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## **Sharing to be sociable, posting to be popular: factors influencing non-static personal information disclosure on Facebook among young Dutch users**

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**Abstract:** Facebook use is closely tied to the need to disclose various types of personal information for users to experience the full benefits of using the platform (e.g., relationship maintenance, impression management). However, despite the benefits that can be derived from using the site, risk perception and privacy valuation could also deter disclosure. Results of a survey with 295 students of a vocational school in the eastern region of The Netherlands reveal that the benefits of sharing information primarily influence young Facebook users' decision to post non-static personal information (e.g., photos, statements of current activities, and thoughts on issues or things) on the site. Furthermore, such a decision is also predicated on the size of respondents' Facebook networks and the length of their Facebook membership. Surprisingly, however, the perceived risks attributed to the actions of Facebook and members of the Facebook users' network and users' privacy valuation do not affect the decision to share information on the site.

**Keywords:** information privacy; online social networking; OSN; privacy valuation; non-static personal information; The Netherlands.

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### **1 Introduction**

The popularity of online social networking (OSN) sites could easily be attributed to the benefits they extend to their users. These sites are primarily used for communication and

connection maintenance between users and their contacts (Hoadley et al., 2010; Krasnova et al., 2010; Kwon and Wen, 2010; Livingstone, 2008; Pempek et al., 2009; Ross et al., 2009; Subrahmanyam et al., 2008) and for building new relationships (Krasnova et al., 2010).

OSN sites have also become platforms for people to assert their identities as they are increasingly used to establish online presence (Cheung et al., 2011; Kwon and Wen, 2010), express and maintain identities (Hoadley et al., 2010; Pempek et al., 2009), increase individual popularity (Zywica and Danowski, 2008), and flaunt the size of users' network (Boyd and Ellison, 2008). Additionally, OSN sites allow users to publish or share information and contents such as photos and short messages (Livingstone, 2008; Vandoninck et al., 2011). Furthermore, OSN sites enable users to actively participate in civil and political activities (Valenzuela et al., 2009).

Using OSN sites for impression management, relationship maintenance, and communication purposes typically require users to share various types of personal information. However, one does not always need to divulge information to be able to use OSN, as that individual still has the option to stay behind a smokescreen, just tracking what others do in OSN sites and still spared from the need to share information that could be compromised either by the site, by third parties, or by the members of that person's network. Hence, one can actively participate in OSN through information disclosure, while another can passively participate by simply performing the role of an exclusive audience or information receiver.

Several studies have shown that OSN users share various types of personal information considering the spectrum of benefits one can derive from disclosure (De Souza and Dick, 2008; Jin, 2013; Peterson and Siek, 2009) – from the least sensitive personal data such as age and gender (Peterson and Siek, 2009) to the most sensitive such as sexual preference (De Souza and Dick, 2008) and physical and mental health information (Jin, 2013). Often the decision to share information is attributed to the benefits of disclosure (e.g., impression management, information dissemination; Peterson and Siek, 2009), although attitude towards information privacy (De Souza and Dick, 2009) and levels of trust (Beldad et al., 2012b) have also been found important factors influencing people's decision to share information.

While the impact of benefits on information disclosure is well-understood, the influence of inhibitors such as privacy risks attributed to the actions of an OSN site and to those of the users' social network and privacy valuation on disclosure behaviour is not yet fully known. Furthermore, studies into the effect of an OSN users' network size and length of membership in an OSN site are remarkably scarce. Hence, the current study aimed at determining the impact of benefits, perceived risks, and privacy valuation, alongside the possible effects of users' characteristics (e.g., gender, age) and Facebook use context (e.g., length of Facebook membership), on OSN site users' information disclosure behaviour. The study focuses on the information sharing behaviour of Dutch Facebook users from 16 to 23 year old since individuals within this age cluster, according to Christofides et al. (2011), are reported to share more information than their older counterparts. The main question this study addressed is:

To what extent do benefits, risk perception, privacy valuation, individual characteristics, and OSN site use context influence young Dutch Facebook users' disclosure of non-static personal information?

The first section of the paper explains the various constructs selected for the study and the hypothesised relationships among them. The next section describes the methodology employed to address the hypotheses, the survey participants, and the instrument used for data collection. Eventually the complete results of the analysis are described and the explanations for these findings and their implications are discussed in the last sections of the paper. The paper ends with a discussion of points for future research.

## **2 Theoretical background**

### *2.1 Information disclosure*

People join OSN sites such as Facebook and Flickr either to display and connect with other members, primarily with those users have already established a connection offline, (active participation) or simply to quietly track what others are doing online and offline (passive participation). Active participation in OSN sites, through identity creation and management and social conversation engagement, according to a number of researchers (Christofides et al., 2009; Nosko et al., 2010), requires users to constantly share various types of information such as photos, updates of their activities, and their thoughts on issues and themes.

In this study, active Facebook use involves the conscious decision to share various types of personal information for different purposes. On the contrary, passive Facebook use is primarily characterised by the user's preference to withhold any type of personal information. In such a situation, the person uses Facebook not for information dissemination or impression management but simply as a medium employed to monitor what his or her contacts are doing, thinking, or feeling.

Beldad et al. (2012a) claim that people's decision to share complete information about themselves is predicated on trust in the information recipient(s) and on the benefits of information disclosure, just as the perceived risks of disclosure could curb disclosure intention. It is highly likely, however, as Debatin et al. (2009) supposed, that despite knowledge of threats to information privacy, people would still opt to disclose non-static personal information if the benefits of doing so outweigh the negative consequences of such disclosure.

Moreover, it is possible that even when the risks are known, if people do not value their privacy, disclosure would still proceed. This research, hence, looks into the possible impact of information disclosure benefits, risk perception, and privacy valuation, alongside the Facebook users' demographic characteristics and context of Facebook use, on the disclosure of non-static personal information on Facebook among its young users in The Netherlands.

Non-static personal information, in this study, is conceptualised as any type of personal information that changes on a more frequent basis in accordance with the mood, activities, and disposition of the information owner. Such an information includes photos, statements of current activities, and thoughts on issues or things. This is contrast to a static personal information, which is bound to be fixed for a certain period of time, such as name, mobile phone number, residential address, or e-mail address. These types of information are normally shared once as they are not expected to change customarily.

## 2.2 *Benefits of Facebook use*

The popularity of OSN sites could easily be attributed to the benefits they extend to their users. These benefits include communication and relationship maintenance (Ellison et al., 2007; Krasnova et al., 2010; Livingstone, 2008; Raacke and Raacke, 2008), relationship building (Krasnova et al., 2010), and personal information publication (Kietzmann et al., 2011; Livingstone, 2008; Vandoninck et al., 2011). Additionally, OSN sites also enable users to actively participate in civil and political activities (Valenzuela et al., 2009).

These benefits might suffice to reduce OSN users' resistance to the idea of disclosing any type of information about themselves, as information withholding and, even, fabrication limit users' ability to engage in online self-presentation and to communicate with multiple individuals (Christofides et al., 2012). Therefore, while the risks associated with information disclosure might be aplenty, they are often outweighed by the perceived benefits that can be derived from such disclosure (Debatin et al., 2009). This prompts the first hypothesis.

- H1 The perceived benefits of using Facebook positively influence the extent of non-static personal information disclosure among young Dutch Facebook users.

## 2.3 *Risks associated with information sharing*

The potential for information abuse resulting from the disclosure of various types of personal information on OSN sites is high. Hence, active participation in OSN heightens users' vulnerability to various forms of information privacy violation. The risks could be attributed either to the actions of the primary recipients of the information (e.g., OSN sites, members of users' networks) or to external parties technically proficient in gaining unauthorised access to disclosed information. Although these risks might be known to some (Kietzmann et al., 2011), average users may not really be aware of OSN information disclosure hazards (Debatin et al., 2009).

The fear of having personal information abused online has been known to trigger internet users to resort to various forms of privacy protection behaviours such as information withholding or information fabrication (Cho et al., 2009; Davis and James, 2012; Krasnova et al., 2010; Metzger, 2004). Hence, the hypotheses below:

- H2a The perceived risks of non-static personal information as susceptible to abuse by Facebook negatively influence the extent of non-static personal information disclosure among young Dutch Facebook users.
- H2b The perceived risks of non-static personal information as susceptible to abuse by members of a Facebook user's network negatively influence the extent of non-static personal information disclosure among young Dutch Facebook users.

## 2.4 *Information privacy valuation*

Information privacy is defined as 'the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others' [Westin, (1967), p.7]. A critical point in this definition is the need for control over information flow and other parties' access to that information (Diffie and Landau, 1998). Communication Privacy Management (CPM) postulates that

people believe they own their information and such belief influences their desire to exercise control over the spread of their information to others (Petronio, 2002, 2007).

Nonetheless, people differ in their attitude towards their information privacy, with some strongly resisting the idea of disclosing any type of personal information on privacy grounds, and others totally unconcerned about privacy violations and would willingly disclose personal information (Westin, 1991). Based on CPM's thesis, information privacy valuation in this study is referred to as the belief that information privacy merits respect and that access to and flow of personal information should be controlled. Attitude towards privacy, of which valuation of privacy is subsumed, is argued to impact privacy-related behaviours such as information disclosure and information withholding (Norberg and Horne, 2007). People who value their information privacy might be less disposed to disclose personal information on Facebook, hence the third research hypothesis.

H3 Information privacy valuation negatively influences the extent of non-static personal information disclosure among young Dutch Facebook users.

### *2.5 Demographic characteristics, Facebook use context, and information disclosure*

Beldad et al.'s (2011) comprehensive theoretical framework for information disclosure did not take internet users' characteristics into account when dissecting the factors prompting and inhibiting disclosure. The studies mentioned in this section show that users' demographic characteristics (e.g., gender, internet experience) and their context of OSN site use (e.g., online network size, length of OSN site membership) play important roles in information disclosure.

Men and women have been found to differ in their levels of privacy concerns online, with the latter being more concerned than the former (Cho et al., 2009; O'Neil, 2001; Sheehan, 1999; Youn and Hall, 2008). These differences could certainly explain why in an OSN use context, men share more sensitive information than women (Peter et al., 2005; Walrave et al., 2012). Additionally, female OSN users are more protective of their OSN site profiles (Hoy and Milne, 2010; Walrave et al., 2012) and, thus, are more likely to have private profiles (Lewis et al., 2008).

Privacy concerns have also been found to be positively related to people's age, with knowledge of information privacy threats higher among older individuals than among their younger counterparts (Paine et al., 2007) and adolescents more informed of privacy risks than children (Staksrud and Livingstone, 2009). Research shows that information disclosure is higher among adolescent users of Facebook than among their adult counterparts (Christofides et al., 2011).

The relationship between internet experience and privacy concerns has also received academic attention, despite differences in perspective on the nature of the relationship between the two. On the one hand, people who are more experienced with the internet are prone to have high privacy concerns than those with less experience (Miyazaki and Fernandez, 2001). The argument is that as people accumulate more internet experience, their knowledge of the many things that could go wrong online also increases, which amplifies their privacy and security concerns (Aiken and Bousch, 2006).

On the other hand, however, there is empirical evidence to support the negative relationship between internet experience and privacy concerns. Individuals with more

internet experience have been found to have less privacy concerns compared to those with less experience (Bellman et al., 2004; Cho et al., 2009). An earlier study reported that internet experience, measured in terms of the amount of time spent online, positively influences people's propensity to share personal information for an online exchange (Metzger, 2004).

Aside from internet experience, people's experience with an online social network site is also deemed crucial in influencing their level of information disclosure. In this study, this level of experience is measured in terms of the length of people's membership in an OSN site. The likelihood of experiencing the negative consequences of OSN site use (and information disclosure) might be higher among people who have been members of a specific OSN site for a long period of time than those who are relatively new to that same site.

Nonetheless, it is also plausible that people who have been members of an OSN site for quite some time have sufficient knowledge of ways to protect their information privacy online, which could eventually lower their reluctance to disclose information to their online network members. In one study (Nov and Wattal, 2009), it is known that the length of people's OSN site membership positively relates to the amount of personal information they share on the site.

Self-presentation is a preoccupation for young people (Livingstone, 2008) and OSN sites have remarkably eased this process. Self-presentation, however, is devoid of any significance when an audience, real or imaginary, is non-existent. According to Gardner and Martinko (1988), the size of an audience, aside from the status of the audience and familiarity with it, could shape people's self-presentation.

Despite paucity in research into the impact of online social network size on information disclosure, earlier studies showed a positive relationship between the two. Young and Quan-Haase (2009), for instance, found out that OSN users with many network members were more inclined to disclose personal information on their OSN site profiles than those with fewer contacts. A positive correlation between the size of one's contacts and the amount of photos shared per year has also been found (Nov et al., 2009). Emanating from these critical points are five additional hypotheses:

- Hypothesis 5 The extent of non-static personal information disclosure among young Dutch Facebook users is predicated on their gender.
- Hypothesis 6 Age negatively influences the extent of non-static personal information disclosure among young Dutch Facebook users.
- Hypothesis 7 Internet experience (measured in years) positively influences the extent of non-static personal information disclosure among young Dutch Facebook users.
- Hypothesis 8 Length of Facebook membership (measured in years) positively influences the extent of non-static personal information disclosure among young Dutch Facebook users.
- Hypothesis 9 Facebook network size positively influences the extent of non-static personal information disclosure among young Dutch Facebook users.

### **3 Method**

#### *3.1 Procedure*

The study's focus on non-static personal information disclosure behaviour of young Dutch Facebook users prompted the decision to conduct a paper-based survey with students of a vocational school offering formal training on graphic design and textile management in Enschede, The Netherlands for three weeks. Such a timeframe ensured that a significant number of students were approached for the study. The ease of collecting data from a sizeable number of respondents within a short period of time and with less cost prompted the decision to conduct the study in the aforementioned school. However, it was also acknowledged that the choice for one group could significantly limit the generalisability of the research results.

A paper-based survey has the advantage of ensuring that individuals who agreed to participate will really fill out the questionnaires on the spot, thereby minimising chances of non-response. The survey questionnaire, with items translated from English to Dutch, was pilot tested with 25 students of that same school to identify statement formulation- and comprehensibility-related issues. Results of the pilot test prompted the modification of the questionnaire items.

Five teachers volunteered to assist in the distribution of the questionnaires within the school premises. At the time of the survey, 790 students were currently enrolled, and 320 of which were approached to complete the questionnaire. Eleven students of the 320 who were approached refused to participate since they did not have Facebook accounts at the time of the survey, resulting in 309 students receiving paper-based questionnaires. Questionnaires from nine respondents were eventually removed since they were not completed. Furthermore, data from five respondents were removed as their z-scores on a couple of parameters (Facebook network size and length of Facebook membership in years) indicated that they were outliers. Hence, data from 295 respondents were used for analysis.

#### *3.2 Respondents*

Females comprised 56.3% ( $N = 166$ ) of the 295 survey participants. Respondents' age ranged between 16 and 23, comparable to the age range for typical students enrolled in the school, with a mean age of 18.51 ( $SD = 1.59$ ). Except for 27 respondents, almost all have been using the internet for over 6 years or more already, with the average internet experience pegged at 8.98 years ( $SD = 1.82$ ). Additionally, over 65% of the survey participants have been members of Facebook for just 2 years or less ( $M = 2.16$ ,  $SD = 1.04$ ). The size of the Facebook network of the participants ranged from 30 to 650 members, with an average number of 239 contacts ( $SD = 123.99$ ). Shown on Table 1 is the complete demographic information of the survey respondents.

**Table 1** Complete demographic information of the survey respondents

<i>Demographic characteristics</i>		<i>Frequency</i>	<i>Percentage</i>
Gender	Male	128	43.4
	Female	166	56.3
	Preferred not to indicate	1	0.3
Age	16–17	97	32.9
	18–19	119	40.3
	20–21	64	21.7
	22–23	15	5.1
	Internet experience (in years)		
	6 years or less	27	9.2
	7 to 9 years	142	48.1
	10 to 12 years	121	41.0
	12 years or more	5	1.7
Facebook usage (in years)	Less than a year		2.7
	1 year	72	24.4
	2 years	117	39.7
	3 years	70	23.7
	4 years	20	6.8
	5 years or more	8	2.7
Facebook network size (number of contacts on Facebook)	Less than 51 contacts	11	4.0
	51 to 150 contacts	72	24.0
	151 to 250 contacts	103	34.0
	251 to 350 contacts	57	19.0
	351 to 450 contacts	34	11.0
	451 to 550 contacts	15	5.0
	551 or more	3	1.0
<i>Total</i>		<i>295</i>	<i>100</i>

### 3.3 Survey instruments

Respondents' demographic characteristics (e.g., gender, age, internet experience) and the context of their Facebook use (e.g., length of Facebook membership, Facebook network size) were collected in the first part of the survey instrument. Items measuring the various constructs of the study, all measured on a five-point Likert scale, were presented in the second part of the instrument.

'Information disclosure (self-reported) behaviour' (DISC) was measured with four items (e.g., 'I post photos of myself on Facebook' and 'I announce my daily activities on my Facebook wall') on a five-point Likert-scale of frequency, with 5 representing 'always' and 1 'never' ( $\alpha = .70$ ).



The risk construct was split into two according to OSN users' attribution of privacy risks sources. The first sub-construct, focusing on the attribution of risks to the actions of Facebook (RFBK,  $\alpha = .82$ ), was measured with three items (e.g., 'I believe Facebook will use my personal information for unknown purposes' and 'Facebook will use my personal information for commercial purposes'). It should be noted, however, that the risks attributed to Facebook do not only pertain to the actions of the platform (e.g., items 1 and 2) but also to its competence in safeguarding the information privacy of users (e.g., item 3).

The second sub-construct, which centred on the attribution of risks to the actions of respondents' online network members (RMEM,  $\alpha = .78$ ), had four items (e.g., 'personal information I post on my Facebook wall will be abused by my contacts' and 'personal information I post on my Facebook wall will be used by my contacts for unknown reasons'). Four statements were used to measure 'benefits of sharing personal information' (BENE,  $\alpha = .74$ ) on Facebook (e.g., 'posting photos of myself on Facebook increases my popularity' and 'Posting my thoughts and opinions on certain issues and things makes me an interesting person.').

'Privacy valuation' (PVAL,  $\alpha = .70$ ) was measured with three items using an agreement scale. Typical examples of items included 'I find it important to have control over the use of my personal information online' and 'I find it important that I can determine who should have access to my personal information online'. Cronbach's alpha values for the five constructs are higher than .70, signifying good construct reliability (Burns and Burns, 2008). Furthermore, all items used to measure the five constructs were originally formulated for this research.

## **4 Results**

### *4.1 Factor analysis*

The 18 items used to measure the different constructs of the study were subjected to a principal component analysis. The Kaiser-Meyer Olkin measure of sampling adequacy was pegged at .73, higher than the recommended value of .60 (Kaiser, 1974). Bartlett's test of sphericity [ $X^2(153) = 1,594.31, p = .001$ ] indicated that the correlations among the 18 items were adequate for the performance of principal component analysis. Furthermore, eigenvalues for the five components were higher than the Kaiser's criterion of 1 and in combination amounted for 62.24% of the variance. Table 2 shows the factor loadings of the 18 items used to measure the five constructs for the study.

### *4.2 Hierarchical regression analysis*

To test the research hypotheses, survey data were subjected to hierarchical regression analysis, which enabled the researcher to sequentially determine the effect of the different independent variables on the dependent variable (Burns and Burns, 2008). Perceptual constructs (perceived benefits of information disclosure, risk perception, and privacy valuation) were entered in the first block, resulting in an adjusted  $R^2$  value of .10 ( $F_{4, 289} = 8.83, p < .001$ ).

**Table 2** Results of the factor analysis with VARIMAX rotation of the items included in the online survey instrument

<i>Constructs</i>	<i>Items</i>	<i>Components</i>				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
DISC	I post photos of myself on FB.				.60	
	I post my interests on FB.				.75	
	I announce my daily activities on FB.				.77	
	I post my thoughts and opinions on certain issues on FB.				.72	
BENE	Posting photos of myself on FB increases my popularity.		.80			
	Posting my thoughts and opinions on certain issues makes me an interesting person.		.80			
	Posting details about my activities allows me to inform many members of my network.		.62			
	Posting information about myself on FB is a way to represent myself to many members of my network.		.72			
RFBK	I believe FB will use my personal information for unknown purposes.			.83		
	FB will use my personal information for commercial purposes.			.88		
	My Facebook identity could be stolen by unauthorised third parties.			.75		
RMEM	Personal information I post on FB will be abused by my contacts.	.70				
	Personal information I post on FB will be used by my contacts for unknown reasons.	.76				
	Personal information I post on FB will be the basis of gossip for some of my contacts.	.81				
	Personal information I post on FB could lead to some of my contacts to have a different impression of me.	.77				
PVAL	I find it important to have control over the use of my personal information online.					.72
	I find it important that I can determine who should have access to my personal information online.					.85
	I am convinced that my information privacy online should be respected and protected.					.84

In the second block, the demographic variables (gender, internet experience) and the context of Facebook use (Facebook network size, length of Facebook membership) were entered, prompting an increase in the value of the adjusted  $R^2$  to .15 ( $F_{9, 284} = 6.68$ ,  $p < .001$ ), indicating that 15% of the variance for the non-static information sharing behaviour of survey respondents on Facebook can be explained by the different independent variables.

In the final model, the perceived benefits of information sharing is an important factor influencing respondents' information sharing behaviour ( $b = .28$ ,  $p < .001$ ), thereby supporting Hypothesis 1. Moreover, the respondents' Facebook network size ( $b = .17$ ,  $p < .01$ ) and the length of their Facebook membership ( $b = .13$ ,  $p < .05$ ) also predict non-static personal information disclosure among young Dutch Facebook users, supporting Hypotheses 9 and 8, respectively.

Analysis, however, reveals that the negative effects of risks perception (attributable both to the actions of Facebook and to users' network members) and privacy valuation on non-static personal information disclosure do not exist, just as the gender and the age of the participants do not influence disclosure, hence Hypotheses 2a, 2b, 3, 5, and 6 are not supported, respectively. Moreover, the hypothesised (H7) positive effect of internet experience on information disclosure is also not supported. Table 3 presents the non-standardised and standardised coefficients of the different variables hypothesised to influence young Dutch Facebook users' disclosure of non-static personal information.

**Table 3** Coefficients of the variables hypothesised to influence young Dutch Facebook users' disclosure of non-static personal information

	<i>B</i>	<i>Std. error</i>	$\beta$	<i>t</i>	<i>Adj. R<sup>2</sup> (<math>\Delta R^2</math>)</i>
Constant	3.01	.36		8.39	.10 (.11)
Benefits of information sharing on Facebook	.33	.06	.32	5.65	
Risks attributed to the actions of Facebook	.00	.04	.00	.03	
Risks attributed to the actions of Facebook network members	-.06	.05	-.08	-1.21	
Privacy valuation	-.06	.07	-.05	-.88	
Constant	2.52	.43		5.85	.15 (.07)
Benefits of information sharing on Facebook	.29	.06	.28***	4.82	
Risks attributed to the actions of Facebook	-.00	.04	-.01	-.08	
Risks attributed to the actions of Facebook network members	-.05	.05	-.07	-1.12	
Privacy valuation	-.07	.06	-.06	-1.03	
Gender	.03	.10	.02	.31	
Age	-.12	.10	-.07	-1.19	
Internet experience (in years)	.04	.03	.08	1.30	
Length of Facebook membership	.11	.05	.13 *	2.35	
Size of Facebook network	.00	.00	.17 **	2.95	

Notes: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

## **5 Discussion**

Considering the primary design of Facebook as a platform for self-presentation and relationship maintenance, users, who aim at presenting their authentic selves, are prompted to disclose various types of personal information. Despite privacy concerns, nonetheless, users seem unperturbed by the negative repercussions of disclosure, as information sharing proceeds unabated. Analysis reveals that among young Dutch Facebook users, the disclosure of non-static personal information is influenced by the benefits related to disclosure, the length of users' Facebook membership, and the size of their Facebook network.

### *5.1 The effect of benefits on information disclosure*

The current study shows that the benefits of information sharing is a strong predictor of young Facebook users' decision to post non-static personal information on the site. Certainly, for users to reap the full benefits of Facebook use (e.g., relationship maintenance, impression management, and information dissemination), various types of personal information have to be disclosed for members of users' networks to consume. As Christofides et al. (2012) underscored, refusal to share information could eventually decrease interaction, which might frustrate those whose Facebook usage is grounded on the need to display.

### *5.2 The effect of Facebook network size on information disclosure*

The size of Facebook users' network also determines their information disclosure behaviour. Analysis reveals that people with more Facebook contacts are more inclined to share personal information on their Facebook walls than those with fewer contacts. This corresponds to the results of Young and Quan-Haase's (2009) findings that individuals with a large online social network have a strong disposition to share information than those with a small network.

Certainly Facebook and other forms of OSN sites have eased people's communication with a bigger audience, which would have been impossible years before the internet became an indispensable technology. The expansion of one's audience could certainly act as a motivator for people to disclose personal information, under the premise, of course, that the one disclosing shares strong ties with his or her audience members.

### *5.3 The effect of Facebook membership length on information disclosure*

Analysis also reveals that the length of people's membership on Facebook contributes to their information disclosure behaviour. This confirms results of a previous research by Nov and Wattal (2009). Those who have been members of the platform for a relatively long period tend to share personal information more frequently than those who are new to the site. Although respondents, at the average, tend not to have very high risk perceptions, it is also likely that they employ certain mechanisms to reduce the potential hazards of information disclosure. Respondents who have been members of Facebook for quite some time, say two years or more, might have already acquired sufficient

knowledge of how to safeguard their information privacy online, thereby resulting in less reluctance on their part to share personal information to their Facebook contacts.

#### *5.4 Risk perceptions and privacy valuation do not matter at all*

Considering that trust and risk perception are two sides of the same coin, as the presence of the former could result in the reduction of the latter (Beldad et al., 2011), it is highly probable that research respondents trust members of their Facebook networks to not misappropriate information posted on their Facebook walls, as indicated by a low mean value for the perceived risks attributed to the actions of network members.

With the study's reliance on self-reports, however, low risk perception scores may not always reflect high levels of trust in the recipients of personal information. It is highly probable that research respondents were not entirely knowledgeable of the information privacy risks that could be attributed to the actions of their Facebook networks and those of Facebook. This possible non-awareness of privacy risks might also explain why risk perception is not a statistically significant negative predictor of respondents' information disclosure behaviour.

While research respondents reported to highly value their information privacy, such valuation is not a statistically significant determinant of information disclosure behaviour. Privacy valuation and information disclosure, however, should not always be viewed as opposite extremes. People might claim to extremely value their privacy, but, at the same time, would opt to disclose their personal information to engage in social interactions.

While there certainly are people who, for privacy reasons, would vehemently refuse to disclose whatever type of personal information regardless of the benefits of sharing (the privacy fundamentalists), there are also individuals who would not hesitate divulging certain types of information if rewards can be expected (the privacy pragmatists) (Westin, 1991). Research respondents could undoubtedly belong to the second group as they indicated to frequently share certain types of information (e.g., photos of themselves, interests), while simultaneously valuing information privacy.

Information disclosure behaviour, nonetheless, does not always signify a nonchalant attitude towards information privacy. In fact, people's valuation of their privacy might even determine the quality and the quantity of personal information disclosed to different recipients. In the context of

Facebook use, for instance, users are not obliged to share as much information (even the most sensitive type) as possible to still connect with members of their online networks.

Though research respondents indicated to frequently disclose photos of themselves and post their personal interests, the disclosed information types might not really be compromising to merit their privacy concerns. One critical factor defining information disclosure, hence, could be the perceived sensitivity of personal information. Presumably, people will not hesitate to share personal information whose disclosure is not expected to result in unwarranted, negative consequences.

### *5.5 Information disclosure does not depend on gender, age, and internet experience*

While previous studies have shown that women are more privacy concerned than men are (Cho et al., 2009; O'Neil, 2001; Sheehan, 1999; Youn and Hall, 2008), therefore, less inclined to share highly sensitive personal information (Peter et al., 2005; Walrave et al., 2012), in this study gender is not a statistically significant predictor of personal information disclosure on Facebook. Additional analysis, using an independent sample t-test, indicates that male and female research respondents do not significantly differ in their information disclosure behaviour.

A possible explanation for this finding is that the age of the respondents might have effaced the effect of gender on information disclosure. As almost all research participants are adolescents, with others just having entered young adulthood, the disclosure behaviour might have been grounded on this need to present themselves to their networks in an attempt to affirm their emerging identities (Rosenberg, 1979, as cited by Elliot, 1982). This might also be the possible explanation for the statistically insignificant effect of age on disclosure, as the age differences among the research participants are relatively small and marginal.

Furthermore, although previous studies have indicated that internet experience is a statistically significant predictor of information disclosure (Metzger, 2004), the impact of such an experience on disclosure behaviour, in this study, is statistically insignificant. Despite polarised claims that those more experienced in using the internet have either less privacy concerns because they know how to adequately safeguard their information privacy or have more privacy concerns because they are more informed of the threats to their privacy, results of this research suggest that the frequency of information disclosure is not hinged on users' proficiency with the internet. However, in this study, internet experience was measured in terms of years of internet use, which may not be a reliable indicator of how well-versed people are with the internet.

## **6 Future research directions**

Since the phenomenal popularity of Facebook, studies into the various factors influencing the disclosure of different personal information types on the platform have proliferated. Nonetheless, results tended to be conflicting and comprehensive models of disclosure intention and behaviour are yet to be tested. While the current study does not claim to have tested such a model, it has taken into account the effects of several information disclosure predictors identified in the comprehensive theoretical framework proposed by Beldad et al. (2012). More importantly, results of this study add new insights into the impact of users' Facebook usage length (in years) and network size on information disclosure – two factors which have not received sufficient research attention yet.

Nonetheless, in relation to the issue of information disclosure on Facebook, a number of questions still remained unanswered. The current study shows that people with a bigger network size are more inclined to share non-static personal information than those with a smaller network. However, what remains unknown is whether or not the proportion of network members with whom a user shares strong ties contributes to the user's decision to post certain types of personal information on Facebook.

The urge among young people to engage in self-presentation in an online environment might have increased the salience of network size as a determinant of information disclosure. The few studies that investigated the impact of network size on information disclosure had younger research participants (Young and Haase, 2009), similar to the current study, or did not compare the relationship between the two variables among respondents from various age clusters (Novet al., 2009). While network size might be an important predictor of information sharing among respondents aged 17 to 25, nothing is still known about the extent of the factor's influence on sharing among more older users of OSN sites (e.g., 50 or older), whose rationale for self-presentation may be totally different from that of their younger counterparts (Martinet al., 2000).

People share information on OSN sites because of the many benefits that can be derived from the disclosure act. This study, alongside the several studies before this one, has clearly indicated that Facebook users post information on the platform because it allows them to communicate with others and to manage other people's impressions of themselves. While there certainly are a range of benefits that can be derived from disclosure, with some types of benefits more influential for information disclosure than others (Krasnova et al., 2010), the effects of these various types of benefits on people's disclosure (or intention) of various types of information are currently unknown.

One can surmise that entertainment- or enjoyment-related benefits would trigger the user's decision to post photos on Facebook but not the decision to post one's views on political matters. Further still, impression management-related benefits might prompt OSN site users to post their daily activities but not their frustration over the services of a certain telephone company.

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