ed.), *Encyclopedia of Mobile Phone Behavior* (pp. 61-70). IGI Global. <http://www.igi-global.com/viewtitle.aspx?TitleId=130127>

Ishii, K. (2017). Online communication with strong ties and subjective well-being in Japan. *Computers in Human Behavior*, 66, 129-137.

Jiang, L. C., Bazarova, N. N., & Hancock, J. T. (2013). From perception to behavior: Disclosure reciprocity and the intensification of intimacy in computer-mediated communication. *Communication Research*, 40(1), 125-143. <https://doi.org/10.1177/0093650211405313>

Jiang, L. C., & Hancock, J. T. (2013). Absence makes the communication grow fonder: Geographic separation, interpersonal media, and intimacy in dating relationships. *Journal of Communication*, 63(3), 556-577.

Keating, D. M., & Rains, S. A. (2015). Health blogging and social support: A 3-year panel study. *Journal of Health Communication*, 20(12), 1449-1457. <https://doi.org/10.1080/10810730.2015.1033119>

- Lee, S. Y., Hwang, H., Hawkins, R., & Pingree, S. (2008). Interplay of negative emotion and health self-efficacy on the use of health information and its outcomes. *Communication Research, 33*(3), 358-381.
- Malloch, Y. Z., & Taylor, L. D. (2018). Emotional self-disclosure in online breast cancer support groups: Examining theme, reciprocity, and linguistic style matching. *Health Communication, 1*-10. <https://doi.org/10.1080/10410236.2018.1434737>
- McEwan, B., & Zanolta, D. (2013). When online meets offline: A field investigation of modality switching. *Computers in Human Behavior, 29*(4), 1565-1571. <https://doi.org/10.1016/j.chb.2013.01.020>
- Mesch, G. S., & Talmud, I. (2006). Online friendship formation, communication channels, and social closeness. *International Journal of Internet Science, 1*(1), 29-44.
- Mo, P. K. H., & Coulson, Neil. S. (2008). Exploring the Communication of Social Support within Virtual Communities: A Content Analysis of Messages Posted to an Online HIV/AIDS Support Group. *CyberPsychology & Behavior, 11*(3), 371-374. <https://doi.org/10.1089/cpb.2007.0118>
- Parks, M. R., & Roberts, L. D. (1998). Making MOOSic': The development of personal relationships on line and a comparison to their off-line counterparts. *Journal of Social and Personal Relationships, 15*(4), 517-537.
- Peter, J., Valkenburg, P. M., & Schouten, A. P. (2005). Developing a model of adolescent friendship formation on the Internet. *Cyberpsychology & Behavior, 8*(5), 423-430. <https://doi.org/10.1089/cpb.2005.8.423>
- Quan-Haase, A., & Young, A. L. (2010). Uses and Gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society, 30*(5), 350-361. <https://doi.org/10.1177/0270467610380009>
- Rains, S. A., Peterson, E. B., & Wright, K. (2015). Communicating social support in computer-mediated contexts: A meta-analytic review of content analyses examining support messages shared online among individuals coping with illness. *Communication Monographs, 82*(4), 403-430. <https://doi.org/10.1080/03637751.2015.1019530>
- Sheer, V. C. (2011). Teenagers' use of MSN features, discussion topics, and online friendship development: The impact of media richness and communication control. *Communication Quarterly, 59*(1), 82-103. <https://doi.org/10.1080/01463373.2010.525702>
- Strecher, V. J., McEvoy DeVellis, B., Becker, M. H., & Rosenstock, I. M. (1986). The role of self-efficacy in achieving health behavior change. *Health Education Quarterly, 13*(1), 73-92. <https://doi.org/10.1177/109019818601300108>
- Tanis, M. (2008). Health-related on-line forums: What's the big attraction? *Journal of Health Communication, 13*(7), 698-714.
- Taylor, D. (1968). The development of interpersonal relationships: Social penetration processes. *The Journal of Social Psychology, 75*(1), 79-90.
- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior, 52*(2), 145-161.
- Walther, J. B., & Boyd, S. (2002). Attraction to computer-mediated social support. In C. A. Lin & D. J. Atkin (Eds.), *Communication technology and society: Audience adoption and uses* (pp. 153-188). Cresskill. <https://msu.edu/~jwalther/docs/support.html>
- Yang, C., Brown, B. B., & Braun, M. T. (2014). From Facebook to cell calls: Layers of electronic intimacy in college students' interpersonal relationships. *New Media & Society, 16*(1), 5-23.
- Zywica, J., & Danowski, J. (2008). The faces of Facebookers: Investigating social enhancement and social compensation hypotheses; predicting Facebook™ and offline popularity from sociability and self-esteem, and mapping the meanings of popularity with semantic networks.

Journal of Computer-Mediated Communication, 14(1), 1-34. <https://doi.org/10.1111/j.1083-6101.2008.01429.x>