Boundary Regulation in Social Media

Frederic D. Stutzman and Woodrow N. Hartzog

The University of North Carolina at Chapel Hill

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Correspondence concerning this article should be addressed to Fred Stutzman, School of Information and Library Science, UNC-Chapel Hill, Chapel Hill, NC. Email: fred@fredstutzman.com

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Abstract

This research explore the creations and use of multiple profiles on a social media site as a communication boundary regulation mechanism. Utilizing grounded methods to analyze twenty theoretically-derived, semi-structured interviews, we identified three methods of boundary regulation: Two or more profiles on one site, use of privacy mechanisms to create functionally different audience zones, and the use of different social media tools for different audiences. Three types of boundary regulation in social media were identified. The first type, *pseudonymity*, was comprised of individuals who kept their identities private and unlinked. *Practical obscurity*, the second type, covered a majority of individuals studied. Individuals who utilize practical obscurity did not necessarily engage in concealment of identity, but they did not actively link between identities. Finally, those utilizing *transparent separations* created multiple, interlined identities largely for utility purposes. Our analysis of boundary regulation behavior identified four motives: Privacy, identity, utility and propriety. We hypothesize that individual motivational emphasis may predict the type of boundary regulation adopted. Finally, we evaluate boundary regulation for self-reported measures of efficacy and burden. We find mixed results; Level of technical skill or understanding may mediate efficacy, and size of friend network may mediate perceptions of burden.

Boundary Regulation in Social Media through Multiple Profile Maintenance

In recent years, social media tools have been adopted by increasingly heterogeneous populations in the United States (Jones & Fox, 2009; Lenhart, 2009) and abroad (Blake, 2008). These tools, once the domain of characteristically young, technical elite, have achieved mass adoption; their influence of their use ranges from everyday life (Ito et. al., 2008) to national politics (Gueorguieva, 2008; Kohut, 2008; Smith, 2009; Williams & Gulati, 2007). Within the social systems enacted through social media, the changing makeup of participants produces characteristic effects. As the composition of groups using a mediating technology change, changes are reflected in adjustments to group processes, motivations, goals and norms (Kiesler et al., 1984; McKenna, 2008).

A particular challenge that arises for users of social media is the management of group context. Whereas social media was once primarily the domain of the friend group, it is now common for users to interact with other social groups such as family members, coworkers, and past contacts. Users are challenged to balance the composition and volume of their disclosures to these heterogeneous groups (Lampinen et al., 2009; Skeels & Grudin, 2009). To address these challenges, users of social media might self-censor, limit group access, or utilize technical controls such as privacy settings and access control lists. The efficacy and long-term stability of such behavior is unknown, offering research opportunities.

This study explores a particular strategy of group context management in social media: the utilization of multiple profiles for boundary regulation. For the purpose of this study, we understand social media as a set of identity-centric information and communication technologies (ICT's) that enable the production and sharing of digital content in a mediated social setting.

This wide characterization covers technologies such as blogs, status-updating services, and social network sites. The majority of experiences described in this study occur in social network sites.

Of the many strategies for the management of group context in social media (Lampinen et al., 2009), the use of multiple profiles is one of the most identifiable. An individual engaging in multiple profile segmentation cleaves her social network and engages in multiple self-presentation in a single context. Using the boundary regulation theories of Altman (1975, 1977), Derlega and Chaikin (1976, 1977) and Petronio (1991, 2002), as well as socio-technical applications of the theory by Palen and Dourish (2003), we examine multiple profile maintenance as a context, boundary, and privacy regulation strategy.

To accomplish this goal, twenty individuals that maintained multiple profiles on a social media site were recruited and interviewed. Following the grounded approach (Glaser & Strauss, 1967; Strauss & Corbin, 1990), study participants were questioned about theoretically derived and emergent themes. In particular, we explored the methods and motives of multiple profile maintenance, we examined relevant social groups influencing multiple profile maintenance decisions, and we gauged participant self-evaluation of efficacy and burden of multiple profile maintenance.

In our analysis, we locate three methods of multiple profile maintenance. The first method is the creation of more than one profile on a social media site. The second method is the use of privacy settings to present different persona to multiple audiences. The third method involves the segmentation of audiences by social media site. We then identify a continuum of boundary-regulating privacy behaviors: multiple profile maintainers utilize pseudonymity, practical obscurity, and transparent segmentation to manage disclosure boundaries. We then identify four motives for multiple profile maintenance: Privacy, identity, utility and propriety.

These motives are explicated in the text. Finally, we evaluate participate perceptions of burden and efficacy; both evaluations are mixed, and mediating variables are produced to potentially explain directional variance.

Literature Review

Social Network Sites and Context Management

Although this study examines multiple profile maintenance in the context of social media, a majority of the observed behavior occurred in social network sites. A social network site, as defined by boyd and Ellison (2007), has three characteristic features. A social network site allows a user to 1) create a representational profile, 2) articulate their connections in the site, and 3) traverse those connections. As more people adopt social network sites, individuals may find that their contact list covers a broader range of group contexts. This increased coverage results in a merging of group contexts; In addition to the self-presentational challenges inherent in multiple contexts, individuals must also manage disclosure choices with respect to these multiple groups.

Individuals may use a number of strategies to manage the co-occurrence of multiple social contexts in an online social network. Lampinen et. al. (2009) identified two meta-strategies for the management of multiple group contexts in a social network site. A user may adopt behavioral strategies, including *division of the platform, channel selection*, and *self-censorship*. Alternately, a user may adopt mental strategies, such as the *creation of inclusive identities*, *trusting*, and *being more responsible with content creation* (p. 287). Skeels and Grudin (2009), in a situated analysis of social network sites in the workplace, find that tensions exist in the management of multiple social group boundaries. Participants indicated *use of* *privacy settings*, *content control*, and a desire to *maintain multiple networks* as management strategies (pp. 100-101). These tensions are manifest in a study by DiMicco and Millen (2007), in which genres of social network profiles are identified in relation to disclosure in the professional context. Individuals with more business-centric profiles had less personally-engaged profiles than those the authors termed "*Reliving the College Days*."

Information disclosure in social network sites has been extensively studied, with studies highlighting the disconnect between stated privacy goals and information sharing behavior (Acquisti & Gross, 2006; Ahern et al., 2007; Barnes, 2006; Chai et al., 2009; Christofides et al., 2009; Lewis et al., 2008; Stutzman, 2006). Recent work employing longitudinal modeling indicate increased awareness of privacy implications of social network site use, as well as increased management of disclosure behaviors (Lampe et al., 2008). Strategies for management of disclosure include increased use of social network site privacy features, as well as editing of the profile to portray a more acceptable image (Lampe et al., 2008). These changes in privacy behavior co-occur with the growth of popularity of social network sites, indicating a potential reaction to the merging of group contexts in the sites.

The goal of this particular study is to explore the process of boundary regulation in social media as manifest through the maintenance of multiple profiles. Within social media and social networking sites, there is variation in the particular affordances that enable such regulation, so we do not attempt to construct boundary regulation as a singularly technological process. Rather, we define and instance of boundary regulation in social media as the construction of multiple profiles to prevent the overlapping of social contexts.

Identity in Computer-Mediated Communication

In systems of computer-mediated communication, the individual constructs an identity within the specific affordances provided by the site. The choice of a username, the selection of an avatar, and a wide range of discursive activities contribute to an individual's perception and sense of self (Donath, 1999). The construction of an online identity is functional and representational. At a representational level, individuals make choices about how they want to be appraised. On a social network site, this appraisal comes from viewing the profile, related discursive practice, and the friend list, among others. Functionally, individuals make choices about how they want to be found, contacted and communicated with.

In the book *Life on the Screen*, Turkle (1996) presents the computer as a location for construction and experimentation with identity. Friendster, an early social network site, was popularized as a location for construction and experimentation with identity within select group contexts. As the site grew more popular, individuals experienced a collapse of contexts, in which heterogeneous social contexts were merged into a single space (boyd, 2007a). Experimentation with identity, as occurred on Friendster and Myspace, were critically dependent on normative support of pseudonymity. Importantly, not all sites support this norm; Facebook users we spoke to counter-indicated support for pseudonymity. Zhao et. al. (2008), describes Facebook as a *nonymous* environment, in which one's online identity is normatively linked to the offline identity. Studies of Facebook use at a number of colleges and universities support this finding (Bumgarner, 2007; Joinson, 2008; Lampe et al., 2006). The use of nonymous identities may prove beneficial for supportive (Ellison et al., 2007) and social-informational purposes (Joinson, 2008). At the same time, normative orientation towards "nonymy," may introduce complexities: As multiple offline contexts merge into a single online space, individuals are forced to strategize their optimal identity representation.

On a social network site, an individual may adopt a number of strategies for identity management. Functionally, individuals can use privacy settings, protecting their profiles from the gaze of certain individuals. Lewis et. al. (2008) found that privacy behaviors are influenced by both social and personal factors: individuals who participate in high-privacy networks may emulate this behavior. On a social network site, the unit of privacy is variable. Privacy can occur at the profile level, at the connection level, and the item level; Even with such fine-grained controls, the management of information disclosure in a multiple group context setting may prove to be cognitively and socially burdensome.

Boundary Regulation and Privacy

To explore the challenges of boundary regulation in social media, we consider the information regulation behaviors of individuals. Altman, writing about information regulation in communicative social interaction, defines privacy as the "selective control of access to the self" (Altman, 1975, pg. 24). Altman theorizes that privacy has five properties:

1. Privacy involves a mental process whereby we change how open or closed we are in response to changes in our internal states and external conditions.
2. There is a difference between actual and desired levels of privacy.
3. Privacy is a non-monotonic function, with an optimal level of privacy and the possibilities of too much privacy.
4. Privacy is bi-directional, involving inputs form others (e.g. noise) and outputs to others (e.g. oral communications.)

5. Privacy applies at the individual and group levels of analysis (Altman, 1975; Margulies, 2003).

Altman's concept of privacy regulation as an ongoing, discursive, optimizing process is particularly useful in the applied study of human-computer interaction. Palen and Dourish (2003) use Altman's privacy regulation study to analyze privacy issues in settings where information technology is present. The research concludes that "privacy management is a dynamic response to circumstance rather than a static enforcement of rules; that it is defined by a set of tensions between competing needs; and that technology can have many impacts, by way of disrupting boundaries, spanning them, establishing new ones, etc." (Palen & Dourish, 2003, p. 135).

Perhaps the two most relevant theories influenced by Altman's theory of privacy regulation are Petronio's Communications Privacy Management Theory (1991, 2002) and Derlega and Chaikin's Dual Boundary Concept (1976, 1977). These theories focus on the communication between the provider and recipient of private information, exploring how a recipient of personal information could violate an individual's sense of privacy. In a socio-technical system, communication boundaries can be established implicitly and explicitly. Implicit boundaries may be constructed through action, such as the creation of speech codes that signify in-group memberships Alternately, explicit boundary may be established with privacy settings, friending practices, or by obfuscating identifiers.

Drawing on Altman's conception of privacy as boundary management, this study explores a single practice in information regulation: the creation of multiple profiles as a boundary management practice. This particular practice reflects an extension of the "mirror profile" concept, in which the individual maintains two or more discrete identities on a single social media site. boyd (2007b) originally described mirror networks as a structural approach to privacy management utilized by young people. In mirror networks, individuals create a mirror profile - a highly sanitized version of the profile - and connect these mirror profiles to one another, creating the impression of authenticity. The main purpose of the mirror network identified in boyd's work was to avert parental gaze from the "true" profile.

Through the lens of Altman, the multiple profile represents an explicit boundary, through which communicative access is granted selectively to specific aspects of an individual's persona. Therefore, multiple profiles serve as locations for observable boundary regulation, which allow an explication with regards to Altman and colleagues' conceptions. Between the two (or more) profiles, individuals decide their goals for disclosure, regulate their communicants, and derive the optimizing process with regard to privacy goals.

Methodology

The concept of multiple profile adoption as a boundary regulation strategy represents a defined, observable instance of individual information and privacy regulation. It also represents an explicitly and observable segmentation of identity. Therefore, individuals who have adopted multiple profiles on social media sites are an interesting and defined population. In this study, we interviewed twenty individuals who engage in the maintenance of multiple profiles for the purpose of boundary regulation. We were interested in the practice of multiple profile maintenance, motivators for adoption of such a strategy, outcomes, and evaluation of efficacy.

Data for this study were collected via twenty semi-structured interviews with individuals who engage in multiple profile maintenance. Initial solicitation occurred through postings to listserves, blogs and social network sites. Second-stage referrals also resulted in successful recruitment. Due to the functionally clandestine nature of the population, we were not able to conduct a sample. However, the pool of respondents was analyzed, and interviewees were selected to achieve variation in age and gender.

Individuals were required to meet three criteria for participation in the study. First, they were required to maintain multiple profiles in a social media site. The mechanics of this behavior vary between sites, though we objectively required that individuals maintained two identities on a single site. Second, participants were required to have adopted the site within the last two years. This criteria was established to increase incidental recall - the participant's recollection of the process regarding the creation of multiple profiles. Third, participants were required to be age 24 or older. Young users of social network sites have been extensively studied, and we wished to contribute to an understanding of the experiences of a different population. Therefore, populations that exist outside of our criteria may have different experiences regarding the management of multiple profiles in social media sites.

The majority of interview questions, following grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990), were derived from review of the literature and extant theoretical models of communication boundary regulation. These questions were supplemented by a cluster of questions that utilized a human-computer interaction perspective to evaluate usability and perceived burden of the management of multiple profiles.

Interviews were conducted in-person or via phone, depending on the participant's preference. The researchers jointly conducted all interviews, and each interview lasted approximately one hour. Participants were compensated with a ten dollar gift certificate. Interviews were transcribed, and then a preliminary set of interviews were open coded with Atlas.Ti 6.0, a software package for qualitative data analysis. These interviews were used to establish a codebook. The remaining interviews were coded using the codebook, and in-vivo codes as they arose. Of the twenty participants, six were in their 20's, seven were in their 30's, six were in their 40's, and one was age 57. Twelve participants were female, and eight were male.

Findings

Methods of Boundary Regulation

We observed three discrete methods of boundary regulation in social media. The primary method is the creation of multiple profiles on the same service. A number of participants created multiple social media accounts on the same site (most common: Facebook and Twitter); These accounts were used for boundary regulation between different disclosure spheres in the individual's life. Another observed, but less explicit form of boundary regulation was the use of a single account with highly segmented privacy controls. For example, an individual may accept friend requests from multiple social groups, but use privacy controls to restrict the disclosure of personal content to one social group. Finally, we observed boundary regulation through "segmenting by site." This class of segmentation involves using different social media sites to engage with different audiences. Mary Ann, a business analyst, describes "segmentation by site":

"I view them completely separate. Because there are people that I meet on other places on the internet that maybe I just visit once or twice, but I'll tell them I have a Myspace profile and this is it - if you want to see more about me or something like that. I never give them my Facebook, ever. If it's not somebody that I personally know they don’t get on Facebook."

Boundaries were also regulated with regards to their linkages. A linkage is an explicit connection between profiles that crosses a boundary. Samuel, who works in business development, has two public Twitter accounts - one for personal reasons, and one for his business. He describes his linkages between the two accounts:

> "I decide what's appropriate for [my personal twitter] and what's appropriate for [my business twitter]. And then I stick with it. I may retweet occasionally, between the two, but not often. But I don't try and hide the fact that I'm one or the other. You know in my [personal] bio, I say something about [my business twitter]. So its not like I'm trying to hide my two different identities. I just think some things are appropriate for the people who follow [my personal twitter] and some things appropriate for the people who follow [my business twitter]."

Other participants went to lengths to prevent the discovery of linkages. Laura, a marketing manager who maintains a personal and professional Facebook account, makes sure there are no linkages between her two accounts. She complements this behavior with a second obfuscation strategy, using her maiden name on her personal Facebook account to ensure that professional contacts do not locate her personal account.

INSERT FIGURE 1 HERE

Linkages are also regulated between the profile and the individual. Different from cross-profile linkages, these linkages are the method through which the individual regulates access from the profile to the person. These linkages can be thought of as the chain of *data traces* that would connect a profile to an individual. Carl, a comedian who wishes to keep his stage identity completely separate from his personal identity, created a new email address and a full complement of social media profiles for his stage identity. This process completely disassociates the stage persona, allowing Carl to communicate as his persona, without linkages to his person.

Stephanie, a librarian, also manages her identity linkages through the association of multiple separate accounts with her persona. She says: "I have two different identities, I have a personal one. Facebook I think it's a little harder to do. I have one presence there but its geared towards my professional stuff, so its not, its hardly - there's not much personal information there. But, I do have a separate Flickr account, I pay for pro for both of them. I have separate Twitter accounts, I have separate Myspace pages, I have separate blogs."

Individuals also regulated boundaries by adjusting the degree of profile concealment. The most concealed profiles were *pseudonymous*. These profiles are fully disassociated from personally identifiable information, and they rely exclusively on a pseudonym for identification purposes [Note: While an "anonymous" profile represents highest degree of disassociation, the researchers feel that anonymity in socio-technical systems is theoretical]. The least concealed profiles were simply *transparent separations* that made no attempts to obscure either the real identity of the user or any other profiles the user maintained.

The bulk of individuals' profiles were regulated by a process identified as *practical obscurity*. Individuals relied largely upon the fact that, while not completely concealed, one or more profiles were obscured to the point that the individual felt their profile could not be located without at least some substantial investment of time or resolve. Practical obscurity can be achieved through a number of means including privacy settings, manipulation of search engines, pseudonymity and technological separation. Ellen, a systems analyst, does not use privacy settings on her profile. Instead, she signs her profile with an obscure variant of her name. Only members of her in-group are given access to the name, which is the key referent to the profile. Notably, it is possible that out-group observers could discover her profile through other means.

INSERT FIGURE 2 HERE

The observed methods of boundary regulation are consistent with a number of the theoretical provisions outlined by Altman. Primarily, these strategies are flexible, and optimizing in nature. Individuals crafted a set of strategies, within their technological limits and the limits of the site, to accomplish their disclosure regulation goals. It is likely that most of these methods could be further optimized.. Many of the strategies were dialectic in nature, through which the individual provided access to potential contacts through an ongoing communicative process (self-disclosure, access to specific codes or language, etc.).

Motives for Boundary Regulation

We identified four motives for boundary regulation in social media: Privacy, identity, utility, and propriety. These motivational themes contained sub-motives that connected with multiple themes, indicating the need for further explication. For example, individuals indicated that pseudonymity served as a way to protect their personal information, and as a way to express their innermost thoughts without fear of any negative consequences from attribution to the author. As a result, pseudonymity falls under both privacy and identity as a motivation for boundary regulation.

Privacy

For the purposes of this paper, the term privacy covers the penumbra of interests effectuated by selective control of access to the self or temporary withdrawal from the public domain as described by Altman (1975) and Westin (1967). A number of motivations were drawn from the individuals' desire to selectively control their own disclosures.

Some individuals felt that boundary regulation provided physical safety. Kelly, a journalist, was very conscious of the link between privacy and safety. She stated "I guess as a woman you kind of want to be gender neutral because it used to be that you had to be careful going online, because if you were a woman you would be the subject of all kinds of either stalking or spamming or, just, you know, its just not pleasant. So generally at first I would use gender neutral names and personas."

Several individuals also noted the dangers of posting about being away from home. Boundary regulation through multiple profiles allowed individuals to make disclosures to audiences they trust. Kelly stated, "I knew some young kids who tweeted 'I'm going to lunch at so and so' and they came back to their apartment and they had been robbed... Although there are other people who will go away on vacation and tweet all about it while they are gone. I assume they have an alarm system or an attack dog or neighbor checking out their house."

Others dedicated one of their profiles to disclosures they considered confidential. Ashley stated that when she first created her personal profile:

> "I'm only putting the information out there that I don't care if anybody sees it. They're not bad pictures. They are not obscene. It's not me standing there with a gun in my hand. I don't care who sees it. …My friend told me when people apply for jobs

> [potential employers are] searching your MySpace and your Facebook to see what you're like. And I said 'Now, wow, I never thought about that.' … So I went in and changed it so that only my friends could see it.

The privacy benefits of maintaining at least one pseudonymous profile are twofold. Pseudonymity both conceals information and encourages disclosure. Functioning as a shield, pseudonymity protects a user's personally identifiable information such as name, date of birth, address or contact information (Donath, 1999; Westin, 1967). As a result of the disassociation with the main identity, users are enabled to disclose without specific reservation. Robert, an instructional technologist, describes the use of pseudonymity as a shield:

> I've got [a religious thoughts] page where I'm anonymous. My wife and I blog there. We're just known as [redacted]…. … I don't want to be seen as 'Here's some spiritual guidance. Look to us for spiritual guidance.' Which his really not what we're trying to do. We don't want to be perceived as that. So we just don't say anything on that blog about who we are."

Identity

The most common identity-based motive for boundary regulation was to establish distinct professional and personal identities. Kelly, the journalist, created a separate professional identity using her real name "so that I could use that to be all about business, and to be all about not expressing an opinion on a news story or whatever else I would send out a link to. While I kept my [pseudononymous] profile, because that could be a place where I could have opinions, where I could express personal stuff."

Referring to her pseudononymous profile in the third-person, Kelly stated that with a pseudononymous Twitter profile, "you can be whatever you want." Beth, also a journalist, stated "on LinkedIn, I'm a little more professional... I tend to be little more professional with Facebook. I have realized my family is on there, and who I work with. I mean, it's personal, it's business, it's family. When I use Twitter for myself, I'm just me. There's no holds barred. Same with my blog. It's just me."

Utility

Many individuals were motivated by the utility of multiple profiles. Because of the division, they were able to more effectively promote, collaborate or coordinate their activities. Beth used one of her profiles to promote a restaurant that serves as a meeting place for users of the social media. Ashley uses one of her MySpace profiles to promote her employer, a school. "I'm not associated with it… I'm not even a friend because it was set up just for alumni. Since I don't hold a degree it doesn't make sense for me to be friend. And because you can control that, I do it." Ashley uses her Myspace account and a Facebook fanpage promotes the same school, but with different purpose: "Being able to control the MySpace really lets me target the audience."

Multiple profiles allow individuals to cater to their audience through segmentation based on the nature and quantity of disclosure. Kelly appreciated that one of her profiles allowed her to roam to any topic she wished and post as often as she liked, whereas her other profile was reserved for specific (and not excessive) posts related to journalism. She enjoyed not having to apologize for her off topic posts. She relayed the experience of a woman she was following on Twitter, "Who I think was sending notes all about gardens and garden sharing. But when all the Iran stuff came up, she just went off on that for probably two weeks. And apologized to her followers about, you know 'I'm sorry. I normally tweet about this, but, right now, I want to tweet about this.'" Deborah, a logistics expert, uses multiple profiles to segment volume of information disclosure: "If somebody on my personal Twitter says 'oh my gosh you are inundating me with too many updates,' I will tell them that they can follow my public profile that I update substantially less." Notably, Deborah also uses the profiles to segment her information consumption - logging in to the different profiles to access different "streams" of information.

Kelly was self-conscious that some of her readers might "feel as if they have to read everything" she posts, and that she could shepherd those followers to the profile where she exercised more discretion regarding post frequency and topic. "If it is an account I use for business [her real name account], I wanted to keep the message on point and I wanted to keep it not full of noise. I didn't want to talk about gardens or bears or anything like that. If somebody has gone to that account to get heads up about news stories that were coming in the [newspaper]. So it was an effort and understanding that there was a noise level a lot of people didn't like on Twitter, and they won't follow you if you're tweeting 20 times a day about stuff they don't care about."

Propriety

Finally, individuals often regulated boundaries out of a sense of propriety, defined here as a normative conformity to prevailing customs and usages. This was often linked to the user's position in a power structure. For example, many users would befriend their boss on their professional profile, but not their personal profile out of a sense that it was not customary for employees to have such candid relationships with their boss.

Individuals with personal and professional profiles reported several attempts for those in the business realm to gain access to a personal profile. The most common reason for rebuffing these requests was a sense of propriety. Regarding disclosure on one of her profiles, Ashley stated "now when my boss pops up and Facebook tells me 'we think you should be friends,' I don't say yes because she's my boss… But there's just a professionalism there that's just 'we don't need to go there yet.'" Kelly stated "I have a 71 year old mom. She's on Twitter now. She follows me. So, that is probably more what keeps me in line than anything else. And it probably is the same kind of thing keeping people on Facebook in line from a younger point of view."

INSERT FIGURES 3, 4 AND 5 HERE

Evaluation of Boundary Regulation

We asked individuals to evaluate efficacy of multiple profile maintenance as a boundary regulation strategy. Efficacy is the degree to which the multiple profile strategy enables the them achieve disclosure goals. Reaction to this question was mixed, with some respondents indicating positively and some indicating negatively. Exploring this outcome, we identified level of technical understanding as a mediator. Many of the respondents who indicated negative efficacy discussed the fact they knew they were "connected" in the eyes of the socio-technical system. Toby, a graphic designer, described the phenomenon this way "Well, in terms of who can read what I'm openly saying, I'm very conscious of the fact that I am basically speaking to an open mic."

Through IP addresses or legal regulations, these individuals knew that their persona could be connected - and many prepared for this potential outcome by exercising self-censorship on both profiles. Ashley describers her preparation for this possibility by stating "The thing going into it is I don't put anything out there that I wouldn't want everybody to know."

We were also interested in the individual perception of burden regarding the management of multiple profile maintenance. Again, reactions to this question were mixed, with a number of respondents indicating very little burden, while others indicated a high degree of burden. Technical skill, a previous mediator, did not hold for perception of burden. Two explanations for burden emerged, the first being sheer volume of accounts maintained. Individuals who maintained many accounts, across multiple services, found this process burdensome. Second, individuals who managed a large number of contacts seemed to find the process burdensome, but this finding for burden may reflect a main effect of having a large number of contacts.

We finally wanted to understand the technical processes used to manage multiple profiles. Individuals indicated a number of different processes. At the basic level, some individuals would simply log in and out of their personas in their web browsers. Individuals who used this process often reported accidental bleedover, in which content meant for one persona is posted to another. Samuel stated, "I'll sign out and sign in as a different account. … I have definitely accidentally put a tweet out on [the business Twitter account] that I meant to go to [the personal Twitter account]."

Individuals also associated specific settings and devices with personas. Barbara, an office assistant that maintains a personal Facebook and her work's Facebook fan page, primarily uses her office computer to update the fan page, and her Blackberry to update her personal Facebook. She also makes sure to not update her work page outside of business hours.
Finally, we observed a number of individuals who actually use profile aggregators, which allow an individual to post to multiple personas from a single applications. Rodney, an IT strategist

who employed this management practice, uses "a couple of different desktop-based Twitter clients that also have integration into Facebook, and allow me to add - like Friendfeed and other sites like that." Rodney notes the problem with using a client-based solution: "It allows me to kind of mix those up and that can be really dangerous, because there are things that I would say on the internal one that I would never say publicly because of the job I do."

Implications

Summary Implications

This research explored the use of multiple profiles as a boundary regulation mechanism in social media; the majority of respondents engaged in this behavior in social network sites. In our analysis, we identified three methods of boundary regulation: Two or more profiles on one site, use of privacy mechanisms to create functionally different audience zones, and the use of different social media tools for different audiences. Within these methods, disclosure behaviors depended on level of privacy and level of linkage. Level of privacy corresponds to the degree to which the individual exerts control over public disclosures (Altman, 1975; Westin, 1967). Linkages refer to the degree to which socio-technical aspects of the profile are linked to the individual's primary identity. Individuals varied with regards to privacy and linkage behaviors.

Three main types of boundary regulation through multiple profile maintenance in social media were identified. The first type, pseudonymity, was utilized by individuals who kept their identities private and unlinked. Practical obscurity, the second type, covered a majority of individuals studied. Individuals who utilize practical obscurity did not necessarily engage in concealment of identity, but they did not actively link between multiple identities. Finally, those engaging in transparent separations created multiple, interlinked identities largely for utility purposes.

Our analysis of boundary regulation behavior identified four motives: Privacy, identity, utility and propriety. We hypothesize that individual motivational emphasis may predict the type of boundary regulation adopted. Finally, we evaluated boundary regulation through multiple profile maintenance for self-reported measures of efficacy and burden. We found mixed results; Level of technical skill or understanding may mediate efficacy, and size of friend network may mediate perceptions of burden.

Theoretical Implications

The use of multiple profiles as a strategy for boundary regulation falls strongly within the scope of communication and privacy regulation behaviors theorized by Altman (1975) and Petronio (1993, 2001). Multiple profile maintenance is an ongoing, discursive and optimizing behavior. This study offers a number elaborations on Altman's privacy model. First, we observed nonlinearity in the relationship between relational closeness and privacy access. In a linear model, we might expect that partners that are most relationally close to an individual may be granted the greatest amount of access. This relation does not hold in social media; often individuals that are closest are kept out of the areas determined most private by the individual. Interestingly, individuals who were least relationally close, such as past contacts, were often afforded greater access to private areas than those more relationally close. This behavior indicates that disclosure behaviors and access are negotiated contextually.

Our second theoretical elaboration identifies that, in a socio-technical system, boundaries of disclosure are regulated for a variety of motives. Most salient to the elaboration is the concept of utility as a motivator for boundary regulation. In a socio-technical system, the granting or restriction of boundary access is often concomitant with information exchange. Individuals expressed a desire to regulate boundaries through multiple profiles with an explicit goal of regulating information volume and topicality. Participants also indicated a concern for not overwhelming audience information streams as motivation for boundary regulation. With regards to the large amount of information produced in social media sites, this finding is a particularly interesting elaboration of the desire to optimize communication effectiveness\.

Policy Implications

The findings support a nuanced understanding of privacy beyond the oft-employed binary distinction of public vs. private. Lawmakers and courts have a tendency to equate secrecy with privacy, (Solove, 2008) yet the research demonstrates that individuals protect their privacy with many various methods and degrees. Boundary regulation can be utilized to minimize harms that can result from information collection (e.g., avoiding surveillance from dubious connections), information processing (e.g., avoiding identification by employers), information dissemination (e.g., avoiding breaches of confidentiality) and even intrusion (e.g. limiting "on vacation" posts to one profile to avoid revelation of an empty house).

Thus, any policy decisions that touch upon use of multiple profiles should weigh the reputation, financial, physical, relational and psychological harms that are potentially remedied through boundary regulation. Boundaries can be also used to further ethical goals such as objective reporting, avoidance of conflicts of interest, maintaining community integrity and professionalism.

This research also demonstrates that boundary regulation through multiple profile maintenance serves the function of encouraging speech by reducing the consequences for disclosure or simply making individuals feel more comfortable sharing information. The identified motives of privacy, utility, identity and propriety were all effectively served through multiple profiles, which resulted in significant disclosures, most on regular intervals, by the individuals.

Conclusions and Limitations

Multiple profile maintenance is a strategy employed by social media users to regulate boundaries of information disclosure. This study utilized qualitative methodology, particularly twenty semi-structured interviews, to develop a better understanding of the motives, processes and outcomes of multiple profile maintenance. We find that multiple profile maintenance is motivated by four factors: Privacy, identity, utility, and propriety. Drawing on these motives, we observe a continuum of boundary regulation behaviors - pseudonymity, practical obscurity, and transparent separation - that emerge from multiple profile maintenance. We find that communication outcomes and socio-technical context exert an influence on the process of boundary regulation.

This study had two goals. The first goal is to develop a better understanding of the motives, processes and outcomes of multiple profile maintenance. As social media grows in popularity, use of multiple profiles to manage the co-presence of multiple groups represents part of the reaction to this phenomenon. The second goal was to evaluate multiple profile maintenance through the lens of Altman's (1975) privacy theories. In doing so, we are able to understand the behaviors in the site, and update the theory for application in the particular socio-technical context.

One particular limitation in this study was the concentration of multiple profile maintenance behaviors in social network sites. The study did not prejudice towards type of social media, but a majority of participants exhibited this behavior in social network sites. Further, the study does not make a claim of representation in its findings. In line with the nature of the inquiry, our goal was to develop a theoretical understanding of the processes of boundary regulation through multiple profile maintenance. Our goal is to extend some of the insight from this work into complementary, mixed methods research. With different methods and sampling strategies, we hope to further explicate this phenomenon at a practical and theoretical level.

Word count: 6600

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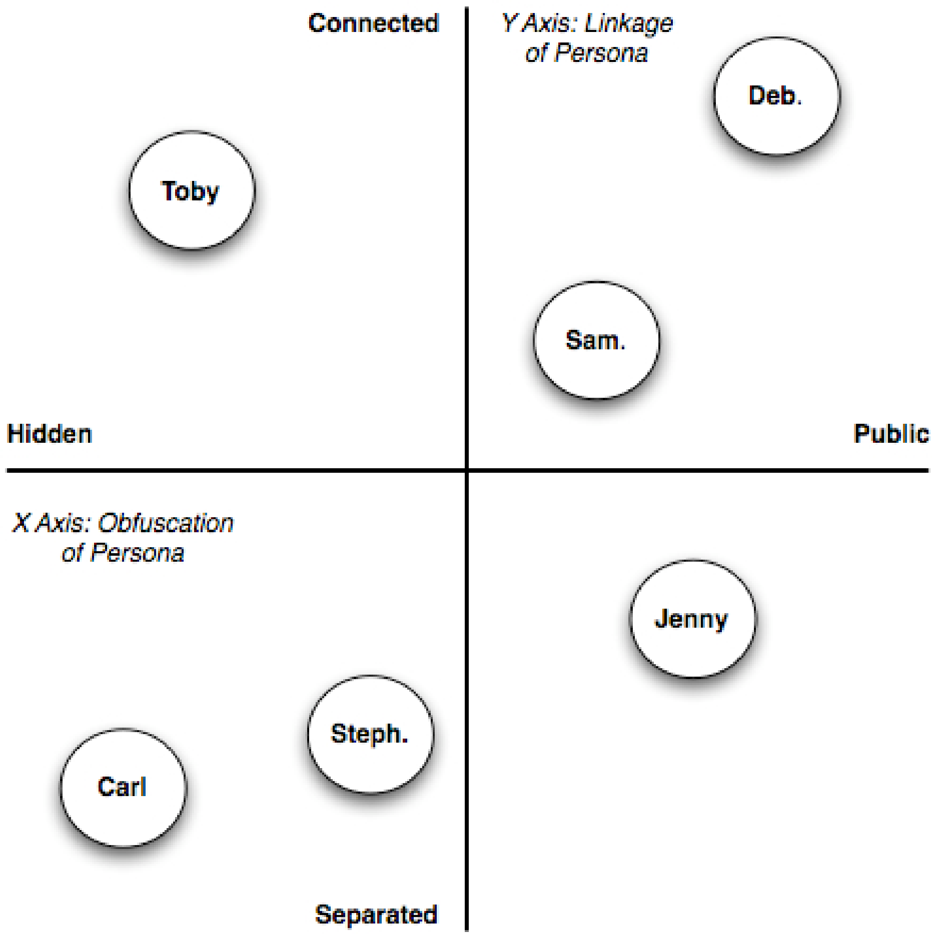
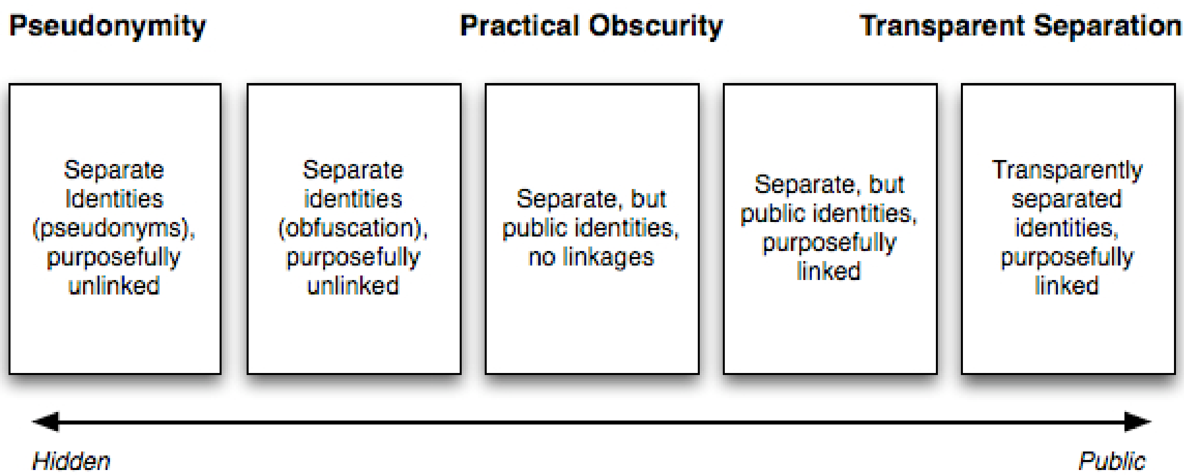
Figure 1: Explication of Concepts of Obfuscation and Linkage



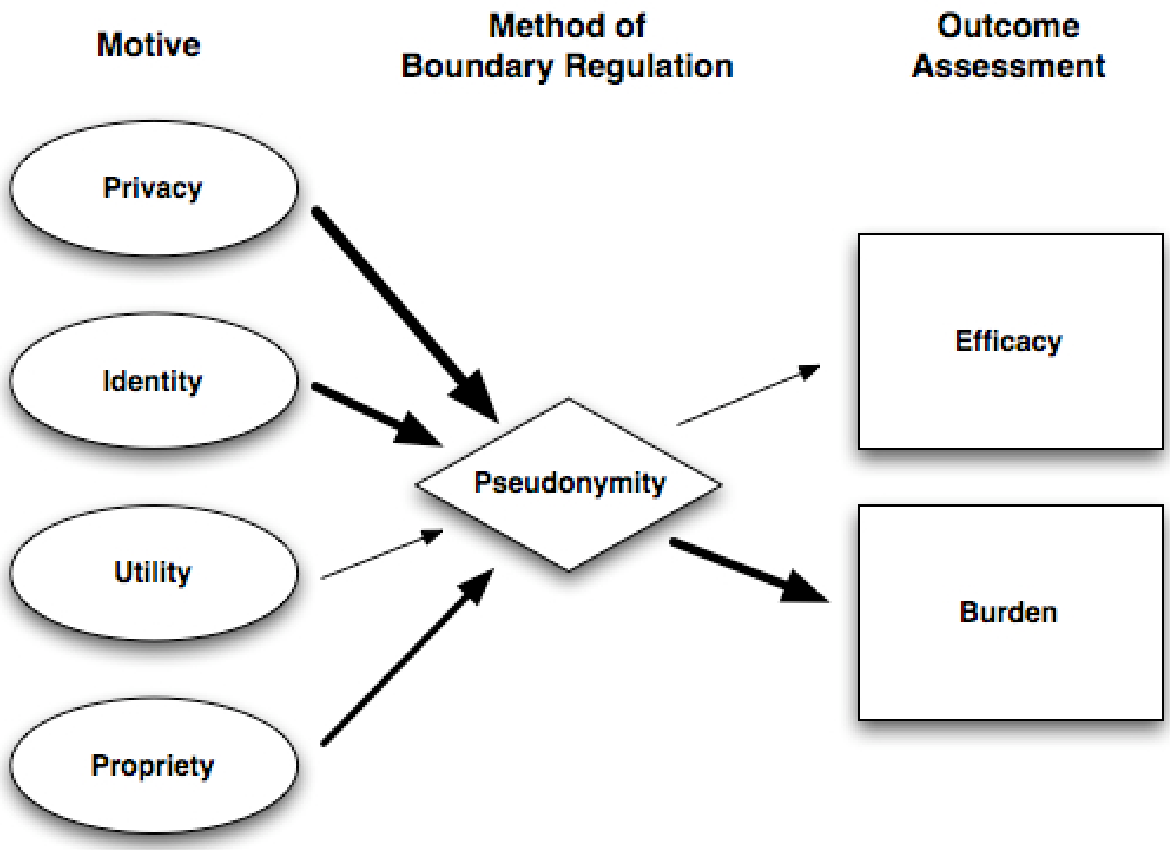
This figure represents different configuration of boundary regulation as observed in our study. The X axis indicates the privacy degree of the second profile. The Y axis indicates the degree of linkage between profiles. Carl, an aspiring comedian, wishes to keep his stage identity completely separates from his primary identity. To accomplish this goal, he adopts a secondary set of tools (email, accounts) to minimize the potential for linkages between his accounts. Deborah, a logistics expert, has multiple public, connected identities that she utilizes as public "information filters." These densely interlinked accounts serve as a filter for herself, and her audience. Toby, a graphic designer, does not associate his personal values with his secondary, professional account. But these accounts are linked, as he wants to represent himself professionally to his personal friends. Jenny, a university administrator, maintains a number of public accounts for her personal and professional purposes. These accounts are explicitly unlinked to prevent bleedover so that her personal opinions are not construed as the opinions of her employer.

Figure 2: Processes of Boundary Regulation



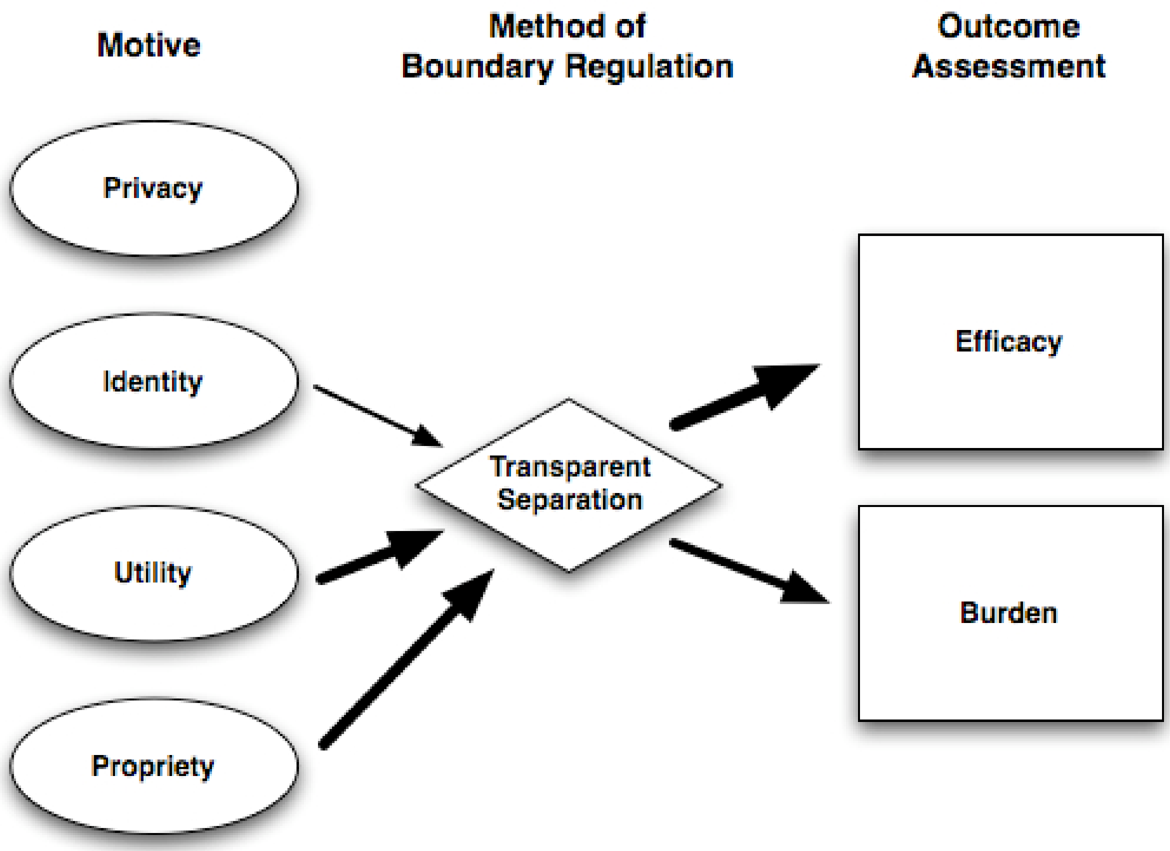
Demonstrating processes and components of boundary regulation through multiple profiles in social media. Individuals who adopt tactics of pseudonymity have the most hidden secondary persona. These persona are often separated and unlinked. Practical obscurity, a second process of boundary regulation, generally utilizes public, but obfuscated and unlinked identities. The third process, transparent separation, involves a segmentation of identity for largely utilitarian purposes: identities are segmented, but highly discoverable and purposefully linked.

Figure 3: Explication of Pseudonymity as Method of Boundary Regulation



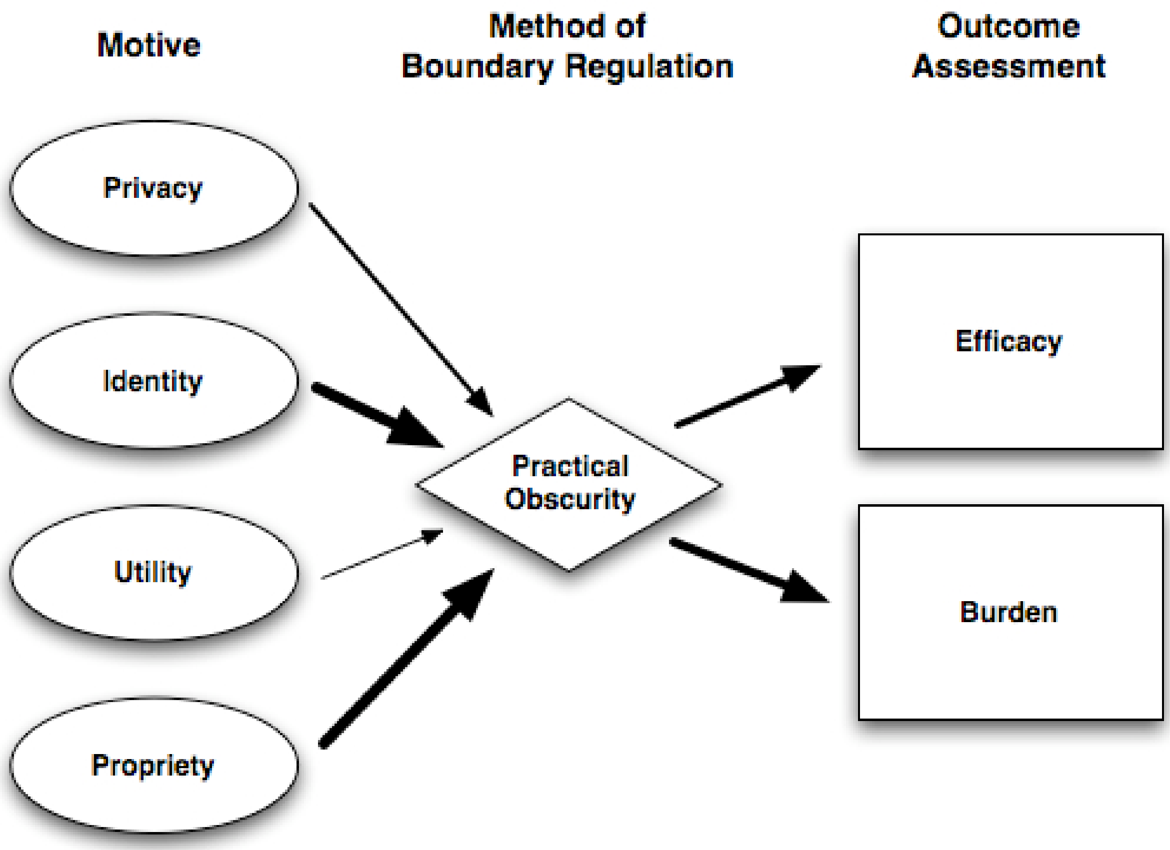
Arrows indicate strength of effect; wider arrows correspond to stronger relation between concepts. In this case, we can see the practice of pseudonymity is primarily influenced by individual privacy goals, but also by identity and propriety goals. Individuals who practice pseudonymity may also feel significant burden in maintaining separation.

Figure 4: Explication of Transparent Separation as Method of Boundary Regulation



Arrows indicate strength of effect; wider arrows correspond to stronger relation between concepts. In this case, we can see the practice of transparent separation is primarily influenced by utility and propriety, and is generally not influenced by privacy goals. Individuals who practice transparent separation may feel that their behavior has high efficacy, they may also feel significant burden in maintaining separation.

Figure 5: Explication of Practical Obscurity as Method of Boundary Regulation



Arrows indicate strength of effect; wider arrows correspond to stronger relation between concepts. In this case, we can see the practice of practical obscurity is primarily influenced by identity and privacy goals, but also to a lesser extent by privacy and utility. Individuals who practice practical obscurity may report medium efficacy, and variable burden.