

## **Exploring Privacy Management and Disclosure on Facebook: A Communication Privacy Management Theory Approach**

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### **ABSTRACT**

This study applied Communication Privacy Management theory (CPM, Petronio, 2002) to the context of Facebook. It explored how gender and potential profile viewers influence the privacy management tendencies of Facebook profile owners. Results showed that women were more stringent in the information they shared with profile viewers than men in general. Participants indicated different level of self-disclosure and privacy concern, and reported to reveal different amount of information based on the potential viewer. Participants revealed the least amount of information when they think a stranger is viewing their profile. They disclosed the most amount of information when the classmate is the viewer. These findings support two of Petronio's (2002) criteria for boundary rules: gender and motivation, and provide practical implications for Facebook. By using CPM as a lens for interpreting the results, the present study broadens the field of utilizing CPM as an evaluative tool for social networking sites.

**Keywords-** privacy management, online disclosure, social networking sites, communication privacy management theory

### **I. INTRODUCTION**

In recent years, Facebook, and other social networking sites of its kind, have begun to revolutionize computer-mediated communication (Tyma, 2007). The popularity of sites such as Facebook, Myspace, and Twitter has increased at an alarmingly fast rate (Catlett, 2007). Though the characteristics of the members of these types of sites do vary, much of the population is comprised of college students. Because of this, when examining unique communicative facets of social networking sites such as Facebook, college students offer a sound place to start. This should come as no real surprise as, according to Lewis, Kaufman, and Christakis (2008), college students are often first to adopt such trends in communication technology. For college students, as well as others who utilize the site, Facebook serves not only as a place for networking, but members are given the opportunity to express themselves and exhibit their personalities, all

while keeping up with friends, family, and colleagues through pictures, postings, and videos (Catlett, 2007; Lewis et al., 2008).

However, despite the many advantageous aspects of Facebook, and social networking sites in general, the open nature of the site and the site's allowance for a great deal of disclosure of personal information causes a rise in concern for personal privacy (Tyma, 2007). These concerns stem not only from the volume of information often displayed on Facebook personal profiles, but also from the type of information available and the great number of people that may have access to the information (Lewis et al., 2008; Tufekci, 2008). Because of this, there are many aspects of privacy that may be explored in order to offer new insights into communication privacy and computer-mediated communication via Facebook. Prior literature has little information on how gender affects privacy management on Facebook

or how the person viewing one's profile affects privacy concerns.

To explore this, Sandra Petronio's Communication Privacy Management theory (CPM) offers a strong framework, as it seeks to explain what causes individuals to manage their privacy in certain ways in the context of communication. Therefore, the purpose of this study is to explore privacy management on Facebook using gender of the profile owner and identity of potential profile viewers as possible factors under the theoretical framework of Communication Privacy Management theory.

## **II. LITERATURE REVIEW**

### **A. Facebook**

Facebook is a social networking site created by Mark Zuckerberg, a sophomore at Harvard, for the purpose of helping students at Harvard to get acquainted with other students living in the dorm (Catlett, 2007; Stern & Taylor, 2007). In a basic description, Stern and Taylor described Facebook as an online yearbook. It also offered the opportunity for students to discuss assignments. After its success at Harvard, the site was made available to all college students. In 2005, "Facebook was the ninth most visited web site in any given day, and the number one picture sharing site (Stern & Taylor, 2007)." Also in 2005, 88% of entering freshman held Facebook accounts, and by the end of the fall semester, 94% of freshmen students had created Facebook accounts (Stern & Taylor, 2007). Students considered Facebook to be the preferred method of communication, even over phone and email communication. Students wanted a place to communicate freely, and Facebook provided that platform.

Due to its popularity and success, Facebook was opened to the public in September of 2006. Consequently, "Facebook boasts over 70 million active users, almost half of whom log in daily (Lewis, Kaufman, & Christakis, 2008)." Facebook is utilized as a social networking site where new relationships are formed and old relationships are maintained. The features of the site include messaging one another, uploading and sharing

photos and videos, and electronically "poking" one. Members have the opportunity to create extensive personal profiles and to join groups who share similar interests. (Lewis et al., 2008).

When Facebook announced that it would be opening the site to the public, college students were outraged and became immediately concerned about their privacy. In some cases, students joined Facebook groups such as "Facebook for Students Only!" (Catlett, 2007). In response to the outrage, Facebook reminded its users of the control they have over their own profiles. In regard to privacy terms, Facebook requires a real or authentic identification in the creation of a new Facebook account. Additionally, the network has a default setting of "public" exposure, indicating that the public, or anyone in the same network, can view profiles (Lewis et al., 2008). A public default setting also allows any Facebook member, whether in or out of a particular network, to globally search for a member and subsequently view a shortened version of the public profile.

Facebook participants approach privacy in different ways. The majority of participants maintain the default privacy setting, causing their account to be public. Participants opted for public accounts for several reasons. In Catlett's study, several participants indicated that they were unaware of the default privacy settings and did realize that they could change their privacy settings. Some stated that they simply maintained the default setting. Others indicated a refusal to privatize their Facebook account due to the social networking nature of the site. One participant stated, "Why would I have Facebook if everyone couldn't see it?" (Stern & Taylor, 2007).

Some participants privatize their Facebook accounts. One reason for a privacy setting was due to outside requirements. Specifically participants mentioned sorority requirements to keep Facebook profiles private. Some Facebook users strictly utilized the site to communicate with close friends, and thus engaged a private setting. Others created private settings when they heard a Facebook horror story or when they sensed danger, such as a stalking messenger. As

Facebook participants uploaded more personal information to their profiles, they typically moved to a private setting. Most participants refused to list physical addresses or cell phone numbers. Additionally, many found the "looking for" section to be too risky as it often attracted unwanted friend requests. In his 2008 study, Tufekci found that people with higher privacy awareness and concerns often avoided or minimally used social networking sites such as Facebook (Tufekci, 2008).

In understanding privacy in social networking sites, Adam Tyma examined MySpace using CPM. Tyma found the creation of a profile is the beginning of breaking and creating boundaries. As the creator began to share their private information with the on-line community, this shift in information ownership from the individual to the community moves the user into a position where boundaries around her or his information must be recognized as needing boundaries (Tyma, 2007). The sharing of information created intimacies which caused more information exchange. Yet, during the information exchange, collective and personal boundaries were simultaneously maintained by MySpace users. "Each user of MySpace makes continuous decisions regarding the amount of information he or she makes public" (Tyma, 2007). He suggested looking at information exchange "through the lens of boundary coordination" (Tyma, 2007). He also suggested evaluating how the rule based management system impacts the "coordination of rules between individual and collective owners of the information on MySpace" (Tyma, 2007) as well as the social norms and perceived rule turbulence that may occur. Finally, Tyma suggested evaluating the dialectical tension that occurs on social networking sites due to a desire to conceal and reveal private information.

### **B. Communication Privacy Management**

The Communication Privacy Management theory (CPM) was developed by Sandra Petronio for the purpose of explaining the "tension between revealing and concealing private information" (Petronio, 2007, p. 218). Communicators

undeniably face privacy dilemmas in a variety of contexts. Thus, Petronio created CPM in an attempt to cultivate solutions to privacy management concerns in a variety of contexts.

Petronio (2007) based the fundamental assumptions of CPM on five major principles concerning private information and how communicators reveal and conceal private information. First, Petronio (2007) theorized that people, whether individuals or collectives, perceive ownership of their personal information. That is, people believe personal information is something that belongs to them.

Second, because of the perception of ownership, people also believe they have the right to do with the private information as they see fit. In this, people believe they "have the right to control the flow of private information to others" (Petronio, 2007, p. 219). In CPM, private information is imagined to be surrounded by a boundary (Petronio & Caughlin, 2006). As an individual decides to disclose the information to others, the boundary is opened or extended to include those other individuals (Petronio & Caughlin, 2006). Closed boundaries indicate a decision to conceal rather than to reveal.

Third, as people attempt to decide whether they should reveal or conceal information, they utilize boundary rules to help make the decision (Petronio, 2007). According to Petronio and Caughlin (2006), the notion of boundary rules is possibly one of the most important dimensions of CPM.

In addition, when communicators reveal private information to others, they become shareholders of the private information. The fourth contention is that this process of co-ownership comes with the expectation that the boundary rules the original owner of the information prescribes will be followed by co-owners or that the co-owners will negotiate new rules (Petronio & Caughlin, 2006). In this process, decision-making becomes collective rather than individual, and it is only when "mutually agreed upon privacy rules are agreed upon and adopted" that "the co-owners of the information are able to coordinate successfully

the regulation of the collectively held private information" (Petronio, 2007, p. 219).

Petronio's fifth principle of CPM argues that because this process is rarely perfect, boundary turbulence may occur during privacy management (Petronio, 2007). Turbulence occurs when privacy rules and their coordination are violated or when a privacy boundary suffers a deliberate infringement. The turbulence often causes feelings of resentment, doubt, and concern about future disclosures (Petronio, 2007).

In addition to the principles of CPM, Petronio and Caughlin (2006) identified the significance of boundary permeability. In privacy management, coordination of boundaries that deals with those considered to be inside the privacy boundary is called internal boundary management, and management dealing with those considered to be outside the privacy boundary is called external boundary management. They further identified three orientations within internal and external boundaries: high permeability, moderate permeability, and low permeability (Petronio & Caughlin, 2006).

High permeability is characterized by a very open nature and willingness to disclose. In moderate permeability, people are "more judicious with choices" concerning disclosure and who to include within boundaries (Petronio & Caughlin, 2006, p. 40). Low permeability involves private information being highly restricted. When individuals or groups have a low permeability orientation to privacy, there are often numerous rules restricting disclosure to others (Petronio & Caughlin, 2006).

CPM (Petronio, 2007; Petronio & Caughlin, 2006) provides a framework to examine how individuals manage privacy and disclosure of private information,. It can be applied to Facebook users' privacy management strategies. Facebook users make conscious decisions regarding the information they choose to post online. Thus, Facebook users negotiate privacy boundaries as they expose private information on Facebook profiles. Facebook poses unique challenges to privacy management. For example, Facebook

profiles can potentially be viewed by diverse audiences (i.e. family members, peers, acquaintances, co-workers). The diverse audiences and high number of "friends" online pose possible boundary management challenges. Therefore, this online form of social networking needs to be explored through the lens of CPM (Petronio, 2007).

Petronio (2002) identified five criteria that influence how people develop privacy rules. He argued that factors such as culture, gender, motivations to disclose, and contextual criteria, and risk benefit ratio, shape decisions to disclose private information. These criteria could be applied to the privacy rules of Facebook users.

First, Petronio (2002) contended that culture affects how people disclose information. Cultural values shape perceptions about privacy as well as how individuals and groups negotiate privacy. In addition to traditional facets of culture, subcultures and groups of people create unique cultures through social interaction. Facebook users comprise a unique online social-networking culture. Thus, the unique facets of Facebook culture may influence how Facebook users manage privacy differently than face-to-face cultures or various online sub-cultures. Facebook users, as a culture, might disclose different amounts and types of information because of the culture of social network sites and groups. The culture of Facebook could potentially define the permeability norms of private information. For instance, the online influence of Facebook may encourage profile owners to have higher permeability than face-to-face, in that Facebook users might disclose more information online than in face-to-face settings.

Secondly, gender influences how individuals negotiate privacy management (Petronio, 2002). Men and women approach privacy boundaries differently. For example, women generally disclose more information to women than men (Dindia & Allen, 1992). Furthermore, women disclose more to men than men disclose to women (Dindia & Allen, 1992). Thus, gendered criteria shape how men and women define privacy

boundaries (Petronio, 2002). Presumably, gender of the profile owner might influence how Facebook users manage privacy online.

Petronio (2002) posited that motivational criterion is the third component that impact privacy management. When faced with a choice to disclose private information, individuals consider their personal needs with regard to their disclosure. Davis and Franzoi (1987) identified three hypotheses to explain individual motivations for disclosure: expressive need, self-knowledge, and self-defense. They argued that individuals have an expressive need that is fulfilled by self-disclosing thoughts, feelings, and personal information. Communicators also gain self-knowledge when they share private information with others. Lastly, individuals may conceal information that they feel is risky, therefore, engaging in self-defense. Given Davis and Franzoi's argument, the motivational and contextual criteria could influence the boundary negotiation of Facebook users. For instance, Facebook users might disclose information on their profile because they have an expressive need, and experience fulfillment from sharing personal information with others. In contrast, profile owners might elect not to disclose information that they felt was risky. In this case, the Facebook owner might not disclose their home address for safety, exhibiting a self-defense need. Presumably, motivational criteria affect Facebook users and inform boundary management online.

Petronio's fourth criterion is contextual. Petronio (2002) argued that contextual criterion affects how individuals manage privacy. Traumatic events, therapeutic situations, and life circumstances can inform how individuals manage privacy rules.

Finally, risk-benefit ratio criteria influence how individuals manage privacy boundaries (Petronio, 2002). When faced with a decision to disclose private information, communicators weigh the risks and benefits of disclosing the information. If the benefits of disclosure do not outweigh positive negative outcomes, communicators will likely choose to conceal private information. In contrast,

when the benefits of disclosure outweigh negative risks, communicators will likely disclose private information. Risk-benefit ratio criteria might influence boundary management of Facebook users. Facebook users may weigh the risks and benefits of disclosing certain information on their profile. Therefore, Facebook users' boundary permeability may likely be informed by the risk-benefit ratio.

CPM has been applied in many contexts. For example, scholars have utilized CPM to study family communication, including research concerning divorce, stepfamilies, and adoptive families (Petronio, 2007). Moreover, researchers have utilized CPM to better understand disclosure in HIV/AIDS patients, physicians' disclosure to patients and family members, cultural issues, and pregnancy (Petronio, 2004). Additionally, research has been conducted applying CPM to online commerce (e.g., Metzger, 2007) and online relationship maintenance (e.g., Catlett, 2007; Tyma, 2007), however, the volume of research in this area is still lacking.

In a study concerning CPM and social networking site MySpace, Tyma (2007) offered a rhetorically critique. Further, Catlett (2007) used CPM to explore disclosure on Facebook. However, there is much to be seen in the area of disclosure on social networking sites such as MySpace and Facebook, and much of the past research has been limited to qualitative methodology. Therefore, we propose a quantitative study, addressing the following research questions:

RQ1: How does gender of the profile owner influence the information sharing on Facebook?

RQ2: How does the type of potential profile viewer affect the privacy management tendency of Facebook profile owners?

### III. METHOD

The experiment utilized a 2 (participant's gender: male vs. female) by 6 (profile viewers: boss vs. potential love interest vs. stranger vs. peer vs. parent vs. professor) within-subject factorial design.

### A. Participants

Participants consisted of college students recruited from various communication classes who agreed to participate in the study for extra credit ( $N=67$ ). The ethnicity of participants was reflective of average university student composition with 53.7% European American, 17.9% African American, 9% Latin American, 6% Asian American, 6% Multiracial, 6% other, and 1.5% international. Twenty-eight point four percent of participants were male, and 71.6% were female. Participants' age ranged between 18 and 29 ( $M=21$ ,  $SD=2.23$ ).

### B. Procedures

Email address must be in 9 pt Courier Regular font. After signing consent forms, participants were asked to enter a private booth with a computer. The participants were then shown one of two pre-created Facebook profiles. The profiles reflected the same activities and levels of disclosure, but one simply depicted a female as the profile owner, and the other depicted the owner as male. Participants viewed the profile that matched their own gender and were asked to imagine that the profile they were viewing was their own.

The pre-created profile included contact information (email address, AIM screen name, residence- apartment name and number, and personal website), the individual's current place of work, full name, birth date, relationship status, hometown, political and religious views, the individual's interests, activities, favorite music, movies, television shows, and books, and the individual's major. The profile also included a series of pictures, some of which depict the individual with friends, some with the individual interacting in an organization with which he or she is involved, some with family, and some depicting the individual consuming alcohol and attending parties. In addition, the profile included a note composed by the user entitled "10 Random Facts" which included various personal facts about the profile owner. For example, one of the posted random facts was "I am a reality TV junky. I feel that every reality TV show deserves a shot

from me, and it is as if the makers of the show are making a personal pitch for me to watch it."

Next, the participants were asked to explore the profile and become familiar with all that it included. They were then asked if they would have a problem disclosing any of the items depicted on the profile. This was utilized as a precondition baseline, as it did not stipulate a specific profile viewer. Participants then answered the question about which items on the profile they believed they would exclude.

After this, participants were presented with a series of scenarios in which they were told that a specific type of profile viewer would be viewing their page, including the individual's boss, a potential love interest, a total stranger, a classmate/peer, their parents, and one of the individual's current professors. After each scenario, the participant was asked to indicate whether knowing the specific viewer given in the scenario was looking at his or her profile would cause the individual to remove any information from his or her profile, and, if so, what information would be removed.

### C. Measures

**Self-disclosure:** After answering the question about which information they would remove, participants then completed a series of questionnaires (all 7-point Likert scale) to assess their general privacy management tendencies, self-disclosure, their previous experience with the online networking site Facebook, and their general opinions concerning online disclosure. Participants' general self-disclosure tendencies were assessed using the Self-disclosure scale adapted from Wheless and Grotz (1976). Factor analysis revealed three dimensions of disclosure: control of depth ( $\alpha=.78$ ,  $M=3.21$ ,  $SD=1.17$ ), positive- negative ( $\alpha=.83$ ,  $M=5.20$ ,  $SD=.83$ ), and honesty- accuracy ( $\alpha=.71$ ,  $M=5.11$ ,  $SD=.97$ ).

**Privacy Management:** To measure participants' privacy management tendency a CPM scale from Child, Pearson, and Petronio's (2009) online blog study was modified for this study. Reliability

analysis showed that this scale has achieved satisfactory reliability ( $\alpha=.72$ ).

#### IV. RESULTS

Both research questions examined factors that influence privacy management and disclosure on Facebook. Specifically, RQ1 investigated the gender effect on disclosure and privacy management on Facebook, while RQ2 examined the effect of the type of potential profile viewer on privacy management and disclosure tendency.

In order to answer RQ1, three separate independent sample t-tests were conducted to explore the relationship between privacy management, disclosure, and gender on Facebook. The first independent sample t-test was conducted to compare the means of the privacy management scores across gender. Overall, women ( $M=5.49$ ,  $SD=.79$ ) reported that they were more stringent in sharing information on Facebook than men ( $M=4.83$ ,  $SD=.74$ ),  $t(65)=3.13$ ,  $p <.01$ .

Another independent sample t-test was conducted to analyse the relationship between gender and self-reported disclosure. Results showed that gender effect was non-significant such that men ( $M=3.26$ ,  $SD=1.36$ ) and women ( $M=3.20$ ,  $SD=1.11$ ) did not differ among self-reported self-disclosure,  $t(65)=.21$ ,  $p=.83$ .

A third independent sample t-test was run to compare the amount of actual removed information from the Facebook profile in the pre-condition (before the participants were aware of various potential viewers) across gender. Results showed that in the pre-condition, women reported that they would remove more information ( $M=8.27$ ,  $SD=3.66$ ) than men ( $M=5.89$ ,  $SD=2.84$ ),  $t(65)=2.54$ ,  $p=.01$ .

Finally, six independent sample t-tests were conducted to assess how male and female differed in information removal based on the potential profile viewer. Excluding the parent as potential viewer condition, female removed significantly more items from their profile compared to male. Table 1 provided the detailed information on the mean, standard deviation, and statistical

significance scores for all the six conditions across gender.

**Table 1.** Number Of Information Removed Across Gender With Different Potential Viewer

Potential Viewer	Female		Male	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Boss	13.27*	5.42	9.42*	5.14
Love	8.31**	4.75	4.68**	3.74
Stranger	18.58**	10.98	10.47**	9.62
Parent	6.67	6.25	4.89	4.83
Professor	12.0**	6.98	7.11**	4.78
Classmate	6.92**	4.80	3.11**	3.53

Note: N=67, \* $p<.05$ , \*\* $p<.01$ , \*\*\* $p<.001$

To explore RQ2, six paired sample t-tests were conducted to compare the amount of information deleted in the pre-condition to each experimental condition of different potential viewer. Results showed that the average amount of information in the profile was 7.60 ( $SD=3.59$ ) for the pre-condition where participants were not aware of any potential viewer. Comparing to the pre-condition, participants reported that they would delete the most information in the stranger as potential viewer condition ( $M=16.28$ ,  $SD=11.16$ ,  $t(66)=7.31$ ,  $p<.001$ ), following by the boss as potential viewer condition ( $M=12.18$ ,  $SD=5.59$ ,  $t(66)=7.95$ ,  $p<.001$ ). Ranking third, participants would delete more information in the professor as potential viewer condition ( $M=10.61$ ,  $SD=6.77$ ,  $t(66)=5.73$ ,  $p<.001$ ). However, there was no significant difference in information removal between the potential love interest as potential viewer condition ( $M=7.28$ ,  $SD=4.75$ ) and pre-condition ( $M=7.60$ ,  $SD=3.59$ ,  $t(66)=.82$ ,  $p=.42$ ). Similarly, no difference was detected for information removal between the parent as potential viewer condition ( $M=6.16$ ,  $SD=5.90$ ) and the pre-condition ( $M=7.60$ ,  $SD=3.59$ ),  $t(66)=2.42$ ,

$p=.02$ . Interestingly, participants reported that they would keep more information on their profile if they think their classmate is the potential viewer ( $M=5.84$ ,  $SD=4.77$ ) compared to the pre-condition,  $t(66)=4.59$ ,  $p<.001$  (see Table 2).

**Table 2.** Amount Of Information Removal For Different Potential Viewer Condition

Experimental Condition (Potential Viewer)	Information Removal		
	<i>M</i>	<i>SD</i>	<i>t</i>
Pre-condition	7.60	3.59	
Stranger	16.28	11.16	7.31***
Boss	12.18	5.59	7.95***
Professor	10.61	6.77	5.73***
Love Interest	7.28	4.75	.82
Parent	6.16	5.90	2.42
Classmate	5.84	4.77	4.59***

Note: N=67, \* $p<.05$ ,

\*\* $p<.01$ , \*\*\* $p<.001$

that they would remove more information from their profiles in the pre-condition, but also female removed more information in every given scenario with the exception of the scenario in which the participants' parents were the profile viewers. In essence, women seemed to be more cautious with their private information on Facebook than men were, and thus women chose to disclose less.

This finding contradicts past research which asserts that women, overall, tend to disclose more than men (Wheless, Zakahi, & Chan, 1988). It seems, according to our results, that perhaps the assertion that women disclose more than men does not extend to social networking sites such as Facebook, because women tend to be more concerned about their safety and privacy than men in online settings. This is an important contribution to the CPM theory as a whole. This finding indicated that when the communication medium changes from traditional face-to-face venue to the online environment, the generalizability of the previous claims about CPM needs to be carefully reexamined and maybe redefined.

The results of this study also supported Petronio's (2002) contention that motivational criteria affect communication privacy management. Additional analysis revealed that participants' level of disclosure on Facebook varied according to the potential viewer. Participants appeared to have considered personal need when deciding to whom they concealed or revealed personal information. Two of Davis and Franzoi (1987)'s hypotheses relating to motivational criteria in CPM can be used to explain the present findings: self-defense need and expressive need.

First, participants demonstrated a personal need for self-defense when deciding to conceal information on their Facebook page. Davis and Franzoi (1987) contended that individuals conceal risky information. Participants in the present study appeared to have a self-defense need when deciding which information to conceal. Results showed that participants removed the most

personal information when they believed a stranger was viewing their profile. This suggests that participants' personal need was that of self-defense. Presumably, participants understood that sharing information with strangers is dangerous, thus, participants revealed the least amount of information to strangers. The potential viewer that prompted the second most concealed information was the boss as the potential viewer. This suggests that participants were concerned with their professional ties, and subsequently removed significant amount of information when they believe their boss would be viewing the profile. Inappropriate photographs or personal information could potentially jeopardize an individual's job. Therefore, participants considered that the negative cost of sharing personal information with the boss as a negative threat.

Second, participants demonstrated an expressive need (Davis & Franzoi, 1987) in front of their peers, in this case, their classmate. Results showed that participants deleted the least amount of information when they believed a classmate would be viewing their profile. In fact, participants disclosed more information in the classmate condition than in the pre-condition in which participants did not discern the type of potential viewer. For example, participants intentionally displayed "party" photographs including the consumption of alcohol to classmates, whereas they concealed this information in the pre-condition. The disclosure of highly personal information with peers increases affiliation and might promote acceptance among peers. According to CPM (Petronio, 2002), this suggests that participants were eager to share personal information with peers to fulfill an expressive need.

### **B. Practical Implication**

This study contributes to the field of communication in its use of CPM theory in evaluating individual responses at social networking sites. The study is also unique in its use of CPM in predicting the privacy management of *Facebook* users. Additionally, it shows that CPM is useful in facilitating the interpretation of

the motivation for removing certain pieces of information at social networking sites.

The study also discovered the gender difference in the use of social networking sites. Female tends to disclose more in face to face communication. Yet, this study shows that female disclosed less information than male in online social networking sites. In speculating the reasons for this shift of disclosure, the female participants might exhibit less disclosure due to a higher level of concern for their safety and protection. Much of the internet safety information and media, in general, focuses on female victims and thus female audiences. As a result, female social networking site users could be more aware of the dangers associated with online social sites and therefore disclose less. If internet danger and safety information are targeting at female audiences, then male internet users might not be as informed of potential danger, causing them to disclose more personal information.

### **VI. Future Research**

Future research should expand efforts to understand why gender impacts the level of disclosure in online settings. A mixed method approach utilizing an experiment such as the one described in this study and an interview to discuss the reasons behind the participants' deletion of information would be beneficial. A research effort like this could further expound the current study's findings as well as facilitating the understanding of external influences on privacy management.

Aside from gender, future research should expand efforts to investigate various motivations for guarding information on *Facebook*, that is, what are the reasons that ultimately persuade an individual to guard information. Future research can stimulate different types of motivation, specifically the self-defence need and the expressive need, to further explore this question

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