Sosyal Medya Kullanımı ve Mahremiyet Algısı: Facebook kullanıcılarının mahremiyet endişeleri ve farkındalıkları

Changes in Use and Perception of Privacy: Exploring Facebook users' privacy concerns and awareness of privacy implications

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Öz: Bu çalışmada üniversite yaşındaki gençlerin sosyal medyadaki özel yaşam mahremiyeti hakkındaki endişeleri ve sosyal medya sitelerindeki mahremiyet problemleri incelenmiştir. Bunun dışında gençlerin sosyal medyadaki mahremiyet problemleri hakkındaki farkındalıklarını anlamak için, gençlerin Facebook ve diğer medya araçlarını kullanımlarıda araştırıldı. Son olarak gençlerin sosyal medyadaki mahremiyet problemleri karşısındaki farkındalıklarının sosyal medya kullanımlarını nasıl etkilediklerinde araştırıldı. 12 şubat ve 26 şubat 2012 arasında üniversite öğrencileri arasında anket düzenlendi. Ankete 2000 kişi davet edildi. Katılan kişi sayısı 373 oldu. Sonuçlara göre gençlerin sosyal medya ve diğer medya araçlarını kullanımları ile mahremiyet problemleri farkındalıkları arasında pozitif yönde ilişki tesbit edildi. Özellikle haberleri takip eden gençlerin farkındalıklarının daha fazla olduğu gözlemlendi. Dahası farkındalıklar arttıkça kullanıcıların profillerinin gizlilik ayarlarının daha kapalı (stricter) olduğu gözlemlendi.Son olarak farkındalığın artmasının bireylerin Facebook hesaplarını kapatmaları ihtimalini güçlendirdiği gözlemlendi.

Anahtar Kelimeler: Facebook, sosyal medya, mahremiyet ayarları, medya

Abstract: In this study, young adults' privacy concerns and their awareness of privacy implications were examined. Moreover two important factors were examined to understand their awareness of privacy implications. These factors are Facebook usage and news media consumption. Finally, the way users' awareness of privacy implications affects those individuals' usage of Facebook was examined. A total of 2,000 students were invited to participate in this survey. The survey was conducted February 12 to February 26, 2012. A total of 373 college students participated in this study. The results show that young adults' Facebook usage and media consumption are positively associated with awareness of privacy implications. In addition, users who consume news media often are more likely to be aware of privacy implications than users who consume it rarely. Moreover, the results show that awareness of privacy implications is linked to stricter profile specifications. Furthermore, the results found that awareness of Facebook privacy implications may lead individuals to consider quitting Facebook.

Keywords: Facebook, privacy, awareness, social media

1. Introduction

Social networking websites are important for young adults because these websites provide an open platform for them to discuss ideas, share information, and communicate (Raacke & Bonds-Raacke, 2008). The most popular social networking website is Facebook. According to Facebook statistics (2012), Facebook has more than 900 million users. According to Pew Research (2010), 83% of young adults have a Facebook account. Moreover, young adults are heavy users of Facebook, and they reveal generous amounts of information on Facebook (Patchin & Hinduja, 2012; Boyd & Heer, 2006; Lenhart, 2009). Young adults mostly use Facebook for identity construction and communication with their friends (Christofides et al., 2011; Ellison, Steinfield & Lampe, 2007). Disclosing a great deal of information is related to identity construction (Christofides et al., 2011), but revealing generous amounts of information on Facebook may lead to privacy risks. Facebook offers some privacy settings for users to control their information, but still some young adults are not aware of Facebook's privacy settings and privacy implications (Madejski et.al., 2012). Awareness of privacy is important for young adults because privacy is always a controversial issue on Facebook. After Facebook became popular, several privacy issues arose. For instance, the Beacon

fiasco occurred in 2007 (Perez, 2007). Beacon was a Facebook advertisement system which tracked users' activities outside of Facebook and then shared these activities with users' friends (Debatin, 2009). After complaints about Beacon, Facebook announced that users would be allowed to opt out of Beacon (Thoughts on Beacon, 2009), but users who are not aware of Beacon probably do not opt it out. Another privacy problem involves third parties: Facebook can share users' information with third parties. Adjerid et. Al., (2012) found that many users are not aware of the implications of third party information-sharing and Facebook's privacy policy on them.

Indeed, Facebook's privacy policy makes clear that Facebook shares data, but most users have never read the policy (Hoy & Milne, 2010) because users say it is complicated and hard to read (Bilton, 2010). So how can users be made aware of Facebook's privacy implications, and how can they be informed about privacy implications and settings? In this study, young adults' privacy concerns and their awareness of privacy implications were examined. Moreover heavy and light user privacy concerns were compared because according to recent literature privacy concerns are related to usage of Facebook (Lampe, Ellison &Steinfield, 2007, Fournier & Clark, 2011; Skeels and Grudin, 2009). It is important to examine young adults' perceptions of privacy because young adults use Facebook more than all other age groups (Pew Research, 2011). Furthermore, two important factors were examined to understand their awareness of privacy implications. These factors are Facebook usage and news media consumption. Finally, the way users' awareness of privacy implications affects those individuals' usage of Facebook was examined. Understanding privacy concerns and privacy awareness is important because those attitudes will affect the future and the evolution of social media (Boyd, 2010).

2. Hypothesis and Research Questions

H: The more individuals use Facebook, the more aware they are of privacy implications.
RQ1: What are the differences, if any, between heavy and light users' privacy concerns?
RQ2: How does the news media affect users' awareness of privacy on Facebook?
RQ3: How does awareness of privacy concerns affect individuals' usage of Facebook?

3. Literature Review

Facebook and other social networking websites are very popular among young adults (Fournier & Clark, 2011). Smith and Caruso (2009) found that 97% of college students have a Facebook profile, and Pew data (2011) found that 83% of them use Facebook every day. Fournier and Clarks' (2011) findings — that 88% of young adults log on to Facebook every day — support Pew data. Recent studies show that Facebook is very popular among young adults, but Facebook has some privacy problems. The most frequent concerns among the users was unwanted audiences (Karasnova, 2010). Because of privacy problems, most users are concerned about the safety of their information. Sutter (2010) found that most users think their information is not secure, but they still reveal great deal of information on their Facebook page (Christofides et. al., 2010). This discrepancy can be explained by a lack of awareness about Facebook privacy issues and identity construction. Debatin et. al., (2009) found that most Facebook users are not aware of "data theft" on Facebook. Moreover, some researchers found that some users are not aware of Facebook privacy settings and don't know how to use them (Madejski et.al., 2012). For example, 48% of social media users have some difficulties to manage their privacy settings (Pew Research, 2012). In summary there were great deal of privacy concerns among Facebook users however these concerns have no effect on their level of information disclosure on Facebook (Tufekci, 2009). Information revelation is also important to understand users' perceptions of privacy. Some researchers suggest that information revelation is related to identity construction (Christofidies et al., 2011; Rauhofer, 2008; Zhoa et al., 2008). Recent studies show that young adults share generous amounts of information (Stutzman & Kramer, 2010, Fournier & Clark, 2011), but what kind of information do they share? Hoy and Milne (2010) found that young adults usually provide some personal information on their Facebook pages. Young adults share a lot of identifying information on their profile such as their e-mail, hometown, birthday etc. (Dwyer et al,

2007; Hoy & Milne, 2010). The information they share provides enough information about their real identity (Christofidies et al., 2010; Madden, 2012).

When Facebook have shifted for colleges to as a social network for everyone, users need to adapt new social network environment (Johnson et al., 2012) because not just users' friends can see their sharing anymore (Skeels and Grudin, 2009) but also their boss, family members and co-workers can see their information on Facebook. These studies provided that most of users concerns about unwanted users and strangers (Karasnova, 2010; Skeels and Grudin, 2009) but these studies did not compared heavy and light users concerns. As mentioned above privacy concerns may relate to frequency of usage and amount of information users shared therefore this study compared heavy and light users' privacy concerns.

3.1. Identity construction

Recent studies show that many young adults are concerned about the security of their information, but they still reveal generous amounts of information on Facebook (Fournier & Clarke, 2011; Ellison, Steinfield & Lampe, 2007). Christofidies et al. (2011) suggest that disclosing information is related to identity construction. Young adults want to become popular among their friends, and they usually want to show their desired identity on Facebook. Therefore it is hard to limit information revelation for young adults (Christofidies et al, 2011; Madden, 2012). Young adults still care about their privacy, but they exchange their privacy for a small reward like popularity and identity construction (Rauhofer, 2008). According to Westin, there are three types of people when it comes to Internet privacy concerns: privacy fundamentalists, privacy pragmatists and those unconcerned about privacy (Westin, 1967). Privacy pragmatists are concerned about privacy, but they trade their information for something beneficial (Raynes, 2010), which means they use Facebook, but they pay for the cost of Facebook with their privacy. Facebook and other social networking websites help young adults to construct their identity, but it is not necessary for them to represent their real identity. They can construct a desired identity instead of their true identity via Facebook (Zhao et al., 2008). Users' awareness of privacy implications or concerns can also affect the way they construct their identity because identity construction is related to personal information revelation and privacy. People tend to present their different identities to different audiences in the offline world, but sometimes Facebook users tell everything to their friends to construct their identity. They can use privacy settings to stop telling everything about their identities, but because of identity construction, sometimes they ignore these settings. Ignorance of privacy settings and privacy implications can cause privacy problems (Pempek et.al. 2009). Christofidies et al., (2011) found that most young adults are aware of privacy implications, yet they still reveal great deal of information. Christofidies et al., (2011) also suggest that young adults reveal generous amounts of information because they would like to construct their identity through information revelation.

4. Methodology

In this study, to understand young adults' perception of privacy, a web-based survey was conducted. Using the Qualtrics program, the survey was e-mailed to randomly selected college students in University of Houston. A total of 2,000 students were invited to participate in this survey. Participants who did not complete the survey received a one-time reminder. The survey was conducted February 12 to February 26, 2012. A total of 373 college students participated in this study.

Participants were asked about their usage of Facebook, their awareness of privacy implications, and their privacy concerns. They were also asked about their primary sources of information about privacy implications and about their news media usage. Finally users' demographics were determined. To understand their usage of Facebook, for example, they were asked how many minutes they spend on Facebook when they log in to the site each time. As mentioned above, users' privacy concerns and awareness of privacy was examined in this study. To understand their privacy concerns and their awareness of privacy implications, they were asked, "If you believe that there may be privacy risks associated with using Facebook, how much risk is there to your privacy?" Another question was "How aware are you of Facebook privacy implications?" Some of these questions were open-ended. These questions answers were recoded into the SPSS program. For every theme, a number was assigned. After

all data were collected, all answers were coded into SPSS and analyzed with statistical procedures, including Chi-square and T-test.

5. Results

The survey was conducted February 12 to February 26, 2012. A total of 273 college students participated in this study. Females comprised 50% of the participants. The age range was 19 to 28. Also, 45% of the participants were Caucasian, 20% were Asian-American, 7% were Hispanic, 5% were African-American, and 23% identified themselves as "other."

This study is about young adults' awareness of the privacy implications of Facebook. First, users' privacy risk perception was measured. While 32% of respondents said there is "a lot of risk" associated with using Facebook, 55% of them said there is "some risk" associated with using Facebook. Only 13% of respondents said there is no risk associated with using Facebook (See Figure 1).
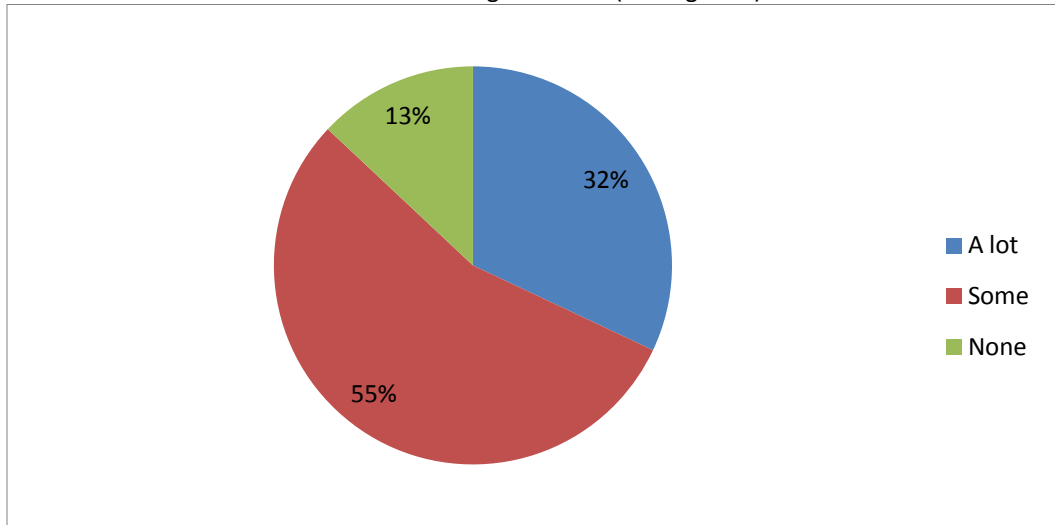

Figure 1: How much risk associated with using Facebook?

In an open-ended question, respondents listed three main privacy concerns they had. There are differences between heavy and light users' privacy concerns (See Figure 2). The first one involves third parties. College students are mostly concerned about their information being revealed to, or sold to, third parties (45%). These results show that they are mostly concerned about their information security and they believe some companies can use their personal information without their permission. For example, one of the respondents wrote, "I am concerned about who (companies and third parties included) can view my profile and personal information without my consent or knowledge." Also, some of them think their personal information could be used for marketing purposes. One of the respondents wrote, "Rumors of more and more information going to third parties, and the amount of money Facebook makes from such information, makes me extremely uneasy." Moreover, users are also concerned about unwanted users (27%) and background searches (26%). Unwanted users could be their teachers, their relatives, or any Facebook stalker viewing their page. These three types of people are the main ones respondents listed. Some of them worried that their family members could see their private pictures with their friends or that strangers could find and see their information. For example, one of the respondents wrote, "Sometimes privacy settings don't work. Even though I have it set to 'unsearchable,' people still find me. Also, it is possible for someone to hack my Facebook account." Some of the respondents wrote that they do not share a lot of information on Facebook because their future employers could potentially see undesirable information about them. For example, one of the respondents wrote, "I am concerned about my future employer. I am going to graduate soon, and I have started looking for a job. Companies may check my Facebook profile. That's why I am not willing to share every detail about myself on Facebook."
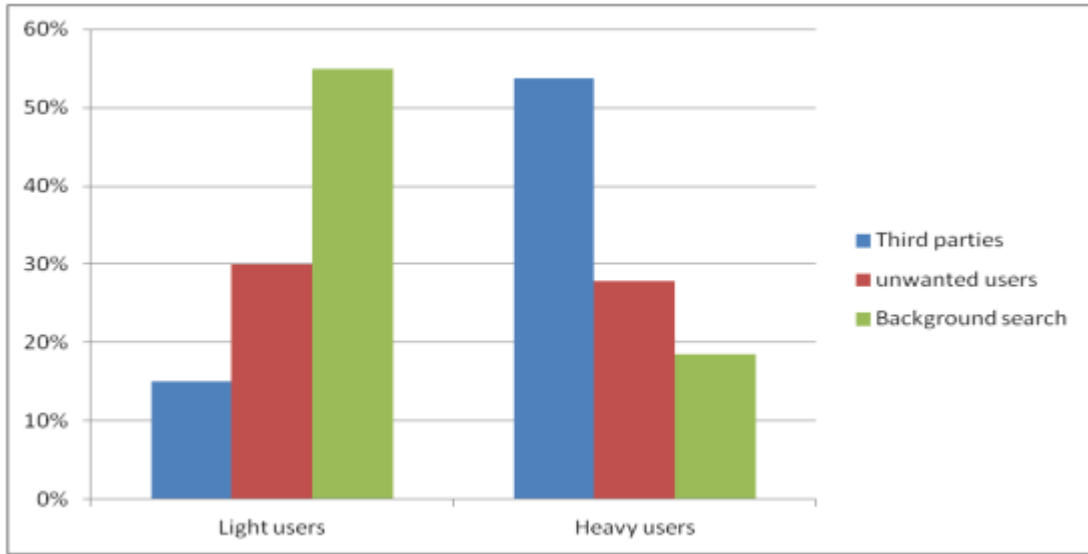
Figure 2: Heavy and Light users' privacy concerns

To test the hypothesis, respondents were asked about their frequency of Facebook usage. The hypothesis predicted that the more individuals use Facebook, the more aware they are of privacy implications. The hypothesis is supported. Users who use Facebook more often are more aware about privacy implications than users who use it less ($x2=13.668, df=3, p<.001$). For example, those who use Facebook 60 minutes or more each day are more likely to be aware of privacy implications than those who use it less than 60 minutes daily. Table 1 shows that when an individual's use of Facebook increases, their awareness of privacy implications increases.

Table 1: Facebook Usage and Awareness of Privacy Implications

Spending time on Facebook (N=267)	15 Minutes or less	16 to 45	46 to 59	60 minutes or more
Awareness of Privacy implications x2=13.668, df=3, p<.001	15%	22%	24%	39%

In this study, the relationship between awareness of privacy implications and media consumption also were examined. To answer research question 2, respondents were asked about their frequency of media consumption. The results show that users who consume media often are more likely to be aware of privacy risks on Facebook than users who consume media rarely. As Table 2 shows, users who follow the media often (87%) are most likely to think there are some privacy risks associated with using Facebook (X^2=28.892, df=6, p<.000).

Table 2: Consumption of News Media and Facebook Privacy Risk

Facebook Privacy Risk	Consumption of news media (N=346)		
	Often	Sometimes	Rarely
Some	87%	85%	56%
None	13%	15%	44%
Total	100%	100%	100%
X^2=28.892, df=2,p<.001			

Moreover, users who consume new media often are more likely to be aware of third party implications than users who consume news media rarely (See Table 3). The results suggest that media consumption has a positive effect on users' awareness of privacy risk on Facebook (Total: X2=*16.479, df=3, p<.001)*. The last research question asked how users' awareness of privacy implications affects their usage of Facebook. To answer this question, users were asked some open-ended questions. For example, in one question, they were asked if they considered quitting Facebook and why.According to the results, 33% of users said privacy concerns were the reason they considered quitting Facebook. In addition, 25% of respondents said changes in privacy settings were the reason they considered quitting Facebook. Facebook has changed its privacy settings several times, and some users said Facebook keeps changing it, which is confusing. Therefore, they considered quitting their Facebook account. These results suggest that privacy concerns and privacy-related issues are the most important reasons for users to consider quitting their Facebook account.

Table 3: Consumption of News Media and Awareness of Third-Party Implications

Consumption of News media			
Awareness of Privacy	Often	Sometimes	Rarely
Aware	79%	58%	43%
Not Aware	21%	42%	57%
Total	100%	100%	100%
X^2=16.479, df=2,p<.001			

Another finding relates to privacy settings and awareness of privacy implications (See Table 4). Users who are more aware of privacy implications are more likely to have strict profile specifications than users who are not aware of privacy implications (X^2=26.436, df=8, p<.001). For example, 91% of users who are aware of privacy settings have a strict profile. In this study, "strict profile" means that only users' friends can see their information on their profile page, but anyone can search about them. "Open profile" means users' friends and networks can see their information, and they are searchable. Finally, "extremely open" profile means everyone can see the users' Facebook profile and information.

Table 4: Users' awareness of privacy implications and privacy settings

Users Privacy Settings	Awareness of Privacy Implications (N=245)	
	Aware	Not Aware
Strict	91%	45%
Open	8%	40%
Extremely Open	1%	15%
Total	100%	100%
X^2=26.436, df=4,p<.001		

6. Discussion

The goal of this study was to understand how Facebook usage and media consumption affect users' awareness of Facebook privacy implications and how this awareness of privacy implications affects individual's usage of Facebook. This study was based on an online survey, and randomly selected young adults were participants in this survey. The results show that young adults' Facebook usage and media consumption are positively associated with awareness of privacy implications. This means users who use Facebook often are more likely to be aware of privacy implications than users who use it less often. In addition, users who consume news media often are more likely to be aware of privacy implications than users who consume it rarely. Moreover, the results show that awareness of privacy implications is linked to stricter profile specifications. Users who are aware of privacy implications are more likely to have strict profiles than those who are not aware of those implications. Furthermore, the results found that awareness of Facebook privacy implications may lead individuals to consider quitting Facebook. Also heavy and light users have different privacy concerns. So this result show that privacy concerns and frequency of Facebook use are related.

The hypothesis suggested that individuals who use Facebook often are more aware of privacy implications. This hypothesis is supported. This finding also supports recent studies. Recent studies found that the number of friends and level of activity on Facebook are related to privacy concerns and awareness of privacy implications (Stutzman & Kramer-Duffield, 2010; Lewis et al., 2008). Heavy Facebook users use Facebook as a communication tool and an identity construction tool. Therefore they use Facebook often, and they share information generously on Facebook. So, sharing information generously on Facebook unsurprisingly leads to more concern about privacy and more awareness of Facebook privacy implications. Moreover, spending more time and being more active on Facebook may cause to some users have some bad experiences related to privacy implications. Therefore, they may be more aware of privacy implications than those who use Facebook rarely. As mentioned before, recent studies found that some Facebook users reveal generous amounts of information on the site even though they are aware of privacy implications (Christofidies et al., 2011). This study also supports some recent findings. Young adults who use Facebook often are most likely to be aware of privacy implications but still share generous amounts of information. This dilemma can be explained by identity construction. As Raynes and Goldie (2010) suggested, some users are privacy pragmatists, which means they trade some of their personal information for some benefits, such as constructing their identity. So, like privacy pragmatists, young adults also share a lot of information for the opportunity to construct their identity on Facebook even though they are aware of privacy threats.

Results also show that news media consumption has an effect on users' awareness of privacy implications. The results show that when news media consumption increases, users' awareness of privacy implications increases. Young adults are heavy news media consumers: 92% of them said they follow news media often or sometimes. Their main news media sources are news websites (67%) and news blogs (16%). These results show that news media is an important source for them to get privacy-related news.

Also it shows how news media increase privacy fears among young adults. This fear or awareness leads young adults to have more strict privacy settings.

Finally, this study examined the effect of users' awareness of privacy implications on their usage of Facebook. Young adults are most likely to be concerned about third party implications, unwanted users, and background search. These concerns reveal that young adults are concerned about institutional privacy rather than informational privacy. Institutional privacy relates to how some companies may misuse users' personal information (Westin, 1967). Facebook can sell some of users' personal information (Andrew, 2012). Therefore users are concerned about institutional privacy. Awareness of these concerns leads users to have stricter profile pages and also has led some of them to consider quitting their Facebook account. Recent studies found that users are mostly concerned about informational privacy, which means how to control their information (Boyd & Ellison, 2007; Peterson, 2009; Raynes & Goldie, 2010), but in this study, the results show that they are mostly concerned about institutional privacy. This situation can be explained by users' awareness of privacy implications. More aware users may know very well about how to control their information, but they still may be concerned about third party implications or other privacy implications. In addition, users who are aware of privacy implications are most likely to have strict profile pages. Also this finding supports the idea that more aware users know how to control their information.

Overall, this study examined how young adults' privacy concerns and their awareness of privacy implications effect their usage of Facebook. It adds to an understanding of social media use and awareness of its privacy implications. This study is limited because it only examined college students and their privacy concerns. Therefore results cannot be generalized to all population. Future studies can examine other age groups as well as other social media environments to get broader view.

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