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Running Head: DID FACEBOOK ABSORB FREEWILL?

The Rochester Institute of Technology

Department of Communication

College of Liberal Arts

Did Facebook Absorb Freewill?

The Role of Peer Pressure in the Rise of Facebook

By

Jason Soon

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The members of the Committee approve the thesis of
Jason Soon presented on December 4, 2009

Bruce A. Austin, Ph.D.
Chairman and Professor of Communication
Department of Communication

Rudy Pugliese, Ph.D.
Professor of Communication
Coordinator, Communication & Media
Technologies Graduate Degree Program
Department of Communication

Neil Hair, Ph.D.
Assistant Professor, Chartered Marketer
E. Philip Saunders College of Business
Thesis Advisor

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Abstract

Previous studies on social networking sites have failed to address comprehensively the level of efficacy and role of peer influences in the rise in membership levels of this new communication innovation. This study assessed the level of social influences at play in college students' decision to participate on Facebook. Online and postal surveys were sent to undergraduate students of a Northeastern institution of higher education to obtain self-reported of levels of perceived peer pressure influencing their participation on Facebook. The data collected were used to test a new theory of social conformity. No relationship was found between time spent on Facebook in a typical week and peer pressure.

Keywords: Facebook, Peer Pressure, Conformity, Social Influence, Diffusion,
Deindividuation, Free Will

Did Facebook Absorb Freewill?
The Role of Peer Pressure in the Rise of Facebook

“Of what use is being right, if you are going to be left alone?”

Conformity is not a new concern. Social psychologists have been studying it since the 1950s most notably by Solomon Asch. Using Asch’s line judgment paradigm, Deutsche and Gerard (1955) found that even when groups were rewarded for getting the right answers, conformity effects in getting wrong answers were even greater. Other studies report similar results (e.g. Jones, Wells, & Torrey, 1958), but the question of “free will” was not raised until recently.

Social networking sites (SNSs) first gained world prominence and widespread public recognition when MySpace was launched in 2003. By 2006, MySpace had attracted more than 48 million unique visitors and 27.4 billion page views (Gabbay, 2006, ¶ 1). The number of visitors grew to 114 million globally by July 2007 (Tong, Van der Heide, Langwell, & Walter, 2008). Perhaps the most well-known online social networking website as of today is Facebook™, which began as a social network for Harvard College students but quickly grew to include other college campuses as well as high schools. In recent times, adults and working professionals also joined the Facebook bandwagon, making over half the population of Facebook members outside of college (Fine, 2007; Levy et al., 2007; Wilson, 2008; Facebook.com, 2009; see also Kolek & Saunders, 2008).

Facebook was created by Mark Zuckerberg in February 2004 and grew rapidly. In December 2004, Facebook reached nearly 1 million active users. One year later, active members totaled more than 5.5 million. In December 2006, active membership expanded to 12 million (Facebook.com, 2008). Facebook reported more than 21 million registered members in 2007 (Ellison, Steinfield, & Lampe, 2007). And in April 2008, the number of members Facebook had accrued was reported to be over 70 million (Lewis, Kaufman, & Cristakis, 2008). As of this writing, Facebook™ currently boasts over 300 million active users (as measured by the number who returned to their account in the last 30 days) (Facebook.com, 2009).

The popularity of SNSs has drawn widespread attention from journalists and researchers all over the world (Nytimes.com, 2009; Ellison et al., 2007; Krämer & Winter, 2008; Zywicki & Danowski, 2008). In the increasingly computer-mediated landscape that has come to shape human existence and characterize the world we live in, the growth of and participation by individuals in online communities has grown so much as to be perceived as “the norm” and accepted as a new form of technology successfully integrated into everyday life (Boyd, 2008).

The cultural and ethical challenges that social networking sites present in the context of a digital age had not gone without stirring controversy from commentators, journalists, and researchers (Rheingold, 2002; Bugeja, 2006; Jenkins, 2006; McCreary, 2008; Sarewitz, 2007; Cutri-Bynoe, 2008; Ibrahim, 2008; Josephsoninstitute.org, 2008). Social networking sites are also no stranger to privacy issues, another inviolable aspect

of human life that is essential to personality and identity formation as well as the sharing of intimate details (Gerstein, 1984). Boyd (2008) examined Facebook's tendency to follow through on unilateral directives without regard to users' privacy concerns.

Most research on SNSs has focused on perceptions of users by other users based on Facebook profiles, impression management, benefits of Facebook friends and social capital, and the antecedents and consequences of online social networking behavior (Acar, 2008; Krämer & Winter, 2008; Ellison et al., 2007).

Gross and Aquisti's 2005 data mining study revealed that myriad factors may influence SNS users' willingness to provide personal information about themselves publicly on SNSs, including the *signaling hypothesis* (perceived benefits outweighing costs), *interface design explanation* (users are possibly compliant or ignorant to default, permeable settings), *short-sighted attitudes regarding importance of privacy*, *sense of security provided by living within bounds of a college community* and possibly *peer pressure or herding behavior*¹ (Gross & Acquisti, 2005, pp. 80).

Gangadharbatia investigated the four factors of Internet self-efficacy (experience and confidence in navigating cyberspace), need to belong, need for cognition, and collective self-esteem in influencing *attitudes* and *intentions* to join social networking sites and found that even though positive relations exist between Internet self-efficacy, need to belong, collective self-esteem and willingness to join (intentions), attitude was

¹ Herding behavior is defined as joining with the majority or conformity through motivation of fear of loss (in whatever form) in this paper.

only a partial mediator between collective self-esteem and willingness to join (Gangadharbatia, 2008, ¶ 34-35).

In a survey sample of 67 college students, Coyle & Vaughn (2008) found that 10% of respondents indicated, "everyone is doing it" as a motivation for their decision to join social networking sites (p. 15). Subrahmanyam, Reich, Waechter, and Espinoza (2008) examined the use of social networking sites by 86 college students and found 62% indicated "all my friends have accounts" as their motive for using social network sites (p. 428).

Gross and Aquisti (2006) are probably the first researchers in the field to have even begun to touch upon the specific concept of "peer pressure" as a potential influence on membership and participation in Facebook. In a survey study of 294 Carnegie Mellon University students in 2006, they found that even though undergraduates may show high levels of concern regarding possible intrusions to their privacy, they are nonetheless still shown to be joining the social networking site, Facebook, which may indicate presence of peer pressure.

Krasnova, Hildebrand, Gunther, Kovrigin, and Nowobilaska (2008) conducted a survey and report that peer pressure (along with needs for belongingness and needs for self-esteem through self-presentation) are strong determinants for participation in online social networks.

Currently, no studies have systematically investigated whether and how peer pressure may have or be influencing members and non-Facebook members into

conformity with or “unwilling,” involuntary, or even coerced membership and participation, which may be partly attributed to the general impression by many in society that SNSs have managed to gain such large-scale following mainly through the positive effects of the “diffusion of innovation.”

Herding Behavior

According to Sartre, “Hell is other people.” In his play *No Exit*, he depicted a scenario involving three main characters whose deaths saw them confined to a “nether-worldly” hotel with nothing to do but discuss each other’s past, and the presence and judgment of others is portrayed as torture of the mind.

Tactics to avoid negative evaluation by others has been described as self-presentation (Goffman, 1959), which may be instrumental in avoiding the emotion of shame or embarrassment (Scheff, 1990 cited in Lashbrook, 2000; Goffman, 1959).

Deutsch and Gerard (1955) differentiated between social situations that induce pressures to conform as normative influence when we seek to align ourselves with the positive expectations of others, and informational influence when we are concerned with the wish to obtain accurate facts about external reality.

Herd mentality is described as the tendency to conform because of fear. Social life can be inhospitable territory for some, and Facebook as *social* media, may have activated “the herd instinct.” In his book *Instincts of the Herd in Peace and War*, Wilfred Trotter (1919) described the “social habit” in man as a fundamental instinct that exerts a

profound influence on his conduct, thought, and society (p. 120). According to Trotter (1919),

[Man] is more sensitive to the voice of the herd than to any other influence. It can inhibit or stimulate his thought and conduct. It is the source of his moral codes, of the sanctions of his ethics and philosophy. It can endow him with energy, courage, and endurance, and can as easily take these away. It can make him acquiesce in his own punishment and embrace his executioner, submit to poverty, bow to tyranny, and sink without complaint under starvation. Not merely can it make him accept hardship and suffering unresistingly, but it can make him accept as truth that his perfectly preventable afflictions are sublimely just and gentle (p. 114-5).

Conformity

Research on peer pressure can be traced back to Solomon Asch's (1952) social conformity experiments, where his classic "line judgment" paradigm famously revealed scientifically valid, empirical evidence for the effects of social influences in "modifying the judgments" of *objective* reality by human subjects (pp. 453-454). Due to deliberate experimental procedure of confederates collaborating to collectively and intentionally answer falsely on selected trials, some individuals were sufficiently induced and put under enough peer pressure to yield to conformity and to report in public what they had just witnessed (the length of a line) in a manner that was unequivocally *false* or in direct contradiction with what was previously presented to their eyes via sensory

perception, and this was vastly attributed to induced social pressures, via the fear of public disapproval or the desire (or need) to conform to a *unanimous majority* (pp. 450-455).

Some excerpts² from the famous Asch experiment are reproduced below, and is as follows, "The critical subjects usually left with the feeling that they had witnessed a situation that touched upon a significant human problem . . ." (p. 456).

(Locus of the conflict is found within the subject),

Most subjects see a disturbance created, not by the majority, but by themselves.

They do not call upon the majority to justify its judgments ; most simply try to defend the validity of their own reactions. The subject assumes the burden of proof. [He], not the majority, becomes the center of the trouble; it is [he] who is disrupting the consistent trend (p. 462).

Facing the force of the majority in contradicting their sensory perception, the growth of self-doubt is observed,

There is something wrong, but they cannot say what it is. At this point doubt sets in for many. Some begin to fear that their senses may be deceiving them, and their consternation deepens. It is to this factor that we trace the poignancy of many reactions. Some of the most confident and independent subjects become shaken. One of these reported developing the feeling that he was either very right or very wrong (p. 463).

² Asch, SOCIAL PSYCHOLOGY, © 1999. Reprinted by permission of Pearson Education, Inc.

One subject was sufficiently troubled by the experiment to approach the experimenter after the experiment,

Toward the end of the discussion, when it appeared that the session was at an end, he walked over to the experimenter and asked to be told whether his responses were really wrong. In striking contrast to his previous self-confidence he turned to the experimenter with a bewildered look, saying: "Is there anything wrong with me?" When the experimenter explained the purpose of the proceedings the immediate reaction was one of deep relief (p. 466).

But upon leaving the subject reasserted his doubt and disbelieved the experimenter's explanation . . .

From summarizing Asch's (1952) social conformity experiments, it can be concluded that human judgments of reality may become drastically distorted under social contexts, in particular when human subjects face the prospect of having to go against a unanimous majority. Under stress from the dictates of an extensive past experience, which teaches them the judgments of others can frequently be trusted upon for reliable accounts of external reality, versus their own sensory perception that immediately contradicts testimonies of his(r) fellow creatures, a statistically significant effect was found for the phenomenon that "peer pressure" necessarily influences and is sometimes able to override "truth" in the service of preserving harmony or group cohesion.

Various factors have been found to moderate (or mediate) levels of conformity. They include nature of response (private or public) (Insko et al, 1985 cited in Cialdini & Trost, 1998), closeness of relationship (Kelly & Shapiro, 1954 cited in Cialdini & Trost, 1998), character (Crutchfield, 1955 cited in Cialdini & Trost, 1998), personality (Snyder, 1979 cited in Cialdini & Trost, 1998), and culture (Milgram, 1961 cited in Cialdini & Trost, 1998).

Peer Pressure

Sociologists and various researchers have cited the importance of group influence in adolescent and youths' identity development because the period of life between teen and adulthood is one marked by a shift from family attachment to greater independence, and teenagers come to rely more on peer influences to make their choices and find their own selves (Boehnke, 2008; Boyd, 2007; Bradley & Wildman, 2001; Burns & Darling, 2002; Clasen & Brown, 1985; Fanning, 2003; Manago, Graham, Greenfield & Salimkhan, 2008; Santor, Messervey & Kusumakar, 1999; Steinberg & Silverberg, 1986; Ungar, 2000).

Adolescents also delineate into groups or *cliques* with differing interests and activities, which may apply normative pressures as a price of membership (Brown & Clasen, 1985; Clasen, Brown, & Eicher, 1986; Cialdini & Trost, 1998; Cross & Fletcher, 2009). Sussman et al (2007) conducted a review of literature and found that adolescents frequently delineate themselves into various groups with categories such as "Elites," "Deviants," "Academics," "Athletes" and "Others" (p. 1624).

Most researchers also hold the view that peer pressure can be a source of negative or positive influence on the behaviors of children and adolescents (Cialdini & Trost, 1998; Clasen & Brown, 1985; Burns & Darling, 2002; Fanning, 2003; Quint, 2004; Case, 2006; Maxwell & Chase, 2008). Some researchers have stressed the importance of reference groups in determining the effects of peer influences on individuals (Burns & Darling, 2002; also Rose, Bearden, & Manning, 2001). The degree of *group attractiveness* (Rose et al., 2001) or *closeness* of relationships and similarity of past behaviors (Jaccard, Blanton, & Dodge, 2005) also have variable influence depending on strength of such ties.

Many studies conducted on peer pressure have been done in the specific contexts of teenagers' likelihood of engaging in specific types of behavior which may be risky (Jaccard et al., 2005; Gardner & Steinberg, 2005), reckless or anti-social in such contexts as bullying (Fanning, 2003; Maxwell & Chase, 2008), sexual activities (Bradley & Wildman, 2001; Maxwell & Chase, 2008; Teese & Bradley, 2008), under-age or excessive drinking (Crawford & Novak, 2007; Rose et al., 2001), dangerous driving (Bradley & Wildman, 2001; Teese & Bradley, 2008), or use of controlled substances (Bauman & Ennett, 1996; Bradley & Wildman, 2001; McIntosh, MacDonald, & McKeganey, 2003; Rose et al., 2001).

There is abundant evidence to suggest that when the situation presents unclear cues as to the appropriate manner to behave, people look to others for clues, in a process of *informational influence* (Brown, 1954; Cialdini, 1993; Cialdini & Trost, 1998;

Festinger, 1954). The literature revealed that it has generally found that peer groups and peer pressure do play a role and have an influence on teenagers' likelihood of engaging in risk behaviors (Bradley & Wildman, 2001; Clasen et al., 1986; Fanning, 2003; Gardner & Steinberg, 2005; Jaccard et al., 2005; Maxwell & Chase, 2008; Teese & Bradley, 2008).

Others have cited other causes as reasons for these risk behaviors. For example fulfilling curiosity needs (McIntosh et al, 2003), or entering certain activities by one's own volition (Bradley & Wildman, 2001; Maxwell & Chase, 2008).

Researchers point out that much of "peer pressure" can also be linked to (mis)perceptions. Bauman & Ennett (1996) suggests the socio-psychological mechanisms of *projection* and *selection* play more significant roles in the phenomenon of peer pressure. In conclusion, they suggested other methods of analyzing peer influences may be more effective, namely in the use of social network analysis.

Conceptualizing these later developments in the literature, peer pressure can therefore exist prepotently as a psychological construct (i.e. imagined, or not yet fully developed truth). However distorted this reality may be, it is still potent enough and hard to distinguish from true reality that it may have very high consequentiality potential; therefore, effects of peer pressure will be hard to assess without first recognizing this important facet of the concept of "peer pressure" or peer influences (Burns & Darling, 2002; Clasen et al, 1986; Kinsman, Romer, Furstenberg, & Schwarz, 1998; Crawford & Novak, 2007).

Researchers have also pointed out there is a clear lack of distinction between various constructs of peer pressure within the literature. For example, Santor et al (1999) wrote,

In many studies, it is unclear to what extent peer pressure is distinguishable from related constructs such as peer conformity or conformity. As a result, the manner in which peer pressure is related to potential risk factors and psychosocial problems is somewhat unclear" (p. 164).

Peer pressure can therefore be more fully conceptualized as a force that can reside predominantly in individuals' minds or can be the domain of being actively induced or evoked by others or "conscious agents" (Burns & Darling, 2002; Clasen & Brown 1985; Clasen, et al., 1986; Bauman & Ennett, 1996; McIntosh et al, 2003).

Peer Pressure vs. Peer Conformity.

Summarizing these findings, it can be quite well established that peer pressure can exist primarily in one's own mind, or be in the form of "active encouragement among peers," thus having socio-psychological properties (See <http://www.bothand.org/> for concept of "Both/And"). Therefore, taking these perspectives into consideration, it should be clarified to the reader that as well as being possibly "actively induced" by conscious agents, peer pressure can and may well be a construct that resides only in one's own mind; in other words it *is* perceived.

Some of the reasons cited for succumbing to peer pressure include fear of ridicule (Fanning, 2003; Maxwell & Chase, 2008), fear of isolation (e.g. Fanning, 2003; McIntosh

et al, 2003), strategic avoidance of the emotion of shame (Lashbrook, 2000), or even the anticipation of peer pressure (Boehnke, 2008; Burns & Darling, 2002; McIntosh, McIntosh et al, 2003; Maxwell & Chase, 2008).

Despite some strong associations of the peer influence phenomenon in inducing conformity, researchers have also pointed out instances of displays of independence in face of group pressure (Asch, 1952; Jones, Steinberg, & Silverberg, 1986). Ungar (2000) found peer influence to be a challenging psychological field, which adolescents frequently navigate through triumphantly.

Even though *unanimity* was an important criterion in causing high levels of conformity, it is also the case that knowledge of just one nonassimilator brought levels of conforming down significantly (Asch, 1952; Cialdini & Trost, 1998).

Brown's Five-Factor Peer Influence Model

Brown (2007) described a model of the peer influence process in adolescence as being made up of and mediated by the five key factors: (1) developmental change, (2) cultural norms, (3) social contexts, (4) situational factors and (5) influencer and influencee characteristics. This model will be useful in this paper in conjunction with the social impact theory (Latané, 1981, 1996), which will be subsequently elaborated on (See below) to enable a more complete analysis of the strength and level of peer influences in context (i.e. Facebook).

Social Impact

Social impact theory is described as basically a meta-theory summarizing the basic principles of social influence. It was developed by Latané (1981) and examines the level of power of social influences acting on an individual in terms of and via the mediating potency level of the three elements of *strength*, *immediacy*, and *number of sources* within a social force field.

Latané (1981) defined *strength* as salience, importance, and power or intensity of a source, which may be further described in terms of status, credibility, age, socioeconomic status, prior relationship with and future power over the individual. *Immediacy* is literally geographic distance and refers to the closeness in space and time or absence of barriers, and *number* is the actual count of persons.

The *dynamic social impact theory* was developed by Latané in 1996. Latané (1996) used the computer program SITSIM to simulate the creation of culture (and subcultures) by inputting starting attributes and variables and running interactions until the social system reaches equilibrium.

Latané (1996) stressed the interdependent nature of social and personal factors in creating subcultures within complex social systems. In particular, *strength* (of social influence) may be made up of intrapersonal (e.g. physic, intellect, wealth) as well as interpersonal (e.g. membership in certain groups) factors. Latané (1996) also emphasized the importance of geographic location in determining the *immediacy* of a source of social influence, minimizing action-at-a-distance effects due to the instability it

entails for a social system. Finally, social influence is proportional to “a multiplicative function of the *strength, immediacy and number of sources*” (p. 16).

Social Forces

Prior review of literature has shown that “peer pressure” is a term more often used in health and sociological circles. In psychology and social psychology “peer influence” and “social influence” may be more common, even though they may refer to the same thing. “Normative and informational influence,” “injunctive and descriptive norms” and “group pressure” are terms used by social psychologists to study conformity and social influence. For the purposes of this study, which seeks to investigate the claim of “powerful corralling forces” instigated by certain groups, social influence, peer influence and peer pressure will come under the general umbrella concept of “social forces.”

In line with Brown (2007) five-factor peer influence and Latané’s (1981, 1996) social impact models, this author predicts that multiple factors act on the power of others to influence the individual. For the purposes of this study they shall be put into context in order to examine and highlight its full interaction with complex factors. From analysis of previous works and review of relevant literature, it is found that generally places or situations of high uncertainty and ambiguity are contributory factors causing individuals to conform (Cialdini, 1993; Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Griskevicius, Goldstein, & Cialdini, 2008). Rumors seem to thrive under such conditions and often conveys distorted information

due to processes of *leveling* and *sharpening* (DiFonzo & Bordia, 2007; Milgram & Toch, 1969). At the risk of stating the obvious, it may also be the case that the closer the relationship one has with someone, the more influence that person has on an individual (Altman & Taylor, 1973; Berscheid, 1985); the more credibility perceived or attributed, the higher the influence (Latané, 1981), and the more attractive a group or a person is to an individual, the more influence the group or person has on him (or her) (Festinger 1950, Jaccard et al, 2005; Cross & Fletcher, 2009).

Institutional structures help to contribute to gaining compliance and thus exert influence (Milgram, 1992). Due to the effects of homophily, threshold models, “domino effect” and other interpersonal influences, the higher the number of people perceived to be similar to oneself within one’s personal communication network behaving in a certain manner, the more likely an individual is to follow suit (See Rogers, 1995; see also Festinger, 1954; Jaccard et al., 2005; Latané, 1981, 1996; Maxwell & Chase, 2008). Cultural conditions within different societies also prescribe norms, and individuals may have to modify their behaviors in order to better adapt to the changeable social environment (cf. Asch, 1952; Milgram, 1992).

The theory of reference groups is also cited as a factor in predicting the strength and level of peer influences (Bauman & Ennett, 1996; Burns & Darling, 2002; Park & Lessig, 1977). One’s age and maturity levels are also factors in how much impact peer influence has on an individual (Steinberg & Monahan, 2007). Finally, the power level of peer influences also varies with salient motives, individual pre-dispositions and

personality factors (Bearden & Rose, 1990; Brown, 1954; Gibbons & Buunk, 1999; Griskevicius et al, 2006).

Diffusion

Critical mass is labeled as a distinctive quality of a population's adoption of interactive media such as "email, telephones, fax, and teleconferencing" (Rogers, 1995, p. 343). Everett Rogers examined the diffusion of innovations extensively and cited the critical mass stage in diffusion of an "interactive" innovation typically occurs around the 5% to 20% level of adoption. According to Rogers (1995),

A good deal of interdependence occurs among the adopters of any innovation in the sense that adopters influence their peers to adopt by providing them with a positive (or negative) evaluation of the innovation. Such peer influence usually makes the diffusion curve take off somewhere between 5% and 20% level of adoption. Once this take-off is achieved, little additional promotion of the innovation is needed, as further diffusion is self-generated by the innovation's own social momentum (p. 324).

Even though Roger (1995)'s diffusion theory analysis is sufficient to account for the much of the central issue being examined in this paper, it does not go into an in-depth detailed account of what happens on an interpersonal level, or penetrate deeper into the mind by giving an in-depth analysis exactly how or what happens on an individual, psychological basis, and that is what this paper attempts to do.

The Social Nature of the Technology

Boyd (2007) examined the rise of social networking site MySpace and cited use of the site as a way of gaining social capital (i.e. be cool, popular etc). In addition, the "publicly articulated display of information" also presents use of online social networks as a form of image management for teenagers in their interactions with peers (e.g. Tufekci, 2008). Manago et al (2008) found that college students could be using the medium as a way of exploring multiple identities (also see Parks & Floyd, 1996).

Issues of privacy are no strangers to SNSs (e.g. Boyd, 2008; Kolek & Saunders, 2008; Rosenberg & Rubin, 2006). Ibrahim (2008) reported that a record number of identity thefts had been committed in the United Kingdom in 2007, which may be attributed to use of social networking sites because of the private information being posted online. Writing about the new risks and vulnerabilities that online communities bring upon individuals who are new to the phenomenon, Ibrahim (2008) highlighted the fact that even though online social communities have brought new opportunities to explore multiple identities and empower the individual, SNSs have also opened up new channels of fraud and deception.

In promoting a "performative display of information," Ibrahim (2008) said social networking sites have made possible new avenues of deviance, misrepresentation and crime even while enabling the easier formation of new communities and fraternities. She thus characterized SNSs as new "complicit risk communities" (p. 245).

Pictures posted on SNSs can range in content from scenes depicting teenagers themselves having fun or in various modes of partying or alcohol usage to persons getting very drunk can sometimes be indiscreet or immodest (Goessling, 2008; Richmond, 2009; Rosenberg & Rubin, 2006; O'Reilly & Ham, 2007; O'Toole, 2006; see also Lichtenstein, 2009). Cyber-bullying and peer pressure had been brought up as issues which merit attention (Ban, 2007; Brooks, 2007; Kornblum, 2008; O'Toole, 2006). Ingenuous but uncensored textual posts on the Facebook "wall" are also a common occurrence (Richmond, 2009; Roberts, 2009; Walther, Van Der Heide, Kim, Westerman & Tong, 2008; Williams, 2009).

The importance of the current endeavor, reiterated here, is to assess the level of social influences at play, which may amount to a social force at larger degrees (and thereby thread into possible compromise of the moral integrity or abridgement onto fundamental rights of a person) in influencing an undergraduate student's choice to participate.

Thus far, what knowledge has been acquired of SNSs and their impact on society had been done predominantly on issues dealing with privacy (Strater & Richter, 2007; Jones & Soltren, 2005; Boyd, 2007, 2008; Gross & Acquisiti, 2005, 2006; Goha, Tang & Francis, 2008; Lenhart & Madden, 2007; Lewis, Kaufman & Cristakis, 2008; Lee 2007), antecedents, consequences and uses (Acar, 2008; Boyd, 2007; Eberhardt, 2008; Lenhart & Madden, 2007; Subrahmanyam et al., 2008; Coyle & Vaughn, 2008; Stern & Taylor, 2008), identity and impression management (Kramer & Winter, 2008; Manago, Graham,

Greenfield, & Salimkhan, 2008), social capital enhancing activities (Ellison, et al., 2007, 2008; Zywica & Danowski, 2008; Tong, et al., 2008), student-teacher interactions (Mazer, Murphy & Simonds, 2007), information revelation patterns (Gross & Acquisti, 2005, 2006), differences across demographics in usage of different sites (Hargittai, 2007), marketing strategies (Anon, 2008) that may be employed, and possible individual pre-dispositions and attitudes in predicting usage (Tufekci, 2008).

The Problem Statement

Human nature may be intrinsically social (For a good review, see Berscheid, 1998); their need to communicate with others is well established (e.g. Asch, 1952; Turkle, 1995) and can be traced back to many studies and theories (e.g. social comparison theory by Festinger, 1954), including those examining evolutionary origins (e.g. Harlow & Zimmermann, 1958 cited in Coyle & Vaughn, 2008; Köhler, 1925, cited in Asch, 1952). Social behavioral theorists also cited the “self” as arising partly through use of language (see Asch, 1952; see also “The Forbidden Experiment” by Robert Shattuck) from interactions with other human beings (e.g. Mead, 1934; see also Duval & Wicklund, 1972 and Sartre’s Being and Nothingness). The need to communicate can thus be summarized as fulfilling both self-esteem and self-preservation needs.

Individuals frequently have ideas of what is right and wrong or good or bad for themselves which are peculiar to their specific conditions and unique situations in life unknown to or sometimes outside the purview of others. However, the trigger of powerful social influences upon the masses and upon individuality by the introduction

of a new innovation may force individuals into conformity with usage of it mainly because of uncertain expectations or fulfillment of need-based (social) activities. This can foretell the instance of violation of or infringement into a substantive domain of individuals the right to autonomy afforded by an institution of freedom (conferred upon by the constitution of a society with a long-standing interest and belief in liberty) in the pursuit of what in their own eyes are considered right, good, moral, appropriate to or more suitable for the adjustment of their personalities under the circumstances of their own uniquely prescribed situations.

In making the final judgment of their own volition, alone and by themselves, and in having a choice as to what, how, where or which activities to engage in or pursue and such; and of whom to associate with in order to achieve it and the direction in which they wish to take for themselves and for their lives, as well as other projects involved along the way as to which way to go, what to do, how or who to approach or consult with in achieving their specific objectives, goals and criteria contained therein, the freedom to choose and the freedom of choice are essential and paramount to ensuring that the quality of human existence coupled in moral responsibility is kept in tact and social influences and the stability of a social system in check and integrity of a society can continue to be upheld, the well-being of a people protected and freedom be preserved (More is discussed under the section titled Rationale).

This research study investigates the presence and efficacy levels of *peer pressure* in influencing *participation* in Facebook™, attempting to account for the high-speed,

aggressive, exponential, sweeping, powerful and phenomenal growth of SNSs, behind which the author suspects 'peer pressure' or 'herding behavior' may have been one of the main thrusts. Because of the rare occasion the unprecedented growth of SNSs among teenagers presents as well, this study shall go one step further and attempt to validate a new theory of social conformity characterized by an institution of freedom partly collapsing or may become 'absorbed' under immense pressure from overwhelming social forces (decontextualized and filtered down in idiosyncratic personal-situational circumstances), and coupled in general awareness of perceived institutional endorsement as well as sporadic changes in the "world"-wide culture.

Preliminarily stated here, the research questions of interest cover or involve, Are there insurmountable social forces in play and instigated by certain social groups that compel and corral mass participation and membership in online social networks? What impact does *peer pressure* have on *participation* in social networking site, Facebook™? To what extent can the growth of social networking sites be attributed to peer pressure? And can the level of peer pressure rise so high as to become a force of immense power compelling and corralling the mass participation of these sites through unwilling submission of individual autonomy, in other words instill herding behavior?

In light of the exceedingly sparse literature if any, being written concerning potentially detrimental effects and impacts of high levels of peer pressure on individual autonomy, in influencing membership acquisition or engagement in certain activities (in SNSs by college students) during the time of their exponential surge in membership

acquisition in the ensuing months of opening up to the general public, this paper attempts and seeks to find an answer to the general research question of, Are there insurmountable social forces in play and instigated by certain social groups that compel and corral mass participation on the social networking site, Facebook?

Since the study is interested in the nature of powerful peer or social influences triggered by a radical technological 'interactive' communication innovation and its effect on the individual happening at the micro-personal level in its operation at the system-wide (macro-societal) level during Facebook's fast and rapid diffusion over interpersonal channels and the Internet, some overlapping into the fields of social influence in other disciplines will be incurred and is hereby humbly stated and unpretentiously sustained.

Peer pressure is defined as the social influences arising from interpersonal, situational, societal, cultural, as well as mediated by individual psychological pre-dispositions and personality traits, which play a role in influencing a person's attitudes and behavior (Asch, 1952; Brown, 2007; Crawford & Novak, 2007; Latané, 1981, 1996; Maxwell & Chase, 2008). *Participation or joining* would refer to the act of acquiring membership, adoption of a new technology or time-spent engaging in an activity (i.e. SNSs).

Debates surrounding "free will" by philosophers, psychologists, scientists and other notable figures have carried on over the centuries and are far from conclusive (cf.

Westcott, 1977). But it is not the intention of this paper to explore this subject in great detail.

As well as the limited amounts of literature written on the phenomenon of 'social conformity' within the context of social influences moderated by other factors (environmental, situational, personal, type of relationship etc.) happening on a mass scale affecting membership acquisition and the active choice of students in deciding whether or not to engage in activities on SNSs [which may be implicitly induced and propagated by the nature of SNS technology's functional characteristics and communicational (thereby social) aspects], this paper will attempt to fill up an important gap in the literature by finding an answer to the first research question of, RQ_A: In the diffusion of the 'interactive' innovation of Facebook, can (and do) social forces of peer pressure rise so high as to absorb *freewill*?

Unfortunately, due to failure in chasing the above phenomenon (it was over before it can be reliably measured - not even its residual effects can be reached), the testing of the power of social influences in Facebook during its phenomenal rise was beyond the capabilities of this researcher. As a result, the agenda of this study was subsequently changed to testing the efficacy of peer influences in Facebook as can be measured and observed in the present (Summer 2009). Therefore the research question will be,

RQ₁: What is the level of peer pressure within Facebook and is it high enough to absorb (belief in) *freewill*?

Because of feedback given to the author regarding the apparent lack of “secure evidence” suggesting the presence of “peer pressure” influencing activities on Facebook as well, it was inferred that in order to find an answer to the above question, it is first necessary to gather data on the motivations (in particular peer pressure) behind people’s choice to join or desire to participate on SNSs. We therefore begin an investigation into this area by asking the research question of,

RQ_B: To what extent can the rise of Facebook be attributed to peer pressure?

Due to unfortunate incidences and limited resources again as mentioned previously, the above research question cannot to be tested in a feasible manner and proper timeline either. In spite of these situational barriers and restrictions, the existence of literature that hints at the presence of peer pressure in SNSs, was subsequently found by the author, and it shall be assumed that peer pressure had been a potent force contributing to the rise of Facebook as examined by previous researchers (Boyd, 2008; Gross & Acquisti, 2005,2006; Krasnova et al, 2008; Roberts, 2009; O’Toole, 2006; see also Ban, 2007; Kolek & Saunders, 2008; McCafferty, 2009). Therefore, taking the above modifications into account, the main research question of interest to be asked and answered by this study and as previously mentioned will be,

RQ₁: What is the level of peer pressure within Facebook and is it high enough to absorb (belief in) *freewill*?

Previous experience dealing with its rogue character and lack of ethical oversight with the introduction and unleashing of web 2.0 technologies upon the social environment is well documented (e.g. Goddard, 2008; McCreary, 2008; “Net extends bullying around the clock,” 2007; Vice, 2008). This gives the author impetus to suspect the most unflattering, and therefore the first hypothesis to be tested will be,

H_{1A}: Self-reported perceived peer pressure among college undergraduates in regards to joining Facebook is high enough to overwhelm (belief in) *freewill*.

Past research on social networking sites have addressed issues of privacy (e.g. Boyd 2007, 2008) unwillingness to communicate (Sheldon, 2008), self-esteem (Acar, 2008; Ellison et al., 2007, 2008) as well as teenagers’ use of Facebook and MySpace to fulfill self-presentation needs, Krämer & Winter, 2008; Manago, Graham, Greenfield, & Salimkhan, 2008) and it would be of interest to add to the corroboration of knowledge currently accumulating in this area. In particular, this study addresses directly the key issue of peer pressure. As such, the second and third research questions will be,

RQ₂: What is the nature of the relationship between self-reported perceived peer pressure and undergraduate students’ time spent engaging in activities on Facebook?

RQ₃: What is the nature of the relationship between self-reported perceived peer pressure and undergraduate students’ motivations to join Facebook?

Correspondingly, the hypotheses to be tested are,

H₂: Self-reported perceived peer pressure, is significantly and positively related to time spent engaging in activities on Facebook.

H₃: Self-reported perceived peer pressure is significantly and positively related to college undergraduate students' decision to join Facebook.

Rationale

“Those who do not learn from history are condemned to repeat it.”

This researcher is interested in studying SNSs from a social psychological perspective, and examine its growth and widespread adoption by society, which will shed light on its over-arching psychological impact on individuals (which will include users and nonusers).

Radical advances in communication and Internet technologies have enabled a revolution on a scale seldom seen in human history (judged by speed and rate of adoption). The social changes brought on by such technological changes have reshaped the worldviews of an entire generation. These developments have therefore opened up an opportunity for scholars and researchers to examine the notions of *freewill* and efficacy of choice in the context of overwhelmingly compelling social forces. The main purpose behind conducting this study stems from motivations driven and triggered in part by the pervasiveness of computers and the ubiquity of the Internet in shaping and characterizing the lives of human beings in the Age of Information.

The "always on" culture propagated and implicitly perceived to be promulgated by distant controlling bodies of the cultural industries and the prevalence of digital media actively supported and funded by such perceived institutions have been intimated and felt on multiple levels by many people in society. Large segments of the population have been affected on personal and professional levels by the rapid and forceful diffusion of this innovation and therefore experienced the overwhelming and revolutionary power that SNSs can exert (and project) on society in part because of these websites' apparent widespread acceptance and popularity, thrust in part by the ubiquity of the Internet, which is a medium that demands recognition in shaping the dominant worldviews of people living in the post-modern era.

The Internet has played an important role in contributing to humankind's development and improving lives in many ways, but with its growth and development had also brought along many new problems, complications, idiosyncratic developments, and moral and cultural issues with significant social implications. The singular pursuit of micro, individual goals with only known benefits consigned to a minority resulting in emergent, drastic, potentially harmful widespread negative consequences being sustained on a wider scale by the larger majority is also explored to some degree.

Little or no literature currently exists which specifically addresses this salient and important societal issue, which hints at a lack of attention that has simply been missed or implicitly but inexplicably overlooked. Moreover, the sustained presence and

flourishing of this technology has now come to be accepted by a majority of the masses as a general positive influence of "technological advancement" or "diffusion of innovation."

According to Everett Rogers (1995), at the persuasion stage of the diffusion of innovations, individuals may "mentally apply the new idea to his or her present or anticipated future situation before deciding whether or not to try it" (pp. 168). Rogers also stated that at certain stages, individuals may come to rely on the opinions of others to confirm his or her beliefs about the new innovation (1995, pp. 168-169).

However, this author argues the 'social' nature of the 'interactive' innovation of social networking sites do not necessarily permit or allow such opportunities for individuals to think hypothetically or to apply neat (and clean) counter-factual analysis before adoption. In fact, much of the population is likely to have been pressured at some point, with powerful, massive high levels of social influences likely playing a role and possibly militating them into total conformity with using it. Because of the communicational nature of the technological breakthrough itself, which is social, it fulfills basic human needs, and therefore likely strikes at the heart of everyday normal human functioning which further complicates the matter of objective evaluation of the new media technology by individuals deliberating issues and concerns on their own, or by researchers.

Although the benefits of the progress made by humanity aided by such technological advances cannot be denied, large-scale issues of morality, ethics, social

norms and emergent developments with great social consequences have also arisen from the integration of such new communication tools into the population, and the status of its current level of public acceptance does not eviscerate or override the simple fact of the social or human costs it may have incurred (or even damage done) along the way to its current level of perceived public acceptance.

As mentioned previously, because of the immense power of the Internet, and the impact that social networking sites have on humanity and the potentially drastic effects incurred from its high-speed diffusion into the wider population on a national, international, worldwide and global scale, an enquiry is called upon to investigate into SNSs' business model (done in winter quarter 2008), philosophy, driving principles and perhaps even commercial strategies to gain more insight and understanding into its internal mechanisms as well as assess its 'potential' overall impact on the moral and social character of individuals in the community.

Only by conducting in-depth research can this study play a pivotal role in gathering sufficient data and evidence in charting the growth of SNSs over the past few months and years, and in turn play a role in ensuring in the future that as new developments and radical innovations emerge and adoption of a new interactive innovation take place by a specific segment of the population, individual liberties, human rights (guaranteed in long-standing institutions), notions of freedom, *choice* and freewill are not impinged upon, overridden or potentially subsumed or overwhelmed under pressure from immense social forces.

Only when this is achieved, we can ensure significant segments of the population do not suffer undeservedly as a result of sweeping changes without due regard for individual differences (A sacred rule far too often violated in history³), triggered in part by the highly contagious, fast and far-reaching spread of a new communication technology innovation.

Literature Review

“Nobody knows what the Internet is.”

(Quoted from Feerst & Stewart, 2007).

The origins of social networking sites have been traced back to many developments in the history of communication technologies, some attributing it to usenet days (Rushe & Kay, 2007), and others even further back. However, the rise of social networking sites, as we know them today, has been more notably attributed to emergence of Sixdegrees.com in 1997, which subsequently enabled users to create profiles and send and receive messages (Boyd & Ellison, 2007).

The desire to bring people of the world closer together predates new media, and such technologies may have been inspired by various theories from different disciplines. "Six degrees of separation," introduced by Stanley Milgram (1967), holds

³ In 1951, psychiatrist and former High Commissioner for Welfare for Netherlands Joost A. M. Meerlo coined the term “menticide” to refer to unlawful intervention of a person’s mind to forcefully alter its underlying structure and formerly strongly held beliefs. Such intervention has been labeled barbaric, and contrary to the values of human kind, a crime Meerlo considered worse than genocide.

that any individual may be connected to any other individual in the world by going through a maximum total number of six acquaintances. Marshall McLuhan (1964) also described the electric age bringing about a world in which people were interconnected at the grassroots level through geographically transcending communication technologies famously described by the term “Global Village” (Symes, 1995, ¶ 5).

The growth of the Internet had been attributed to “network effect,” (Matthews, 1998) which prescribes a social system operating to control supply and demand mechanisms. The ungoverned nature of the Internet springs in part from its infrastructure⁴ and public endorsement of its power to enhance democracy.

Evolving from United States Military’s Defense initiative, the ARPANET project, users began adapting it for use for their own purposes for example first in electronic messaging, and the Internet gradually developed into what it is today (Cool, 2008; For a more concise history of the Internet, see “History of the Internet,” 2009). The Internet has certainly brought many benefits to humanity, but navigating through this new medium is also known to have a documented cyber-psychological issue, The Online Disinhibition Effect (see Suler, 2001). Spears & Lea (1994) examined how computer-mediated communication may liberate and empower, but at the same time accentuate or reinforce negative aspects of social relations.

⁴ One article described it as “a collection of thousands of local, regional, and global Internet Protocol networks enabling the transmission of information from computer to computer via telephone lines”

There are quite a few social psychological approaches to studying the implications of online communications. They describe the lack of norms, and the tendency for uninhibited nature of anonymous electronic messaging (Kiesler, Siegel & McGuire, 1984; Siegel, Dubrovsky, Kiesler & McGuire, 1986; Suler, 2004), as well as lack of social cues and poverty of nonverbal communication (Lea & Spears, 1995).

Many studies have explored participation in online communities, and the literature seems to be emphasizing the fact that communication through computer-mediated channels may lead to the development of interpersonal relationships with strong emotional bonds (Dwyer, 2007; Henderson & Gilding 2004; Lea & Spears, 1995; Parks & Floyd, 1996), other researchers reported in their findings that people sometimes think online relationships can be more intense and of better quality than their offline, personal relationships (Henderson & Gilding, 2004; Lea & Spears, 1995; Parks & Floyd, 1996), and some relationships initially started online have even gone on to offline marriages (Bruckman, 1992, cited in Parks & Floyd, 1996; Lea & Spears, 1995).

Researchers also noted that people may assume different and multiple identities when online (Lea & Spears, 1995; Parks & Floyd, 1996; Turkle, 1995). Within the area of online communications lie the discipline of SNSs. Social Networking Sites (SNSs) are a growing phenomenon with major investigations being published every month (see Firstmonday.org, 2009). Gross and Acquisti (2006) examined the rise of the social networking sites and noted that Facebook is of interest to researchers in two respects:

(1) for patterns of information revelation among young individuals, and (2) "as a mass social phenomenon in itself" (p. 2).

Social networking sites promote the idea that one of their benefits is the facilitation of connecting one to friends of friends whom one can trust (Donath & Boyd, 2004). Another benefit of social networking sites is "the long tail" concept introduced by Chris Anderson in his 2006 book of the same title, which partly refers to the convenience of communication through a medium that transcends geographical and time restraints, as well as easy maintenance of "weak ties" with a broad number of contacts (Enders, Hungenberg, Denker & Mauch, 2008). "Weak ties" usually have higher information-exchange potential than "close ties," and have been also found to be more useful for discovering job opportunities (Granovetter, 1973, cited in Rogers, 1995; Enders et al, 2008).

Diffusion

It has been reported that attaining a "critical mass" of users was a key ingredient for profitability (Hagel & Armstrong, 1997, cited in Enders et al, 2008, pp. 210) for social networking site operators. According to Rogers (1995), the concept of "critical mass" has its origins in Physics, which is defined as the amount of radioactive material needed to create a nuclear reaction (Weisstein, 2007). Rogers (1995) differentiated between 'interactive' and noninteractive innovations. 'Interactive' innovations have the known property of reciprocal interdependence, in which early adopters influence later adopters

as well as the other way around and benefits increase as more people join in the “mutual discourse” through use of the new communication technology (p. 343).

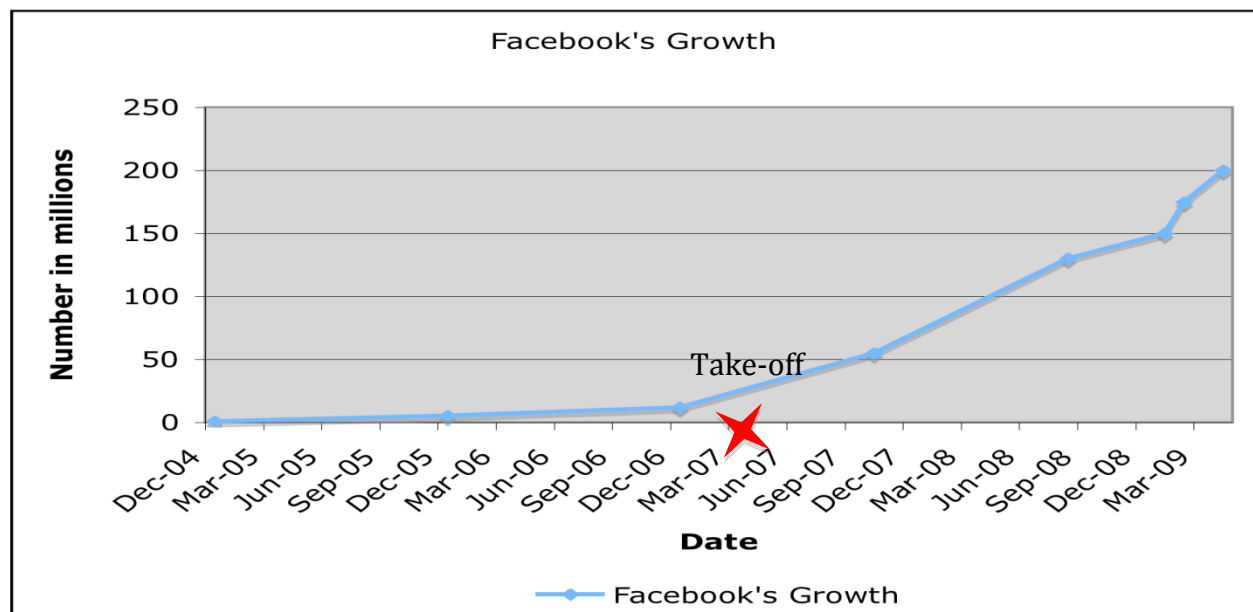
According to Roger’s (1995) diffusion theory, in the diffusion process of an “interactive” innovation, critical mass is the stage (on an S-shaped curve) where enough individuals have adopted the new innovation such that the innovation’s further adoption by the rest of the social system becomes self-sustaining.

Rogers (1995) examined the adoption of an innovation in terms of critical mass and individual thresholds. According to the theory, "a threshold is reached when an individual is convinced to adopt as the result of knowing that some minimum number of other individuals in the individual’s personal communication network have adopted and are satisfied with their use of the innovation" (p. 355; see also Brown, 1954 and Sanders, 2006).

This model holds that individuals have "thresholds," defined as the number of people within their personal communication network who must be engaging in an activity before they themselves do. When the individual threshold levels in a communication network are reached, an innovation may spread like a contagion, attaining the status of critical mass at the system level, described as “bandwagon” or “domino effect” (Rogers, 1995, p. 356; see also Milgram & Toch, 1969). Such activities are characterized by a situation whereby everybody is "watching while being watched" (Rogers, 1995, p. 322).

Tracking the growth of Facebook from its early beginnings in December 2004, membership levels seemed to follow closely the S-shaped diffusion curve as prescribed by Rogers. Take-off was presumably achieved sometime in April 2007 (See Figure 1 below), with a membership level at around the 15 million mark when membership levels (defined as people who returned to their accounts in the last month) soared to 120 million in August 2008. In December 2008, the number of Facebook members swelled to over 150 million active users (A figure greater than several times that of whole nations!).

Figure 1:



Source: Facebook.com, 2009

Everett Rogers examined the diffusion of innovations extensively from the 1960s to the 1980s. Rogers (1995) defined diffusion as "the process by which an innovation is

communicated through certain channels over time among the members of a social system" (p. 5). In his analysis of contributions and criticisms of diffusion research, Rogers pointed out that one of the major criticisms of diffusion research is the issue of *inequality*, because socioeconomic gaps are often widened as a result of the spread of new ideas (Rogers, 1995).

Rogers (1995) also distinguished between *homophily* and *heterophily*, where individual attributes differ or are similar among people, and communication is normally more effective between homophilous links than in heterophilous connections. During the adoption of new technologies, Rogers stated that people may go through four elements of (1) innovation, (2) communication channels, (3) time, and (4) social system.

Innovation refers to the perceived new idea or technology. *Communication channels* refer to the means by which messages get transmitted from one individual to another, the most obvious example being the mass media (Rogers, 1995). *Time* refers to individual characteristics, which may pre-dispose them towards adoption or rejection of a certain technology. *Social system* refers to members of a social group with idiosyncratic cultural traits as well as the consequences of the innovation on that system (Rogers, 1995). The innovation-decision process involves five stages of *knowledge*, *persuasion*, *decision*, *implementation* and *confirmation*. These factors would most likely include influences from mass media, advertising, informal social sources as well as personal influences (Barnes, 2003).

Social Networking Sites Review of Literature

Social networking sites research articles that are currently available address different aspects of the technology without necessarily directly touching on the concept of peer pressure. Some have examined benefits that this technology brings while others have cited ethical challenges it presents (See introduction).

Although social networking sites are many and various, including classmates.com, Friendster, Twitter and Xanga, MySpace and Friendster are the next largest social networking sites in operation that challenges and rivals that of Facebook in terms of membership penetration in the population. However, because of its popularity amongst the college-attending age group, this study will only examine Facebook primarily.

Acar (2008) examined SNSs within the context of social network theory and found that the size of one's social network is correlated to one's gender and personality trait (extrovert and introvert), but not with self-esteem, body image, or anxiety. He also found that self-esteem was a good predictor of number of strangers within the online social network size (OSN_{size}) and anxiety level. Acar (2008) found that the higher the self-esteem, the lower the number of strangers found within OSN and the lower the anxiety. People with high self-esteem seemed reluctant to add people whom they barely knew.

Coyle and Vaughn (2008) conducted a survey study as well as two focus groups to investigate the nature of communications in online social networks. They think social

networks exist because humans have a fundamental need to communicate (See also Asch, 1952). They said: "Social networks exist because humans are societal and require relationships with other humans in order to survive" (p. 13).

Mazer et al (2007) examined faculty use of online social networking Websites and student impressions. Tong, et al. (2008) examined the question of what friends mean in the context of social networking sites. The researchers investigated the relationship between number of friends undergraduates with unusually high number of Facebook friends had and the perceived *sociometric* popularity and *perceptual* popularity that others formed for the individual. The researchers found that having too many (1000) or too few (100) friends resulted in lowered favorable perceptions, and the optimum number (300) resulted in highest perceptions of *social attractiveness*.

Krâmer and Winter (2008) examined the relationship between impression management and self-esteem, extraversion, self-efficacy, and self-presentation levels of individuals within social networking sites and found that there was a strong relationship between self-efficacy with regard to impression management and number of virtual friends, level of profile detail and style of personal photo.

Ellison et al. (2007) examined college students' Facebook use in terms three types of social capital and found strong relations for bridging social capital. They suggested that those who have low life satisfaction and low self-esteem might benefit more from using social networking sites. Manago et al. (2008) conducted a focus group to investigate the use of MySpace by students and were able to discover patterns of usage

that included public displays of social connections, increased expectations of females to sexualize themselves by posting attractive pictures, and exploration of different identities.

Tufekci (2008) examined the use of social networking sites by a diverse sample of 714 college students and found that female students were four to five times more likely than male students to have social networking accounts, while living in dorm rooms was not associated with increased likelihood of using SNSs. Tufekci (2008) also found that nonusers did not identify with or understand the hype and self-presentation activities surrounding SNSs. A major motivation behind use of social networking sites is “social grooming,” and nonusers do not in particular exhibit a high need in that aspect.

Stern and Taylor (2007) explored the myriad uses of Facebook that a diverse sample of 532 college students had from February 2006 to September 2006. Stern and Taylor (2007) asked students to describe some of the unusual uses that they had seen or heard about. According to them, many students indicated either they or they believed Facebook was used for finding attractive girls or to look for potential dates. Others use it to find out the interests of certain persons whom they associate with. Many also indicated use of Facebook to check up on boyfriends or girlfriends, or “surveillancing activities” looking for signs of infidelity.

Stern and Taylor (2007) further elaborated that others use Facebook “for sex,” in ways that include “finding out about whom? the girl slept with the night before” or “get random play or friends with benefit” (p. 13). Facebook had also been used for

breaking up with boyfriends and girlfriends, to “make people jealous,” to “be mean to someone,” and to “write rumors about someone and defame their characters, although sometimes the rumors are actually facts” (p. 13). Other uses relate to features and content that can be found on Facebook itself, including users who befriend because of having the same last name and “poking wars.” Most respondents said they accepted friend requests from people they did not know (p. 14).

Subrahmanyam et al., (2008) studied the use of social networking sites and looked for overlaps between offline social networks and online social networks among college students and found that there was “some degree of overlap for most of them” (p. 430). They also found that 12% of 85 respondents would accept anyone who requests to be added as a friend and 17% would add “anyone who requests and looks cool” (p. 429). They also found that “13% felt pressure to get an account, and 21% of those who do not have accounts felt somewhat cut off from their face-to-face friends” (p. 430).

Walther et al. (2008) examined the role of physical attractiveness of photos of friends posted on an individual’s Facebook profile and found that it enhanced the impression of the physical attractiveness of the profile owner formed by others. They also found a sexual behavior gender bias due to negative perceptions of females in regards to wall postings indicating risky or reckless sexual behavior but positive attributions made when it was in the case of males.

Sheldon (2008) found that use of social networking sites does not benefit more those who exhibit behavioral attributes of “unwillingness to communicate”; in

contradiction to previous findings that online communication mainly benefits those who are shy or inhibited in real life. Her survey study results seem to support the rich-get-richer thesis as opposed to the poor-get-richer, because introverts communicate less online than extroverts.

Hargittai (2007) examined SNS users for differences across parental educational background, gender, race and ethnicity, and experience and autonomy of use. Hargittai (2007) suggests that the challenges of studying SNSs may spring from past survey samples being done on older adults, as well as the need to address how SNSs have affected the lives of younger people because that is the demographic where SNSs have primarily targeted and who are also more "wired" (pp. 279).

Hargittai found that people with more experience as well as autonomy of use (defined in terms of access) are more likely to be users of such sites. She also found that differences in background of users may be contributing to digital inequality. Hargittai (2007) cautions, "Often, the lack of data on young people's experiences with information and communication technologies makes it difficult to know whether assumptions about their active online participation are warranted" (p. 279). Hargittai (2007) also found that students who live at home with their parents are considerably less likely to use SNSs than those who live with roommates or on their own.

Nationwide surveys conducted by Pew Internet's American Life Project (Lenhart & Madden, 2007; See also Lenhart, 2009 & Lenhart & Madden, 2007) seemed to have asked pre-formulated questions that provided answers to which respondents can

readily agree or disagree with, but such study methods may have missed major points of contention. Rather than providing readily available answers for teenagers to choose from in their phone survey methodology, this author argues that we should perhaps be probing into intrinsic motivations, drives, and undercurrent but prevalent social influences that spur participation in the first place.

Gross and Acquisti (2006) examined information revelation patterns and privacy implications inside social networking sites. In their study, they disproved the hypothesis that "individual privacy concerns will be inversely correlated with the probability of joining FB" (p. 7). They stated, "while non FB [Facebook] members seem to have higher average privacy concerns than members, [they] cannot directly conclude that the higher one's general privacy concerns, the less likely he [or she] will be a FB member" (p. 7) giving rise to the possibility of other factors at play in college students' participation on social networking sites.

Gross and Acquisti (2006) concluded that while privacy concerns were able to drive older and senior college students away from Facebook, not even high privacy concerns are driving undergraduate students away. They argue that, "These results suggest that FB membership among undergraduates is not just a matter of their not being concerned, in general, about their privacy - other reasons must be explored" (p. 9). They indicate their findings may signal to us of peer pressure or *herding behavior* could be decisive factors in the situation.

Using ethnography, Boyd (2007, 2008) examined the rise of SNS among adolescents and also pointed to peer (or social) pressure and word-of-mouth as contributory factors helping to fuel the growth in membership and participation on these sites.

Peer Pressure Literature Review

Bauman and Ennett (1996) cited the “accumulated wisdom of two decades of research” point to peer influence as being a major source of determining adolescent drug use (pp. 185-186). Rose et al (2001) examined the mediating role of group attractiveness in the social influence process and found that the likelihood of teenagers conforming to normative pressure of peers in regards to illicit consumption is related to how much attractiveness is attributed to those groups. Bradley and Wildman (2002) found that the psychosocial attitude of sensation seeking and anti-social peer pressure significantly predicted adolescents’ likelihood of engaging in risk and reckless behaviors. McIntosh et al. (2003) found that individual choice and pressure of various kinds play a role in adolescent drug use initiation.

In a longitudinal study, Jaccard et al. (2005) found that peer influence has a moderate to strong impact on adolescent risk behavior. Gardner and Steinberg (2005) conducted a study on peer influences on risk-taking behavior among adolescents and found that peer influences play an important role in explaining risk-taking behavior during teenage and young adult years.

Maxwell & Chase (2008) examined the sexual behaviors of teenagers living within a housing community. The study revealed that the types of pressures felt to conform within a residential care home included pressure from friends, support for a reputation, to avoid being bullied, avoiding being called frigid, or having different expectations within relationships.

Crawford and Novak (2007) adopted a social psychological approach to study peer attitudes towards drinking and found that students were more likely to follow social norms in alcohol consumption levels if they had personality characteristics that were higher in public self-consciousness and for males who exhibited high cross-situational variability. Those who did not associate with the Greek system, and who did not have a family history of drinking abuse were more able to resist peer pressure.

Teese and Bradley (2008) found that impulsivity, peer pressure, perceived risk, and perceived benefits predicted reckless substance use, reckless driving, and reckless sexual behavior.

Social Influence

Social life is an area dear to our hearts. The appearance of a technological innovation that bears consequences to social life suggests it permeates into vast areas of our everyday functioning and penetrates to the core of our being.

Many studies have explored peer pressure, and the effects of societal and group influences on individuals' likelihood of conforming to certain standards and behaviors

(e.g. Asch, 1952), but none so far has addressed the social networking site phenomenon in great depth.

It has been reported that media usage can predict adolescent initiation of sexual behavior (Collins, Elliott, Berry, Kanouse, Kunkel, Hunter & Miu, 2004). It is also well established that social networking sites represent an important avenue for emerging adults (age 18-25) to develop and maintain relationships (Ellison et al., 2008; Lenhart & Madden, 2007). Peer pressure is recognized by scholars and researchers to have both positive as well as negative effects. However, no studies have yet investigated the potential detrimental effects of extremely high levels of peer pressure (or social influences) on youth and adolescents.

This author argues that adults may find it difficult (or impossible) to purview or apprehend the exact depth and power level of the psychological impacts made and happening within the minds of young adults with regard to to their perceived pressure to conform, as such occurrences can be hard to measure, define, or detect. But occurrences of this sort may be prevalent and negatively contributing to college students' likelihood of engaging in reckless, risky, amoral, or deviant behaviors such as underage drinking, hazing, substance abuse, unprotected sex, bullying, or other kinds of risky or unhealthy behaviors.

The occurrence of such events may be potentially harmful not only to the overall mental well being and development of college students but may also increase the chances of their engaging in such undesirable risk behaviors due to perceived "realities"

(however distorted or incomplete) of their peers' normative behavior, in a phenomenon known as *pluralistic ignorance* (e.g. Latané cited in Cialdini, 1993). This may in turn lead to the compromising of the moral integrity of the college crowd in general.

This author argues that only the most intimate testimonies obtained perhaps through an anonymous survey can perhaps reveal such information and shed light on potentially negative implications of powerful social influences to the point of losing autonomy (Assuming it occurs on a spectrum; measured as "belief in free will" in this paper), if at all.

All previous sociological and psychological studies done on the influence and effects of peer pressure seem to have been carried out by first noting the phenomenon's always taking place within a specific context such as drug-taking, alcohol consumption, or risky sexual behavior. As such, an examination of the role of the construct of "peer pressure" as a potentially powerful force cannot be considered apart from the particular context in which it arises, in this case the online social networking site, Facebook.

Crowd Behavior

"An individual in a crowd is a grain of sand amid other grains of sand, which
the wind stirs up at will."

Le Bon, 1896

Writings on peer influences and transformations of one's psychological constitution that result when individuals are composed into crowds can be traced and lead all the way back to Gustav Le Bon's work in *The Crowd: A Study of the Popular Mind*

(1896). Le Bon sought to investigate how individuals may lose their will and become subject to dramatic changes in their psychological makeup due to anonymity effects and other contributing factors which arise in the situation when individuals begin participating in an activity within an unrestrained, ill-controlled crowd or ruthless mob.

The social environmental changes and emergent interpersonal norms which arise when groups are formed may cause the loosening of moral considerations due to effects of anonymity, where the individual begins to think in images, become impressed by words, which results in the loss of any singular consciousness within the group into an incoherent mass, and it is often assumed in social psychological circles that the typical heightened self-awareness and inhibition which sustains when the individual is isolated is lost when they are “submerged” in the crowd (Le Bon, 1896; Postmes, 2001).

To capture the essence of the phenomenon, which this project aims to study, one needs to go back in history to the father of the theory. A passage from the famous work reads,

Whoever be the individuals that compose it, however like or unlike be their mode of life, their occupations, their character, or their intelligence, the fact that they have been transformed into a crowd puts them in possession of a sort of collective mind which makes them feel, think, and act in a manner quite different from that in which each individual of them would feel, think, and act were he in a state of isolation (Le Bon, 1896).

Many studies had been done on the fascinating concept of "collective mind,"

crowd phenomenon, and deindividuation since the publication of *The Crowd*, with some researchers examining it from the viewpoint of transactional memory (e.g. Wegner, Giuliano, & Hertel, 1985). When a person is “absorbed” into a crowd or come under the force of immense interpersonal influences from surroundings, it is said that this psychological process may reach a point where individuals may no longer be in possession of their own “will.” According to Le Bon (1896), who seemed to posit the *will* as being subsumed under the hypnotizing phenomenon,

We see, then, that the disappearance of the conscious personality, the predominance of the unconscious personality, the turning by means of suggestion and contagion of feelings and ideas in an identical direction, the tendency to immediately transform the suggested ideas into acts; these, we see, are the principal characteristics of the individual forming part of a crowd. He is no longer himself, but has become an automaton who has ceased to be guided by his will (pp. 12-13).

Le Bon’s work inspired many studies on the social crowd phenomenon, most particularly researchers in the field of social psychology (Asch, 1952; Griskevicius et al, 2006; Milgram & Toch, 1969; Moscovici, 1985; Zimbardo, 1969). In the psychological circles, Freud, McDougall, Blumer, and Allport have all been influenced by the work of Le Bon (Postmes, 2001). Others include Trotter, Barneys and Hadley Cantril. Gabriel Tarde (1890/1921) had also been credited with beginning crowd behavior theories (Postmes, Spears, & Lea, 1998).

SIDE theory.

In a meta-analysis done in 1998 on studies examining the deindividuation effect, another term for Le Bon's crowd behavior theory, Postmes and Spears (1998) differentiated from the literature between classical deindividuation theory and contemporary deindividuation theory. *Classical deindividuation theory* describes a state of anonymity, reduced self-control (or disinhibition), reduced responsiveness to the situation, reduced conscious accountability, lowered self-awareness and anti-normative behavior (e.g. Festinger et al, 1952; Zimbardo, 1969).

Contemporary deindividuation theory then modified the state description somewhat to include that of anonymity, disinhibition, lowered *private* self-awareness and anti-normative behavior, without conscious accountability. Both versions of the theory however still carried the assumingly incompatible variable of "anti-normative" behavior. This causes some confusion due to "norms" being relative whether in reference to global-societal or situation-specific contexts. This apparent incompatible contradictory notion within deindividuation literature was also cited by others (i.e. Baumeister, 1982).

Failing to find acceptable evidence to account for the myriad variance of anti-normative behaviors in their sample, Postmes & Spears (1998) stated in their study, "the present results are incompatible with deindividuation theory: Deindividuating manipulations of anonymity, group size, and self-awareness foster adherence to situational norms and have comparatively little impact on behavior that is

antinormative according to general social norms" (p. 252).

Four theoretical explanations were proposed to try to resolve this issue: behavioral contagion theory (Wheeler, 1966), emergent norm theory (Turner & Killian, 1972), impression management theory (Lindskold & Propst, 1980), and social identity theory (Tajfel & Turner, 1986).

Each of the other theories could explain some of the effects examined in the meta-analysis, but only partially and none as completely as social identity theory. In the conclusion of their meta-analysis, Postmes and Spears (1998) followed developments made in the area of social identity theory (e.g. Tajfel & Turner, 1986; Reicher, Spears, & Postmes, 1995) and proposed that the SIDE model (social identity model of deindividuation effects) is more useful in addressing issues dealing with crowd behavior.

The SIDE model posits that when deindividuation occurs, it happens without the necessary implications of "anti-normative" behavior (Postmes, 2001). This is somewhat misleading due to deindividuation normally being associated with violent crowd behavior, disinhibition, sometimes irrational, self-destructive, aggressive and anti-social acts committed by a collective-minded group. However, Postmes & Spears (1998) insist this can be made more clear when "norms" are redefined in situation-specific terms, specifically "group norms" as opposed to wider "general societal norms." Postmes and Spears (1998) stated, "The implication of this model of deindividuation for behavior is that, under deindividuating circumstances, people should be more responsive to social

norms and group norms in the immediate social context" (p. 254). Paraphrasing Reicher (1987), Postmes & Spears (1998) stated,

Implicit in this analysis is the distinction between general social norms and situational or group-specific norms. When a person is "deindividuated" (i.e., less accountable or less aware of the personal self), it is the group's norms that are important, more so than general social norms. Of course, what is normative to the crowd might be contrary to what is normative outside of the crowd. To the outsider, then, crowd behavior might seem mindless, antinormative, and disinhibited; to the crowd, however, it is rational and normative and has its limits (p. 254).

SIDE model is based on Social Identity Theory, and the closely related Self-Categorization Theory, both of which suggests that one's self-concept is made up of both one's individuality and several other group memberships to which one belongs (Lea, Spears, & DeGroot, 2001; Sassenberg & Boos, 2003). Activation of social identity can lead to stronger social influence (Lea & Spears, 1992; Lee, 2003, 2007). Therefore, the identity which is activated is the one which is most salient in the situation, and SIDE theory makes possible the view that "the group" can "act on" the individual without having to be physically present (Spears, 1995; Spears, Lea, & Lee, 1990).

In other words, the social identity theory of deindividuation effects conduces the view that the social world and social influence can be brought to an isolated person through CMC. The SIDE model was applied to research in computer-mediated

communication, and formation of group norms with the use of electronic communication was found (Lea & Spears, 1992; Postmes, Spears, and Lea, 2000). Their findings stress that group norms form over time and provide grounding for further research into this area of CMC.

According to this view, despite the lack of visual, nonverbal cues in online communication (which apparently would lead to less susceptibility to social influence), SIDE theory posits that computer-mediated communication may lead individuals to conform to certain norms through salient situation-specific cues in accordance with the social identity theory (Lea & Spears, 1992, 1994; Spears, 1995).

Applications of SIDE model to a variety of studies in the context of CMC provide evidence of its robustness (Walther, Gay, & Hancock, 2005). Spears, Lea, & Lee (1990) found that participants in a group discussion using CMC conformed to group norms, or “polarized” when deindividuated (made anonymous) under salient group identity conditions, but swung to the opposite end of the extreme or de-polarized to individual standards (away from the group) when deindividuated under conditions of salient personal identity cues (more about this in the section titled Deindividuation below).

Further implications of SIDE theory in computer-mediated communication will not be explored here. It is very easy however, to be misled and confused while reading literature examining SIDE effects in the CMC literature into thinking that SIDE theory, apparently an improvement over previous theoretical conceptual building, and perhaps

even what is left of classical deindividuation theory, to assume that it is actually a “cleaned up” version of the deindividuation, because of the concentration of studies done on CMC using SIDE model emphasizes only on the “group conformity” or polarization aspects of online communications without necessarily giving adequate attention to and addressing its more crucial “anti-social” effects.

Deindividuation

Deindividuation theory was introduced by Festinger, Pepitone, and Newcomb in 1952. They partly derived their theory from Le Bon’s work (1896), but couched it in scientific terms (Spears & Postmes, 1998). The psychological state of *deindividuation theory* is commonly described by increased physiological arousal, *anonymity*, *disinhibition* (or reduced self-control), diminished sense of responsibility, reduced conscious accountability, *lowered self-evaluation*, *lowered self-awareness* and anti-normative behavior (Duval & Wicklund, 1972; Diener, 1977, 1980; Postmes & Spears, 1998). According to Diesler, Zubrow and Moses (1985), deindividuation is "a state of unself-consciousness and impulsivity" which describes people caught up in mobs, gangs or crowds (p. 82).

Siegel, Dubrovsky, Kiesler & McGuire (1986) conducted three experiments to examine the social psychological effects of CMC on efficiency and risky decision-making compared to face-to-face communication and found that more uninhibited verbal language was displayed in CMC communications, leading them to speculate that submergence in a technology might lead to deindividuation.

Even though traditional theories and conceptualizations of crowd behavior have tended to describe its irrationality, violence, contagiousness, as well as regression of consciousness into an atavistic state, more careful analysis by researchers such as Bagehot (1869), Wallas (1932) and Cooley (1909) as well as later developments examining the crowd phenomenon have tended revealed its goal-directed structure and the presence of “norms” in guiding behavior (Milgram & Toch, 1969). For example, Reicher (1987) examined the St. Paul riot that took place in 1980 in Bristol, England and found goal-directed behavior and adherence to group norms.

These findings may have given researchers of the Lea, Spears and Postmes wing impetus to advance a SIDE view. In highlighting the enhanced power of the SIDE model in addressing group norms that are salient in the context, Postmes & Spears (1998) stated, “If the male college students participating thought that aggression was expected and consistent with their group identity, the SIDE model would also predict greater aggression under such deindividuating conditions” (p. 242).

The author notes here a clear distinction between classical deindividuation and SIDE theory. It should be made clear that the emergence of SIDE theory by no means declares the end of the issue as far as the “anti-normativeness” (when defined in moral terms) of crowd behavior is concerned. If anything the development of SIDE theory merely seems to magnify and refine deindividuation theory rather than diminishing the argument for “uninhibited” behaviors. As such anti-social behaviors are or can be directly enhanced as a result of conformity to computer-mediated situation-specific

social cues and norms. This is supported by Zimbardo's (2007) view that deindividuation is not the end of the story, and that under anonymous conditions, a state of polarization potential is created (i.e. love or war) and an additional situational factor is needed that either directly adduces persons to pro- or anti-social attitudes/behaviors.

In an attempt to resolve the underlying paradoxes that lie between deindividuation and its social identity propensities, Mullen, Migdal, and Rozell (2003) distinguished between deindividuation and depersonalization and conclude that depersonalization results in a shift from personal to social identity, which better describes the phenomena observed in CMC studies done by the likes of Lea, Spears, and Postmes. Deindividuation in the classic sense means that it involves a decrease in both personal and social identities, which is more in line with Le Bon's (1896) original conceptualization of the theory.

Classical deindividuation theory better serves the main purpose of this study, which seeks to examine the extent of the full psychological impact unleashed upon the mind of the individual by extremely high levels of social influence ignited by the rapid diffusion of a new innovation (online social networking site, Facebook) into the social system of society.

The Transformation of Man in Society

"Society enslaves men; in it alone can they find freedom."

Solomon Asch, 1952

Humans evolved from hunter-gatherer societies and needed to stay as collective groups in order to hunt efficiently to ensure their survival (cited in Evans & Eichelman, 1976); their intrinsic need to be gregarious has been characterized as “herd instinct” (Trotter, 1919). Social behaviorists also locate *the Self*, as arising through use of language from contact with other human beings (Mead, 1934; Asch, 1952). Studies have also shown that work output of a group is not equal to the sum of individual parts (Ringelmann cited in Latane, 1981).

Social philosopher Thomas Hobbes (1651) addressed to some extent the conflict of mankind’s wants and wishes meeting with retardation in society. Healthy human development and functioning is frequently seen to hinge upon the harmony between willing attention to freely chosen activities and meeting societal demands (e.g. Csikszentmihalyi, 1978). In his work *Social Psychology*, Asch (1952) argued that language, art, and science were products of the birth of a society of man; once altered by the social field the process cannot be undone (See also Burger & Luckmann, 1967).

From summarizing the above findings, it can be inferred that academics and researchers of diverse disciplines of philosophy, psychology, sociology, and psychiatry agree with the view that individuals are primitive by nature, and it is by the forces of the social conditioning that baser instincts and biological drives are in part tamed (e.g. Brown, 1954), to enable them to achieve a higher level of operation, and consequently attain sophistication in culture with differences in degrees and development of morality. Once this process has begun, it transforms man into a social creature and he

remains susceptible to social influences in all areas of life (Moscovici, 1985).

The Information Processing Model of Human Mental Capacities

From the macro-societal picture, we need to go to processes happening at the micro-individual level. According to the information processing theory, human brains are likened to operate like complex biocomputers, with specific information-handling capacities and strategies, and humans selectively filter out vast quantities of information, with much of this process taking place unconsciously. It is said that specifically, our consciousness acts as supreme overseer over the cognitive activity but has very limited and quite indirect control over it (Baran & Davis, 2008; Cohen, 1978; Milgram, 1970; Shallice, 1978).

The information processing theory also states that we have “limited cognitive resources,” (which can also be defined in terms of time) which means if more resources are directed to one task, another task will be performed badly. The same predicament applies to attention, where concentration on one aspect of information processing naturally leads to a breakdown in the information processing of another aspect (Baran & Davis, 2008; Easterbrook, 1959; Einstein, McDaniel, Thomas, Mayfield, Shank, Morrisette et al, 2005; Shallice, 1978; Taylor & Fiske, 1978). Self-attention and other-attention also determines whether people are concentrating on their selves or on the outside (social) environment (Duval & Wicklund, 1972; Taylor & Fiske, 1978; Vallacher & Wegner, 1985).

Indeed, in contradiction to the truism of “we always have free will,” psychologists have found that much of our overt social attitudes (and behavior) everyday may be in some sense automatic and not under the direct control of our conscious will (Bodenhausen, 1990; Cole & Montero, 2007; Nisbett & Wilson, 1977; Langer, 1978; Reis, Wheeler & Nezlek, 1980; Shallice, 1978; Taylor & Fiske, 1978; Wegner, 2002; Wegner & Bargh, 1998).

Using the influential information-processing model, Wegner (1989) held the view that “consciousness” is limited. In examining the mental apparatus of human beings in the book *White Bears and Other Unwanted Thoughts*, he explained,

The point [of this] is that consciousness, that fleeting window in our mind from which we view all of our experiences in sequence, is limited. We may feel that we are conscious of many things at the same time, but the number of individual pieces of information we can carry in our conscious mind is not large. The conscious window is thus a proportionately tiny spot in our mind as a whole (p. 50).

Cialdini (1993) examined how the six psychological principles of *consistency*, *social proof*, *reciprocity*, *liking*, *scarcity* and *authority* can exert profound influence and sometimes directly dictate our behavior. In his book *Influence*, Cialdini (1993) explained,

We are likely to use these lone cues when we don’t have the inclination, time, energy, or cognitive resources to undertake a complete analysis of the situation.

Where we are rushed, stressed, uncertain, indifferent, distracted, or fatigued, we

tend to focus on less of the information available to us. When making decisions under these circumstances, we often revert to the rather primitive but necessary single-piece-of-good-evidence approach (p. 275).

The Difference Between Where We Direct Our Attention and Free Will.

The question of free will had been well debated long in history (e.g. Westcott, 1977), and the debate continues as findings are far from conclusive, and its status remains in some sense speculative (Baumeister, 2008; Shariff, Schooler & Vohs, 2008). As it stands in the current literature and consensus, it may be surmised that free will may well be just a belief.

The concept of free will lies mostly in the discipline of philosophy, and its properties are said to have metaphysical origins (Selinger, personal communication, 2008). However, the metaphysical origins of free will will not be explored in this paper, the purpose of this paper is to apply major social scientific theories currently available in the literature to try explain and predict a relation between powerful social influences (during a period of mass social change) and its effects on the belief in free will.

Wegner (1985, 2002) examined the nature of "conscious will" from many contexts, which included the failure of individuals to think the right thoughts becoming the sole cause and reason of their actions. In other words, a person's range of knowledge (or purview of consciousness) may depend entirely on the ability to see options. Noting the experience of will as a necessary criterion to keep in mind while considering *free will* as the ultimate arbiter of human action, Wegner (2002) said, "The absence of such internal

causes, in turn, can bolster the attribution of action to the occurrence of appropriate action-relevant thoughts" (p. 93; see also Shallice, 1978).

Wegner introduced many theories and events associated with the study of hypnosis as well as research on social influences including the deindividuation theory in his analysis of the "illusion" of conscious will. However, his findings fell short of proving or disproving the existence of free will.

In examining this fertile ground of debate concerning free will, Baumeister (2008) came to a general viewpoint that free will may well be a "sometime" thing. Baumeister further elaborated, "People are incompletely rational and self-controlled. They have the capacity for acting rationally and exerting self-control, but they only use it sometimes. This suggests the capacity is limited" (p. 17).

Behind all the mysteries that surround its (un)observable properties or even to the existence of free will itself, which will not be explored here, it seems "free will" while operating only as a belief, can still serve important societal functions as a moderator of responsible, pro-social behavior (see Baumeister, Masicampo, & DeWall, 2009). It had been argued that belief in free will may give rise to moral responsibility (Stanford philosophy encyclopedia) because of being tied to notions of choice. It has even been found that belief in free will plays a role towards reducing cheating behavior (Vohs & Schooler, 2008).

Deindividuation and Free Will

Crowds are known to have great drawing power (Canetti, 1963 *; Milgram, 1969;

see also Asch, 1952). The study of collective behavior is made difficult due to its spontaneous arising and unpredictable nature (Milgram & Toch, 1969). The growing membership in Facebook can be likened to such a crowd gathering. In commenting on the drawing power of the Facebook mass, a product officer for an Internet solutions services (Appirio) firm said, "If there are 150 million people in a room, you should probably go to that room" (Hempel, 2009, ¶ 22). In this context, the crowd situation in the case of Facebook also has the element of novelty, which complicates the systematic study of even further.

Crowds and bad behavior are not inevitably linked (Milgram & Toch, 1969; Hardy & Heyes, 1999). The SIDE model posits that situational cues play an important role under a state of "deindividuation"; in the absence of physical presence of others (e.g. CMC) it is the situation-specific cues, which when made salient (through the process of social identification) that can induce conformity to the group norms or the opposite (i.e. enhanced attention to the personal identity and standards) should the situational cues be such under "de-individuation" (Lea & Spears, 1992; Spears, 1995).

Given the premises, it cannot be simply surmised that anonymity necessarily causes enhanced conformity to group norms because it can induce the polar opposite. Diener (1980) made it a point that equating anonymity with deindividuation is a mistake, which is what SIDE model appears to have done at times (Spears et al, 1990), flitting between deindividuation and depersonalization sometimes confusing the two sometimes conflating anonymity with deindividuation. In spite of these weaknesses,

SIDE does say that under deindividuation conditions (especially anonymous CMC), polarization results and in which direction depends on the situational-specific cues and identity level activated at that moment (Lea & Spears, 1992; Spears, 1995).

Taking this perspective into consideration, it cannot be denied that different crowds have different propensities, just as different groups have different agendas. However, should the situational norm be such that the cloak of *anonymity* as well as illusion of *universality* makes possible the diffusion of responsibility and heightened disinhibition, crowds can serve to induce greater risk-taking or uninhibited behavior (see Diener, 1977, 1980; Milgram & Toch, 1969; Zimbardo, 2007).

Classical deindividuation theory more convincingly describes when an individual is caught in a mob, or “submerged” in a crowd, it is neither his personal nor his social identity which comes to the fore; it is, as Le Bon (1896) famously described and others (Diener, 1977, 1980; Zimbardo, 1969, 2007) have concurred, the entire and complete lost of the conscious personality, i.e. the “will.”

Diener (1980) described deindividuation as the lack of evaluation by others and scripted behaviors reducing consciously planned intentions; in addition, being indistinct amongst similar others as well as engagement with an attention absorbing activity away from the self are factors that likely blocks self-awareness, thus increasing potential of deindividuation. Diener (1980) wrote,

In addition to the blocking of self-awareness, deindividuating situations may be less likely to stimulate self-awareness than most other situations.

Deindividuating situations may “channel” behavior by offering abundant modeling and requiring little or no decision making from the individual as the crowd progress to more and more disinhibited behavior (p. 226).

Zimbardo (2007) wrote,

In the extreme, there is no sense of right and wrong, no thoughts of culpability for illegal acts or Hell for immoral ones. With inner restraints suspended, behavior is totally under external situational control; outer dominates inner. What is possible and available dominates what is right and just. The moral compass of individuals and groups has then lost its polarity (p. 306).

It seems clear therefore (to this author) from prior analysis of substantial scientific psychological literature written on conscious will and social influences, that individuals at any particular point in time, when driven to make a decision (regarding participating in a certain activity) are constrained by factors that may allow or deny them the opportunity to take the best option through a slow and deliberate, complete consideration of all facts pertaining to the case at hand, and the factors include memory, personal, situational, cultural and social influences, and perhaps limited cognitive resources (e.g. time).

In light of these findings, it seems possible that under certain circumstances when put under immense pressure from the wider situational, social, and cultural contexts, as well as the awareness of a mass social phenomenon taking place on a wider, societal scale, an individual’s ability to claim to have intimated freedom or experienced

“free conscious will” or the utility of autonomy may be vastly diminished, and his or her exhibited notions of choice may be significantly shrunk as a result.

Deindividuation in the Age of Mobile Communications

Asch (1952) argued although not explicitly that individuals often find themselves having to conform to the will of society in part as a result of better adapting and avoiding relentless defeat. In light of the intrinsic need to appease our need for belonging (Asch, 1952; Baumeister, 1995) as well as need to communicate (Asch, 1952; Coyle & Vaughn, 2008; Festinger, 1954), it is not hard to see how freedom of choice of the individual may be subsumed under forces of immense social pressure needed to execute the wishes of the will of the majority, particularly when communication can be done at such a rapid pace, and social identities can be invoked at anytime, in any place through the profusion mobile communication technologies.

Conformity effects in the age of mobile communication technologies have been examined in such areas as CMC by the likes of SIDE theory. Rheingold (2002) examined the phenomenon of “smart mobs” where mobile *ad hoc* groups in the age of mobile communications and cellular technology can be formed through text messaging, and hordes of people coordinated from distant locations to join in various social activities such as protesting a regime, participating in demonstrations, or other group activities.

Other researchers have also examined mass movements and crowd protests partly orchestrated by and made possible through use of instruments of modern communication technologies. For example, Sanders (2006) described French race riots of

summer 2005, as well as Australian youth's coordinated violence against ethnic minority groups in December 2005 as examples.

The Theory

Social life had been described akin to physical laws of the universe (Rogers, 1995), where mysteries that still remain path the way for speculation and conjectures regarding the origins of the transition from individual to the collective. This has been compared to that of the problem of heredity in biology (Moscovici, 1985). Mass social change had also been described as a "black hole" (Hassan, 2005; see also Zimbardo, 2007).

Brown's (2007) five-factor model of the peer influence process is a good starting point for a guiding compass. Taking the perspective afforded by psychological theory of deindividuation, especially when one is drawn into a crowd, it may be surmised that it would not take too much to find oneself going along with the will of the majority especially when shrouded in a cloud of uncertainty. We humans (sometimes) think we have paranormal abilities able to intuit or communicate with others far away via telepathy (Carrington, 1978; Harper, Matarazzo & Wiens, 1978; Sheldrake, 2003; see also Shariff, et al., 2008). In the context of the awareness of the masses moving in one direction (the rapid diffusion of Facebook), if we take appropriate cues from social comparison (Festinger, 1954), herd instinct (Trotter, 1919) as well as social learning theory (See: triadic model of human behavior; Bandura, 1977, 1997), by arguing for peer pressure as being made up of a confluence of peer and social influences mediated by

situational, socio-cultural, intra and interpersonal factors, and in line with Le Bon's (1896) original conception of the crowd theory, peer pressure may be conceptualized as a force that when reaching very high levels (see Social Impact) may have the power and potential blinding effect to (temporally) overwhelm "free will." Although partly speculative, this might help account for the massive swell in adoption of this new technology during the periods 2004 – 2008 (See Introduction).

It seems plausible therefore to test a new principle of social conformity by joining it with deindividuation, which states simply that the freedom of choice of an individual for preserving individuality (in opposition to de-individuation) may be severely compromised or eliminated entirely as a result of or when put under immense stress from powerful social influences put into motion by build up of mass activity and shifting cultural norms held up in part by perceived contributions made by institutions, and arising and unleashed as a result of a radical technological breakthrough (For examples of cultural change brought about by Facebook, see Eberhardt, 2007; see also Hempel & Kowitt, 2009). The effect may be mediated by the level of maturity, individual differences in personality characteristics, family background, system-wide situational factors and social-cultural contexts and other psychosocial variables interacting and operating at the intrapersonal and interpersonal levels, all of which combining, interacting and accumulating towards deindividuation-conformity to result in and adduce to a temporary loss of, or suspension of the "free will" (See diagram A).

A survey instrument had been designed in this respect in an attempt to measure the level of peer pressure among young adults in regards their participation in the social networking site, Facebook.

Diagram A:

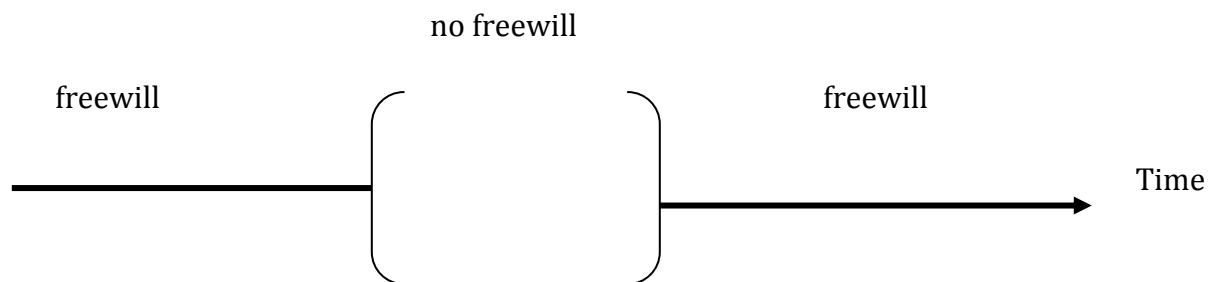


Diagram A: How freewill can be absorbed

Method

Even as the world's total number of Internet users continue to grow (albeit slowly), we should be careful of being too quick to assume that each and every person in the world has equal and frequent access to the communication medium (Internetworldstats.com, 2009).

Penetration for North America stands at 74.4% as of 31st March 2009. Even though college undergraduates across the U.S. are likely to have access through their schools, it should be kept in mind that circumstances may still arise or persist where access may be limited or hard to obtain in unperceived ways.

Numerous authors have stressed the importance of precise wording in the use of questionnaires (Crisnall, 2001, cited in Grandcolas, et al, 2003; Madson, 2005; Fisher, 2009). It is important that each question is phrased in a concrete way that will not present ambiguity to the respondent, or confuses them, and result in invalid responses.

It had been widely reported that the use of monetary incentives will on average, serve to increase response rates, and that a \$2 incentive (as token of appreciation) is particularly effective in motivating college students to participate (Szelényi, Bryant & Lindholm, 2005).

It is said that the sheer enjoyment of filling out interesting survey questions may be a kind of reward for respondents (Dillman, 2000, cited in Szelényi et al., 2005) and is a potent factor in determining response rates.

It is also reported that among college students, high achievers respond at higher rates to surveys, while students who engage in hedonistic behaviors generally respond at lower rates (Szelényi et al., 2005).

Online vs. Postal Survey

In examining the survey methodology, Dillman (1999) suggested that the use of email may incur a bias in terms of the sample potentially excluding participants who may have limited or no access to email and the Internet.

It is not entirely clear that respondents prefer the mail method to the email method (Schonlau, Fricker, & Elliott, 2002). Prior research comparing email and postal mail surveys suggests that the differences in overall response rate vary according to context, and the use of one channel over another does not necessarily imply an absolutely higher or lower response rate (cf. Cobanoglu, Warde, & Moreo, 2001).

The use of email surveys through computer-mediated communication channel is also known to induce the online disinhibition effect (increased social distance) that may give rise to heightened self-disclosure that yield answers that are more honest or that may be less conforming to “social desirability” (Daley, McDermott, Brown, & Kittleson, 2003; Grandcolas, Rettl, & Marusenko, 2003).

It had also been suggested using dual modes for pre-notification as well as responding can increase coverage (Dillman, 2000 cited in Schonlau et al., 2002).

Conceptualizing

Due to infeasibility of utilizing financial incentives, the researcher did not go in that direction. In order to increase response rates, some strategies of presenting rewards may have to be employed. The first and foremost reward, which should be made clear to participants, is being able to somehow “contribute to society.” The crucial component of the argument this researcher initially relied on in trying to get respondents to fill out the survey was the part of the study that stresses its social significance (as well as noncommercial nature), which may appeal to some college students.

Secondly, the opportunity to receive a copy of the results of the study can serve to enlighten them (in regards their particular condition in life) and should be posed as an incentive to spur participation and response rates as well.

The researcher is aware that hedonistic college students will probably not respond well to the survey, but no accommodations were made. The lessened social desirability factor in online surveys has been frequently cited as a merit, but the author thinks it may incur negative bias on a relative basis, and therefore needs to be addressed accordingly.

Email surveys may also incur additional errors in terms of its design as well the span of personalization and customization that vary across platforms among PC or Mac users that may result in Web pages on which surveys are being loaded on showing up and or being viewed differently or sized disproportionately among individual users

(No attempt at testing this contingent or gaining further knowledge pertaining thereto was undertaken.)

Due to the transitive nature of the Internet, an innovative method of obtaining data from the sample (college students) may perhaps be to offer them both the options of the online survey and the mail survey. This would eliminate both the bias associated with mode, bias associated with assuming all students have equal access (to the Internet), and accommodate those who identify strongly with the “wired” culture. Although it was kept in mind, this particular strategy was not clearly executable either.

Jaccard, et al., (2005) cited the unsatisfactory nature of obtaining self-reports because of potential distortion of the true impact of peer pressure, or underestimation due to lack of true insight into subtle peer influence mechanisms. Taking into account the particular sensitivity of the issue the study seeks to investigate, a level of sincerity may also be needed, and college undergraduates’ potentially negative attitudes towards a “generic”-looking survey conducted over the email also needs be taken into consideration.

Even though the use of postal mail survey method would incur higher costs in terms of financial investment and human labor, the benefits in terms of eliminating mode bias, garnering favor through sincerity⁵ and effort, and eliminating sample bias is in this author’s opinion well worth it.

⁵ It is worthy to note that peer pressure is an intangible, transient variable often a private matter, and as so can be difficult to measure, more so if precision is to be concerned.

With these ideas and guiding principles in mind, a survey instrument was crafted and designed. Some attempt was made to make the survey esthetically pleasing as well. The survey was also designed to be well-organized, short (estimated 50 questions –subsequently reduced to 17), pleasant to read, low to moderately sophisticated, and (forecasted to be) timely, simple, and not too burdensome for each college student to fill out.

Previous Studies Done on Peer Pressure

A majority of past studies done on peer pressure in relation to various forms of risky behavior or personality characteristics have in general made use of the survey questionnaire (Bradley & Wildman, 2002; Clasen & Brown, 1985; Clasen, et al., 1986; Crawford & Novak, 2007; Cross & Fletcher, 2009; Jaccard, et al., 2005; Maxwell & Chase 2008; Padilla-Walker & Bean, 2008). Others have used interviews (Lashbrook, 2000; McIntosh, MacDonald, & McKeganey, 2003; Ungar, 2000), vignettes (Santor, et al., 2000), literature review (Sussman, Pokhrel, Ashmore & Brown, 2007), role-playing scenario (Rose, Bearden, & Manning, 2001), and even a computer game (Gardner & Steinberg, 2005).

The Peer Pressure Inventory (PPI) was cited as “one of the most well-validated measures of peer pressure (Santor et al., 1999) and was developed by Brown and Clasen (1985) through interviewing a pilot sample of adolescents aged 12-18. In their study, they found that perceived peer pressure towards involvement with peers (attending parties, hanging out, interacting with opposite sex) was particularly strong.

Clasen et al (1986) used the PPI again in a subsequent study on perceptions of peer pressure, peer conformity dispositions, and self-reported behavior among adolescents. They also used Berndt (1979)'s 8-item peer conformity vignettes, and found that respondents perceived less peer pressure towards misconduct than towards peer involvement. Their study revealed a complexity within adolescent peer conformity phenomenon that bears elaboration in future research.

Examining trends within the field of peer pressure research, Bauman and Ennett (1996) reviewed the literature for possible discrepancies and noted that the psychological phenomena of *projection* and *selection* may account for some behaviors. They also recommended *social network analysis* as a better method to understand and assess the peer influence process. Santor et al, (1999) "liberally" adapted Brown et al.'s (1985, 1986) PPI for their study. They also made use of Berndt (1979)'s peer conformity vignettes in their study of the relation between peer pressure, peer conformity and popularity.

Bradley and Wildman (2002) developed the 8-item EAPPI (Emerging Adult Peer Pressure Inventory) by drawing upon items from the PPI and using "an examination of past theoretical and research literature" (p. 257). Teese and Bradley (2008) made use of the EAPPI for their study on predicting recklessness in emerging adults.

The Initial Survey Instrument

Maxwell & Chase (2008) pointed out that peer pressure needs to be contextualized in order to examine its interaction with other factors in their full

complexity. Although ethnography and personal interviews were other viable options, the author decided that the survey could best serve the interest of this study because of the large number of students who can be reached at relatively low cost.

The initial goal was to make use of a 9-point Interval-type scale to allow for a greater degree of variation among choices so that respondents would be able to select from a range of choices to better reflect and be more precise about their (psychological) positions and at the same time enable a higher level of measurement and statistical analysis for the research. However, it was not always clear how the peer pressure construct was best operationalized or could be best measured through using only the questionnaire.

Demographic items

The following demographic questions were added to allow the researcher to better describe the sample: (1) year of birth, (2) gender, (3) ethnicity, (4) major in college, (5) whether live on campus or off campus, (6) years at RIT, and (7) religious orientation.

Peer pressure construct

As previously mentioned, peer pressure was not always clearly defined and so the researcher looked for guidance in Brown's (2007) model. Brown (2007) broke down the concept of peer pressure into the following five sub-categories: (1) Cultural norms, (2) Social context, (3) Situational factors, (4) Influencer & Influencee characteristics, and (5) Developmental stage.

Since the purpose of this study is to measure peer pressure levels operating within Facebook, an original survey questionnaire was conceptualized with the intention of acting in accordance with and conforming to Brown's (2007) Five-Factor Peer Influence Process model. In order to put the questions into context, the following operationalization procedures were carried out:

The following questions were initially formulated and intended to assess the *cultural norms* portion of the peer pressure construct within Facebook:

- (1) the number of persons the individual believes or knows is using Facebook,
- (2) expressing a sentiment regarding the adoption of Facebook in society,
- (3) how useful Facebook has been for the organizing of parties,
- (4) agreement or disagreement with the following statement: "In this Information society, one needs to be informed or be left behind,"
- (5) whether this individual had been told by people whom he/she trusts or perceive to have great credibility to join Facebook,
- (6) whether he/she had been told or given the impression that not joining social networking sites would brand him/her a loser,
- (7) how powerful he/she thinks the spread of Facebook throughout the population was during the most critical moment of its rise,
- (8) whether at the peak of its popularity Facebook had caused a diminution in notions of choice as regards to whether to join Facebook or not, and
- (9) if he/she thinks Facebook was a social revolution.

The following questions were formulated to assess the *social contexts* construct:

- (1) Is or are his/her best friends on Facebook,
- (2) If there is anyone whom he/she finds attractive who is not on Facebook,
- (3) whether he/she is a member of a social group or clique that he/she frequently spends time with
- (4) The Collective Self-Esteem Scale (CSES)⁶,
- (5) whether there are influential figures (from media?) that he/she has high regard for promoting the usefulness of SNSs,
- (6) how many influential figures and
- (7) degree of perceived threat of social isolation or other social costs incurred of not joining these sites.

The following questions were formulated to address the *situational factors* criteria:

- (1) what impacts do remarks made on “the wall” have on him/her,
 - (2) what impacts postings on Facebook have on real life,
 - (3) how contents he/she reads on Facebook affects him/her,
 - (4) how much he/she perceives his/her friends to be benefiting from use of Facebook for purposes of dating,
 - (5) how much he/she perceives his/her friends to be benefiting from use of Facebook for purposes of career advancement,
-

- (6) if there are rumors circulating around that tell of the great drama and excitement on Facebook,
- (7) how likely he/she is to conform in a state of high uncertainty, and
- (8) if he/she feels they always have the courage to resist social pressure to join SNSs.

The following were initially formulated to assess the *influencer & influencee characteristics* construct:

- (1) overlap with 1 and 2 of social contexts,
- (2) the individual's innovativeness in general,
- (3) overlap with 3 and 4 of social contexts,
- (4) the Attention to Social Comparison Information Scale (ATSCI)⁷,
- (5) if he/she feels an implicit need to have a Facebook page, and
- (6) if he/she is flourishing from the use of Facebook.

The following questions were formulated to assess the *developmental stage* construct:

- (1) innovativeness (overlap with 2 of infl & inflcee char.),
- (2) age (overlap with 2 of demographic questions).

The above-described process of haphazardly building the original questionnaire initially came up to 66 questions and this prototype can be seen in Appendix A. The number of items was scaled down and made more precise.

The Final Survey Instrument

A more compact final version consisted of 17-items (See Appendix B) and included two general starter/orienting questions, followed by the CSES, the ATSCI, the FAD Free Will Subscale in that order respectively, variations on questions testing for the peer pressure construct were next, followed by the demographic items, which were six in total.

In order to separate users from nonusers, the first question posed to participants right after the orienting information and instructions was “Do you access Facebook?” Participants can either answer yes or no. If they answered no, they were asked to stop participating at this point. The second question asked how many hours they spent on Facebook in a typical week should they answer yes. After which, they encountered the following scales:

CSES scale

Luhtanen and Crocker (1990, 1992) developed a Collective Self-Esteem Scale (CSES) following developments in social identity theory (see Tajfel & Turner, 1986;) which holds that an individual’s self is made up of not only his own idiosyncratic personality but also group memberships (which he or she may or may not be implicitly aware) belonged to, ergo: social identity. The scale measures the self-concept in regards to groups to which one belongs as opposed to the self when considered individually.

Collective self-esteem is related to the positive emotional feelings that arise when one's social categorization(s) are referenced (Crocker & Luhtanen, 1992; Turner, 1987; Maxwell & Chase, 2008).

The scale measures four areas: Membership esteem, Public collective self-esteem, Private collective self-esteem, and Importance to identity in an attempt to validate the construct's usefulness to other research areas⁸. This scale was reduced to a 5-point Likert-type scale from its original 7-point and will measure individual differences variable (influencee characteristic in Brown's model).

ATSCI scale.

Snyder (1974) originally developed the Self-Monitoring Scale to measure cross-situational variability as an individual difference personality trait. Lennox and Wolfe (1984) conducted a factor analysis to refine the Self-Monitoring Scale, and the Attention to Social Comparison Information (ATSCI) scale was dropped out, and proposed to be treated as a separate scale. Bearden & Rose (1990) conducted three studies and found the ATSCI has adequate convergent and discriminant validity. Internal consistency reported for ATSCI was 0.85 (Study 1) and 0.83 (Study 2), $\alpha = 0.88$ (Study 3). Coefficient alpha was 0.89 (page 469 under "Results") (Bearden & Rose, 1990). ATSCI is an 11-item scale that measures the personality trait of social comparison orientation and

⁸ In his study, Gangadharbatia (2008) found that attitude only partially mediates the relationship between willingness to join (behavioral intention) and collective self-esteem in his analysis of SNS users. As such, it is believed it will be a valuable construct (social identity) in regards to testing for susceptibility to conform.

although a variant of other social comparison orientation scales, is generally known to have good cross-situational consistency and reliability (Gibbons, personal communication).

Bearden & Rose (1990) found it to be related to an individual's likelihood to conform; high ATSCI subjects are more likely to comply with normative pressures and conform. Since conforming to group norms is an effect of peer influences, it was used as an intervening measure to determine heightened levels of peer pressure within Facebook.

FAD belief in free will subscale

Paulhus & Margesson (1994) designed the Freewill And Determinism (FAD) scale. The FAD Free Will subscale is a 7-item scale within the 28-item FAD scale that measures belief in free will. Lower levels of belief in free will have been found to be related to higher instances of cheating behavior (Vohs & Schooler, 2008). It was included in the questionnaire and placed on the questionnaire just after the ATSCI items.

The Free Will subscale includes the following questions to be answered using a 5-point Likert-type ranging from 1-totally disagree, to 3-unsure, to 5-totally agree:

- (1) People have complete control over the decisions they make,
- (2) People must take full responsibility for any bad choices the make,
- (3) People can overcome any obstacles if they truly want to,
- (4) Criminals are totally responsible for the bad things they do,

(5 - reverse scored) People do not choose to be in the situations they end up – it just happens,

(6 - reverse scored) We should avoid punishing people because many of them can't help doing what they do, and

(7) Strength of mind can always overcome the body's desires.

The FAD scale had been used in a number of recent social psychological studies to assess how primed lowered levels of beliefs in free will may give rise or contribute to less socially desirable behavior (e.g. cheating, aggression, unhelpfulness), and confirmatory results had generally been found (Baumeister et al, 2009; Vohs & Schooler, 2008). This 7-item subscale assesses students' beliefs about the existence of free will, which will allow the researcher to test the new "idea-theory" of very high levels social forces being able to "subsume free will."

Peer pressure construct items

Users of Facebook frequently post comments and remarks on other users' pages on a space called "the wall," usually in a self-elected way. As such, it would be of interest to know what impact such remarks have on users. Question 6 addresses this aspect, and was designed to be answered in a 7-pt semantic differential scale, which can be seen below:

6. If you have a Facebook page, what impact do the remarks made on "the wall" have on you?

	None	•	•	•	•	•	•	Profound
		1	2	3	4	5	6	7

Since after review of literature it was found that peer pressure *is* perceived, as well as mediated by many other social, situational and contextual factors, it was decided that a single precisely-worded question that indiscriminately (but reversely phrased in the questionnaire) would ask participants for their self-reported perceived level of peer pressure in participating in Facebook. The question uses a 7-point semantic differential scale for answering as well to preserve questionnaire consistency. See below:

7. How much do you agree or disagree with the following statement?: Peer pressure has not affected my participation on Facebook.

Strongly disagree	•	•	•	•	•	•	•	Strongly agree
	1	2	3	4	5	6	7	

For good measure, a somewhat “filler” question, which may serve peripheral functions, was included that asked users for their beliefs with regard to whether conforming to the majority was an inevitable part of life:

8. How much do you agree or disagree with the following statement?: Being forced to conform to the majority is an inevitable part of life and happens to everybody.

Strongly disagree	•	•	•	•	•	•	•	Strongly agree
	1	2	3	4	5	6	7	

A second question that indirectly addresses the peer pressure construct from a different angle was also included, and appears as follows:

9. How much do you perceive your friends to be benefiting from the use of Facebook for various social capital enhancing activities (i.e. becoming popular, accepted, cool)?

None	•	•	•	•	•	•	•	A lot
	1	2	3	4	5	6	7	

The question listed below also asked for perceptions of social isolation costs incurred of not participating on Facebook, which is another variation of the peer pressure construct:

10. What is the degree of perceived threat of social isolation or other social costs incurred of not participating in social networking sites?

Very little	•	•	•	•	•	•	•	Very Much
	1	2	3	4	5	6	7	

Since the prevailing climate or zeitgeist predicts a conformist culture, question 11 asks participants if they think they will conform to the majority in a situation of high moral uncertainty and ambiguity and is included in the questionnaire:

11. When you are faced with a moral or ethical dilemma, or in a situation of high uncertainty and ambiguity, how likely are you to conform to the perceived will of the majority?

Very unlikely	•	•	•	•	•	•	•	Very likely
	1	2	3	4	5	6	7	

Questions 12 – 17 asked for demographic items which includes year of birth, gender, ethnicity, major in college, whether living on or off campus and years been at the institution.

No pre-test of the final questionnaire was done.

Sampling

A randomly sampled list of 371 RIT undergraduate students was generated with the aid of the Office of the Registrar. An email listserv containing email addresses of all RIT students enrolled in the College of Liberal Arts was also utilized as a secondary sample for the emailed portion of the survey study.

Procedure

Envelopes containing a cover letter A (See Appendix C), IRB informed consent form (See Appendix D), the survey questionnaire (Appendix B), one return-addressed envelope, was folded and stuffed according to the order and layout prescribed by Dillman (1978) and mailed to the 371 selected students on Wednesday, July 8. A second mailing was planned for one week after.

Responses

One letter was refused on July 10. A response rate of 5.6% (21) was obtained by July 15. On the same day (July 15), 345 envelopes containing cover letter B (See Appendix E), the original survey (Appendix B), and a business-reply envelope were mailed to those who had not responded, excluding those whose addresses the letters could not be forwarded.

During this period, feedback received from initial responses as well as further analysis by the researcher indicated that respondents could answer all questions on the survey (which was not possible on the original survey) even if they did not *per se* access Facebook. As a result modifications were made to this part of the *online* version of the

survey to make possible answering of all other questions even if they do not access Facebook⁹.

On July 16, the online version of the study facilitated through RIT's Clipboard¹⁰ software was initiated with an email message (See Appendix F) sent to the listserv containing the email addresses of all students enrolled with majors in College of Liberal Arts. Within the first seven hours 13 responses were collected, suggesting differences in terms of cost/efforts and returns between the two methods.

However, towards the end of the day - time elapse of 9 hours since beginning, doubts crept in as fears of the email being ignored or deleted as spam became a real concern. Possible presentation issues arising from failure to send the correct link with the survey ID could have compromised the overall credibility rating of the study as well thus in part resulting in lowered response rates.

On July 21, a total of 27 online responses through Clipboard were obtained. It was previously decided that a follow-up one week after the initial email would be utilized in an attempt to increase the total responses. At this point the number of mailed responses came up to 34 (~9.16%).

On July 22, the second email (See Appendix G) to invite participation in the online survey was sent to the same listserv. On July 29, a total of 56 online responses

⁹ As it turned out later, all responses to the online version of the survey indicated they access Facebook, nullifying the need/move to make this modification.

¹⁰ Clipboard is an easy-to-use, professionally designed online survey tool designed by the RIT Online Learning Department (<http://clipboard.rit.edu>).

were obtained. Mailed respondents also came up to 73, 30 of which were in business replies (i.e. second mailing). A deadline was set (August 7) for the final replies that were to be included in the data analysis.

On August 7, which concluded the data collection period of the study, total online responses came to 57, and mailed replies were 86.

Measurement

Participation was entirely voluntary. No loss of benefits was at stake. The paper surveys took approximately 7 – 15 minutes to fill out completely. The online¹¹ version took approximately 6 minutes (tested by this researcher). However, students who answered that they did not access Facebook on the paper survey were eliminated from answering any further questions at that point and were instructed to mail back their responses. This was slightly regretful, because it was actually essential to learn or know what effect(s) Facebook had on nonparticipants, which as previously discussed was a key research question of interest for this study.

Results

Descriptive statistical analysis of frequencies and measures of central tendencies were run on the main variables using SPSS v. 17.0 and later SPSS v. 18.0. Pearson correlations, tests of significance of differences, and linear regressions were also run

¹¹ Participants could be just checking email or doing several different things while at their computer. The terms “emailed” and “online” are interchanged in this paper to describe the sample from online Clipboard survey.

between peer pressure¹², CSES, ATSCI, Belief in Free Will (BFW), and other major variables, which included time spent on Facebook in a typical week, three other constructs related to peer pressure (“Threat of isolation,” “impact of remarks” and “perceived friends benefitting”), two value statements (“Conformity inevitable part of life” and “conformity during ethical dilemma”), and three (Age, gender and ethnicity) of the six demographic items.

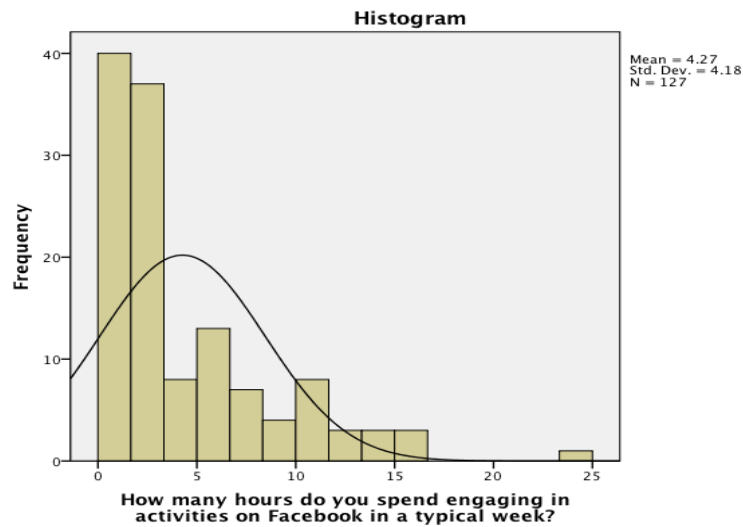
Sample Description

A total of 86 responded via postal mail, and a total of 57 responded through the online channel. This gives a combined total sample of 143 subjects including a few less than entirely completely filled out responses. Of this, only 128 provided more informative and insightful data, because the 15 who indicated they do not access Facebook (All from postal sample) dropped out of further participation from thereon, as previously mentioned.

Of the 128 who responded, 55 were males and 73 were females. For the postal sample Male = 43 were males and 28 were female. For the online sample, 12 were males and 45 were females.

The average age of respondents was about 22 (Mean = 22.46, S.D. = 5.679). The average reported time spent on Facebook in a typical week (in summer 2009) was about 4 hours (Mean = 4.27, S.D. = 4.18). See histogram below:

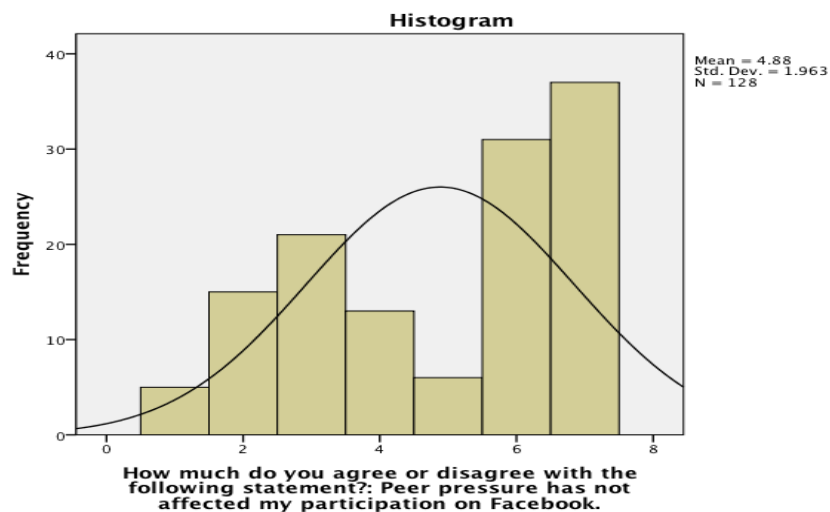
¹² Peer pressure was reversely phrased on the questionnaire. As a result, correlations were in the opposite direction during data analysis done on the SPSS output viewer, but were all revised for writing on this paper to correctly reflect all the relationships.



Of those who responded, 107 reported they were White or Caucasian, 4 reported they were Black or African-American, 9 reported they were Asian or Asian American, 4 reported they were Hispanic, 1 reported she was American Indian or Alaska Native, while 3 reported as "Other."

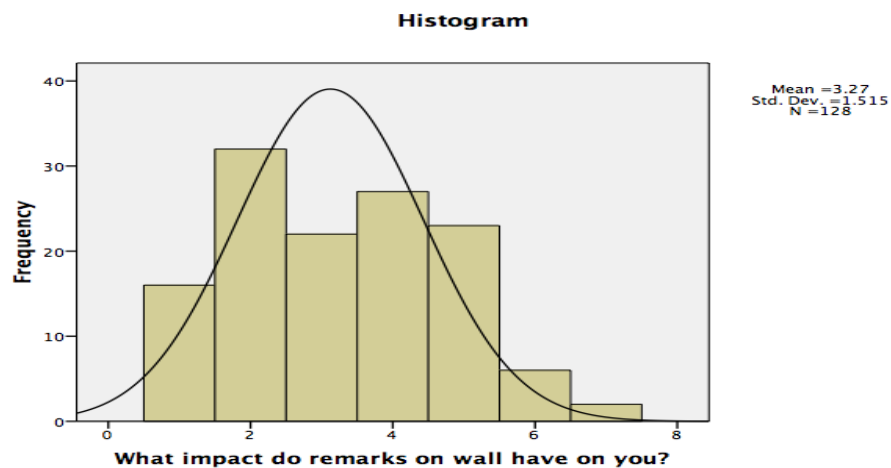
Pearson Correlations

Peer Pressure



There was no correlation between time spent on Facebook in a typical week and peer pressure ($r = .023$, $p = .796$). This was true for both the online sample only ($r = .205$, $p = .129^{**}$) as well as the postal sample only ($r = -.144$, $p = .231^{**}$). Peer pressure was nonsignificantly correlated to the value statement of self-reported likelihood of conforming to will of the majority during a moral dilemma ($r = .195$, $p = .027^{**}$), and significantly correlated to agreeing that conforming to the majority is inevitable part of life ($r = .254$, $p = .004^{**}$).

Impact of Remarks Made on 'The Wall'



Peer pressure was significantly correlated to impact of remarks made on “the wall” ($r = .246$, $p = .005^{**}$). This relationship was stronger in the online sample ($r = .292$, $p = .028^{**}$) than in the postal sample ($r = .206$, $p = .085^{**}$). Impact of remarks made on “the wall” was (also) significantly correlated to perceived threat of social isolation ($r = .393$, $p = .000^{**}$). Impact of remarks made on “the wall” was significantly correlated to

perceiving friends to be benefitting in terms of social capital from using Facebook ($r = .397, p = .000^{**}$).

Perceiving Threat of Social Isolation of Not Participating in SNSs

Peer pressure was also significantly correlated to perceived threat of social isolation ($r = .326, p = .000^{**}$). This was true for both mailed only ($r = .344, p = .003^{**}$) as well as online only ($r = .310, p = .020^{**}$), but stronger in the former. The perceived threat of social isolation was significantly correlated to perceiving friends to be benefitting in terms of social capital from using Facebook ($r = .332, p = .000^{**}$).

Perceiving Friends to be Benefitting in Social Capital From Using Facebook

Peer pressure is significantly correlated to perceiving friends to be benefitting in terms of social capital from use of Facebook ($r = .277, p = .002^{**}$). This relationship was stronger for the online ($r = .366, p = .005^{**}$) than for the postal sample ($r = .259, p = .029^{**}$).

Summarizing the peer pressure construct

The above “inter-correlations” among variants of the peer pressure construct suggests some evidence of the cross-variable or internal validity of the measure of peer pressure in the questionnaire. Assuming respondents had been honest, the questionnaire does exhibit some validity.

CSES

No correlations were found between CSES and any of the major scales or variables. CSES was not correlated to peer pressure ($r = -.002, p = .489^{*}$), perceived

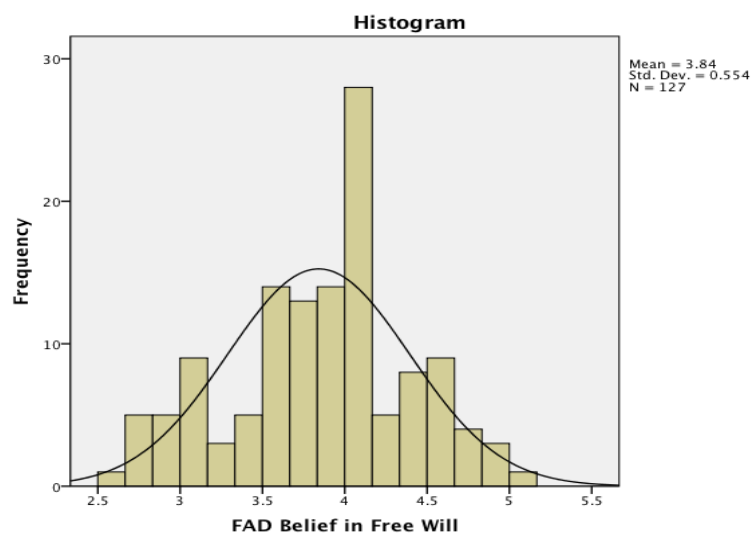
threat of social isolation ($r = .094$, $p = .293^{**}$), or perceived friends benefitting from Facebook use ($r = .028$, $p = .756^{**}$); CSES and BFW ($r = .025$, $p = .782^{**}$).

ATSCI and Peer Pressure

A significant relationship was found for ATSCI and peer pressure ($r = .318$, $p = .000^{**}$). This relationship was much stronger for the online only sample ($r = .395$, $p = .003^{**}$) than to the mail sample ($r = .229$, $p = .054^{**}$). There was (also) a significant relationship found for ATSCI and perceived threat of social isolation ($r = .236$, $p = .008^{**}$). There was a significant correlation between ATSCI and impact of remarks made on “the wall” ($r = .280$, $p = .001^{**}$), reinforcing the strength of the peer pressure finding. No correlations were found between ATSCI and perceiving friends to be benefitting in terms of social capital from use of Facebook ($r = .075$, $p = .401^{**}$).

ATSCI was not significantly correlated to BFW ($r = -.073$, $p = .413^{**}$).

Belief in Free Will (BFW) and Peer Pressure



* One-tailed

** Two-tailed

Peer pressure was found not to be significantly correlated to BFW ($r = -.142$, $p = .111^{**}$). However, the relationship was stronger with only mailed respondents included in the analysis ($r = -.230$, $p = .054^{**}$), one-tailed test ($r = -.230$, $p = .027^{*}$). No correlation was found for online only respondents ($r = .030$, $p = .828^{**}$).

Perceived threat of social isolation was not significantly correlated to BFW ($r = .115$, $p = .200^{**}$). Perceiving friends to be benefitting in terms of social capital from using Facebook was not significantly correlated to BFW ($r = .111$, $p = .214^{**}$). There was no significant correlation between BFW and impact of remarks made on “the wall” ($r = .088$, $p = .327^{**}$).

No correlations were found between BFW and agreement with the value statement of believing conforming to the majority is an inevitable part of life ($r = .036$, $p = .689$). There was an unexpected finding¹³.

It was subsequently found that the means of the BFW measure in the postal sample (Mean = 3.96, S.D. = .546) were slightly higher than those in the online sample (Mean = 3.69, S.D. = .532). An independent samples T-test was run to test the significance of this difference and the difference of means was found to be significant, $F = .006$, $p = .007^{**}$. Even though means for the two value statements in regards to conformity were slightly higher in the postal sample than in the online sample, the

¹³ A significant relationship was found between Belief in Free Will and self-reported likelihood of conforming to majority when in a moral dilemma ($r = .222$, $p = .012^{**}$). This is a counterintuitive finding, but the relationship was eliminated when only mailed responses were included ($r = .066$, $p = .585^{**}$). The author thinks this may be an artifact of conducting online surveys where CMC effects (thereby lessened social desirability perhaps) are partly induced as compared to the ‘traditional’ paper survey through postal mail

difference of means were found to be not significant, $F = .526$, $p = .341^{**}$; $F = .281$, $p = .636^{**}$. This unexpected finding provides support for a well-documented cyber-psychological issue, the Online Disinhibition Effect (Suler, 2001).

No correlations were found between BFW and gender ($r = -.048$, $p = .590$) or age ($r = .020$, $p = .826$).

Linear Regression

Using linear regression and ANOVA by inserting ATSCI and CSES as independent variables and BFW as dependent variable, no significant relations were found ($F = .430$, no sig.). Another linear regression was run by entering ATSCI and Peer pressure as independent variables, and BFW as the dependent variable, but no significant relations were found ($R = .145$, $F = 1.332$, no sig). A third linear regression was run entering as independent variables ATSCI and Peer pressure, and BFW as dependent variable but using only mailed respondents, this time the strength of the relation was increased ($R = .247$, $F = 2.213$, sig. = .117).

Discussion

It had been one of the main purposes of this study to test for very high levels of social influences leading towards lower levels of belief in free will in Facebook. This hypothesis is not without its forerunning precedents and prodromal signs (see Jeffries, 2009). No support was found for this hypothesis ($R = .247$, $F = 2.213$, sig. = .117).

The second research question asked, What is the nature of the relationship between self-reported perceived peer pressure and undergraduate students' time spent

engaging in activities on Facebook? The hypothesis was that peer pressure is significantly and positively related to time spent in Facebook. It was not supported ($r = .023$, $p = .796$).

The third research question asked, What is the nature of the relationship between self-reported perceived peer pressure and undergraduate students' motivations to join Facebook? The hypothesis was peer pressure was significantly and positively related to college students' decision to join Facebook. There was no support for this hypothesis.

The significant difference(s) found between findings from online and postal portion of the samples suggest(s) stark differences in the nature and characteristic of the message, which are inherently changed when varied across media (McLuhan, 1964). This should be serve as an important finding for future researchers conducting surveys. Differences may exist between the data collection methods of paper versus online.

The lack of correlation between CSES with any of the major scales and variables may be partly attributed to the arrangement of the items on the questionnaire, which were not in accordance to that prescribed by its authors (Luhtanen & Crocker, 1992). This may have exacerbated a negative perception of, or anticipation of extra cognitive load on participants' part to an already lengthy-looking scale.

A major finding of this study is also the significant relationship between ATSCI and peer pressure, which suggests social comparison orientation, holds across media (i.e. computer-mediated context). The personality trait of higher attention to social comparison information is a mediator of social influence effects in Facebook ($r = .318$, p

= .000**). However, the fact that this relationship was stronger in the online sample than in the postal sample needs to be accounted for, and SIDE theory may have some explanatory power in this regard.

Age was a nonsignificant predictor of the amount of peer pressure ($r = .158$, $p = .075^{**}$). Perceived threat of social isolation was a significant predictor of peer pressure ($r = .326$, $p = .000^{**}$). Impact of remarks made on "the wall" was a significant predictor of peer pressure ($r = .246$, $p = .005^{**}$). Perceiving friends to be benefitting from Facebook use was a significant predictor of peer pressure ($r = .277$, $p = .002^{**}$). Self-reported likelihood of conforming to the will of the majority during a moral dilemma was a significant predictor of peer pressure ($r = .195$, $p = .027^{**}$), and agreement with the statement of "being forced to conform to the majority is an inevitable part of life" was a significant predictor of peer pressure ($r = .254$, $p = .004^{**}$). A stepwise regression was attempted using all the above variables predictive of peer pressure to try to find a fitting model to explain lowered levels of belief in free will, but none was found.

In spite of the lack of support for two of the hypotheses, the major finding of this study was that subjects who self-reported being higher on the personality trait of ATSCI (Attention To Social Comparison Information) self-reported perceiving more peer pressure in Facebook, self-reported perceiving remarks made on "the wall" as having a more profound impact, and self-reported perceiving a higher degree of threat of social

* One-tailed

** Two-tailed

isolation of not participating in social networking sites. It was not clear why all the factors that directly predicted peer pressure would not have resulted in a lowered level of belief in free will.

Limitations

Due to limited ability and resources of this researcher in crafting a fully implementable proposal, the timeliness factor in terms of capturing self-reports that are of the most precise and accurate, and at the moment of Facebook's critical rise was severely compromised. This regretful occurrence is not a first and had been noted in by others (See Rogers, 1995, p. 357).

One limitation of the study is the population that has been sampled, which is limited to a North American, North Eastern (Middle Atlantic) institute of higher education. The undergraduate gender ratio of this particular institution is also 60% male and 40% female. Therefore findings may not be validly generalizable to student populations of other colleges and universities in the country or to the college student population of other countries. The college student sample also limits the study in terms of generalizability to people of other demographic characteristics in the population.

Another limitation is the use of survey instrument, which collects self-reported data and not actual attitudes and behavior may therefore yield testimonies or data, which may not be absolutely true. The use of hypothetical questions in the survey also presented difficulties with regards to validity due to the relativity of answers about subjective states (Fowler, 1995).

Peer pressure was the variable of interest in this study and was asked directly in the form of this author's wording on a survey questionnaire in a manner that seems to connote only the "active agency" aspect of this construct but may not also have explicitly implied the "psychological" nature of this construct. Perhaps the true nature of the psychological aspect of this construct have not been fully explored, and only in-depth personal interviews can reveal the true impact of psychological peer pressure.

A more thorough and comprehensive literature review that explores all possible major and minor concepts related to social influences in their full complexity would also allow the operationalizing of the concept of peer pressure to be more holistic and complete. A larger sample, drawn from a larger population (nationwide) would also be more representative than the one used in the present study.

Other research methods that can be utilized to test the theory include ethnography or personal interviews, which may provide more insight regarding self-reported levels of peer pressure and its effects on the belief in free will.

Conclusion

The occurrence of a mass social phenomenon is rare, and scholarly attention to this subject matter is also complicated by the fact that the concept to be measured is largely psychological and therefore hard to ascertain, accurately describe, or reliably measure. It is hoped that the findings presented in the present research study would prompt researchers to conduct further studies to help pave the way towards a better understanding of perhaps the possible negative implications for individual liberties that

may arise during the critical mass stage of diffusion of a new “interactive” communication technology, when large-scale participation in a certain activity that occurs among a critical segment of the population triggers powerful social influences, bringing about high levels conformity that may be high enough to absorb “free will.”

References

- Acar, A. (2008). Antecedents and consequences of online social networking behavior: The case of Facebook. *Journal of Website Promotion*, 3(1/2), 62-83. Retrieved December 11, 2008.
- Acquisti, A., & Gross, R. (2006, June). Imagined communities: Awareness, information sharing, and privacy on the Facebook. *Conference Proceedings Privacy Enhancing Technologies Workshop*, 1-16. Retrieved December 23, 2008, from <http://www.heinz.cmu.edu/~acquisti//gross-facebook-privacy-PET-final.pdf>
- Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York: Hold, Rinehart, and Winston, Inc.
- Anonymous. (2008). MySpace or yours?: Advertising and social networks. *Strategic Direction*. 24(8), 15-18. Retrieved December 21, 2008, from Emerald database.
- Asch, S. (1952). Group forces in the modification and distortion of judgments. In *Social psychology* (pp. 450-501). Englewood Cliffs, New Jersey: Prentice-Hall Inc.
- Ban, C. (2007, July 30). Bullying spreads online. *Valley News Dispatch*. Retrieved from Newspaper Source database. (2W62W61688756319)
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of self-control*. New York: W.H. Freeman.
- Baran, S. J., & Davis, D. K. (2008). *Mass communication theory: Foundations, ferment, and future*. Boston, MA: Wadsworth Cengage Learning.
- Bauman, K. E. & Ennett, S. T. (1996). On the importance of peer influence for adolescent

drug use: commonly neglected considerations. *Addiction*. 91(2), 185-198.

Retrieved February 3, 2009, from EBSCOhost database.

Baumeister, R. F. (1982). A self-presentational view of social phenomena. *Psychological Bulletin*, 91(1), 3-26. Retrieved from PsycARTICLES database.

Baumeister, R. F. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529. Retrieved from PsycARTICLES database.

Baumeister, R. F. (2008, January). Free will in scientific psychology. *Perspectives on Psychological Science*, 3(1), 14-19. Retrieved March 20, 2009.

Baumeister, R. F., Masicampo, E. J., & DeWall, C. N. (2009, February). Prosocial benefits of feeling free: Disbelief in free will increases aggression and reduces helpfulness. *Personality and Social Psychology Bulletin*, 35(2), 260-268. Retrieved from SAGE Journals Online database.

Bearden, W. O., & Rose, R. L. (1990, March). Attention to social comparison information: An individual difference factor affecting consumer conformity. *Journal of Consumer Research*, 16, 461-471. Retrieved April 30, 2009.

Berscheid, E. (1985). Interpersonal attraction. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (3rd ed., Vol. 2, pp. 413-484). New York: Newbery Award Records.

Berndt, T. J. (1979, November). Developmental changes in conformity to peers and parents. *Developmental Psychology*, 15(6), 608-616. Retrieved May 11, 2009.

- Bodenhausen, G. V. (1990, September). Stereotypes as judgmental heuristics: Evidence of circadian variations in discrimination. *Psychological Science*, 1(5), 319-322.
Retrieved August 19, 2009, from Academic Search Elite database.
- Boehnke, K. (2008, May). Peer pressure: a cause of scholastic underachievement? A cross-cultural study of mathematical achievement among German, Canadian, and Israeli middle school students. *Social Psychology of Education*, 11(2), 149-60.
Retrieved from Education database. (200812212470002)
- Boyd, d. (2008). Facebook's privacy trainwreck: Exposure, invasion, and social convergence. *Convergence: The International Journal of Research into New Media Technologies*, 14(1), 13-20. Retrieved December 7, 2008. doi: 10.1177/1354856507084416
- Boyd, d. (2008). *Taken out of context: American teen sociality in networked publics*. Unpublished doctoral dissertation, University of California-Berkeley, Berkeley, California. Retrieved February 3, 2009, from <http://www.danah.org/>
- Boyd, d. (2007) "Why Youth (Heart) Social Network Sites: The Role of Networked Publics in Teenage Social Life." *MacArthur Foundation Series on Digital Learning – Youth, Identity, and Digital Media Volume* (ed. David Buckingham). Cambridge, MA: MIT Press.
- Bradley, G., & Wildman, K. (2002, August). Psychosocial predictors of emerging adults' risk and reckless behaviors. *Journal of Youth and Adolescence*, 31(4), 253-265.
Retrieved February 3, 2009.

- Brooks, A. (2007, October 4). Online social networks no longer just for teens. *Talk of the Nation* (NPR). Retrieved from Newspaper Source database. (6XN200710041501)
- Brown, B. B. (2007, November 12). *The process of peer influence in adolescence: Where does the brain fit in?* [PowerPoint slides]. Retrieved February 3, 2009, from http://www.bocyf.org/_presentation.pdf.
- Brown, R. W. (1954). Mass phenomena. In G. Lindzey (Ed.), *Handbook of social psychology: Vol. 2. Special fields and applications* (pp. 833-876). Reading, MA: Addison-Wesley.
- Bugeja, M. J. (2006). Facing the Facebook. *Chronicle of Higher Education*. 52(21), C1-C4. Retrieved December 20, 2008, from EBSCOhost database.
- Burger, P. L., & Luckmann, T. (1967). *The social construction of reality*. Garden City, NY: Doubleday. (Original work published 1966)
- Burns, A., & Darling, N. (2002, October). Peer pressure is not peer influence. *Education Digest*, 68(2), 4. Retrieved January 27, 2009, from Academic Search Elite database.
- Canetti, E. (1963). *Masse und Macht* [Crowds and power] (C. Stewart, Trans.). New York: The Viking Press, Inc. (Original work published 1960)
- Carrington, H. (1970). *Mental telepathy explained*. Hollywood, California: Wilshire Book Co.
- Case, J. (2006, September 8). Put peer pressure in its place. In *Healthline.com/search term: 'peer pressure'* [Online health article]. Retrieved December 25, 2008, from <http://www.healthline.com//put-peer-pressure-in-its-place>

- Cialdini, R. (1993). *Influence*. New York: William Murrow and Company, Inc. (Original work published 1984)
- Cialdini, R. B., & Trost, M. R. (1998). Social influence, social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 151-192). New York: McGraw-Hill Companies.
- Cialdini, R. B., Reno, R. R. & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 58(6), 1015-1026. Retrieved March 5, 2009.
- Clasen, D. R., & Brown, B. B. (1985, August 28). The multidimensionality of peer pressure in adolescence. *Journal of Youth and Adolescence*, 14(6), 451-468. Retrieved February 9, 2009, from Proquest database.
- Clasen, D. R., Brown, B. B., & Eicher, S. A. (1986). Perceptions of peer pressure, peer conformity dispositions, and self-reported behavior among adolescents. *Developmental Psychology*, 22(4), 521-530. Retrieved February 4, 2009.
- Cohen, S. (1978). Environmental load and the allocation of attention. In A. Baum, J. E. Singer, & S. Valins (Eds.), *Advances in environmental psychology* (Vol. 1, pp. 1-20). The urban environment. New Jersey: Lawrence Erlbaum Associates, Inc.
- Cole, J., & Montero, B. (2007, Winter/Spring). Affective proprioception. *Janus Head*, 9(2), 299-317. Retrieved May 4, 2009, from <http://www.janushead.org/9-2/index.cfm>
- Collins, R. L., Elliott, M. N., Berry, S. H., Kanouse, D. E., Kunkel, D., Hunter, S. B., &

- Miu, A. (2004, September). Watching sex on television predicts adolescent Initiation of sexual behavior. *Pediatrics*, 114(3), 280-289. Retrieved from Health Source: Nursing/Academic Edition database. (14179782)
- Conboy, H. van der Heijden, & V. Tuunainen (Eds.), *16th European Conference on Information Systems* (pp. 2124- 2135). Galway, Ireland. Retrieved March 19, 2009, from <http://is2.lse.ac.uk/asp/aspecis/20080183.pdf>
- Coyle, C. L., & Vaughn, H. (2008, Summer). Social networks: Communication revolution or evolution? *Bell Labs Technical Journal*, 13(2), 13-18. Retrieved December 12, 2008.
- Cool, J. C. (2008). *Communities of innovation: Cyborganic and the birth of networked social media* (Doctoral dissertation, University of Southern California, Los Angeles, CA). Retrieved from ProQuest Dissertations and Theses database.
- Crawford, L. A., & Novak, K. B. (2007, March). Resisting peer pressure: Characteristics associated with other-self discrepancies in college students' levels of alcohol consumption. *Journal of Alcohol & Drug Education*, 51(1), 35-62. Retrieved from Academic Search Elite database. (25057338)
- Creative Research Systems. (2009). Sample size calculator. In *Research aids* [Web page]. Retrieved March 5, 2009, from <http://www.surveysystem.com/sscalc.htm>
- Crocker, J. & Luhtanen, R. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and social psychology bulletin*. 18(3), 302-318. Retrieved February 13, 2009, from Sage Social Science Collection.
- Cross, J. R., & Fletcher, K. L. (2009, July). The challenge of adolescent crowd research:

- Defining the crowd. *Journal of Youth Adolescence*, 38(6), 747-764.
- Cutri-Bynoe, M. E. (2008, December 11). Researcher: Students need online ethics. In *MPNnow.com* [Press release]. Retrieved December 14, 2008, from <http://www.mpnnow.com///Students-need-online-ethics>
- Csikszentmihalyi, M. (1978). Attention and the holistic approach to behavior. In K. S. Pope & J. L. Singer (Eds.), *The stream of consciousness* (pp. 335-358). New York: Plenum Press.
- Daley, E. M., McDermott, R. J., Brown, K. R. M., & Kittleson, M. J. (2003, March/April). Conducting web-based survey research: A lesson in Internet design. *American Journal of Health Behavior*, 27(2), 116-124. Retrieved April 9, 2009.
- Deutsch, M., & Gerard, H. B. (1955, November). A study of normative and informational social influence upon individual judgment. *Journal of Abnormal and Social Psychology*, 51(3), 629-636.
- Diener, E. (1977). Deindividuation: Causes and consequences. *Social Behavior and Personality*, 5(1), 143-55. Retrieved August 10, 2009, from Academic Search Elite [Interlibrary loan at RIT] database.
- Diener, E. (1980). Deindividuation: The absence of self-awareness and self-regulation in group. In P. B. Paulus (Ed.), *Psychology of group influence* (pp. 209-242). Hillsdale, NJ: Erlbaum.

DiFonzo, N., & Bordia, P. (2007). Rumors influence: Towards a dynamic social impact theory of rumor. In A. R. Pratkanis (Ed.), *The science of social influence: Advances and future progress* (pp. 271-296). Psychology Press.

Dillman, D. A. (1978). *Mail and telephone surveys*. New York: John Wiley & Sons Inc.

Dillman, D.A. (1999) *Mail and Internet Surveys: The Tailored Design Method*, 2nd edition. New York: John Wiley and Sons.

Donath, J., & Boyd, D. (2004, October). Public displays of connection. *BT Technology Journal*, 22(4), 71-82. Retrieved January 20, 2009, from EBSCOhost database.

Duval, S., & Wicklund, R. A. (1972). *A theory of objective self-awareness*. New York: Academic Press.

Dwyer, P. (2004). Measuring the value of electronic word of mouth and its impact in consumer communities. *Journal of Interactive Marketing*. 21(2), 63-79. Retrieved December 21, 2008, from Wiley InterScience (DOI: 10.1002/dir.20078).

Easterbrook, J. A. (1959). The effect of emotion on cue utilization and the organization of behavior. *Psychological Review*, 66(3), 183-201. Retrieved August 23, 2009, from PsycArticles database.

Eberhardt, D. M. (2007, September/October). Facing up to Facebook. *About Campus*, 12(4), 18-26.

Einstein, G. O., McDaniel, M. A., Thomas, R., Mayfield, S., Shank, H., Morrisette, N., et

- al. (2005). Multiple processes in prospective memory retrieval: Factors determining monitoring versus spontaneous retrieval. *Journal of Experimental Psychology: General*, 134(3), 327-342. Retrieved September 1, 2009.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-mediated Communication*, 12, 1143-1168. Retrieved December 7, 2008, from EBSCOhost database. (26313783)
- Ellison, N. B., Steinfield, C., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 29, 434-445. Retrieved January 25, 2009.
- Evans, G. W., & Eichelman, W. (1976, March). Preliminary models of conceptual linkages among proxemic variables. *Environment and Behavior*, 8(1), 87-116.
- Facebook.com. (2009). Timeline. In *Facebook: About*. Retrieved February 28, 2009, from <http://www.facebook.com/press/info.php?timeline>
- Fanning, K. (2003). Peer Pressure. *Scholastic Choices*, 19(2), 6-10. Retrieved March 14, 2009, from EBSCOhost database.
- Feerst, E., & Stewart, D. (2007, May 31). Internet basics [Video file]. Retrieved from <http://www.videojug.com/interview/internet-basics>
- Festinger, L. (1950, September). Informal social communication. *Psychological Review*, 57(5), 271-282. Retrieved from PsycARTICLES database. (rev-57-5-271)

- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7 (2), 117-140. Retrieved February 11, 2009, from Sage Journals Online.
- Festinger, L., Pepitone, A., & Newcomb, T. (1952, April). Some consequences of de-individuation in a group. *Journal of Abnormal and Social Psychology*, 47(2S), 382-389. Retrieved January 24, 2009, from PsycArticles database. (abn-47-2s-382)
- Fine, J. (2007, September 17). O.k. (Sigh), I'll join Facebook. *BusinessWeek*, (4050), 24-24.
- Fisher, B. S. (2009, February). The effects of survey question wording on rape estimates: Evidence from a quasi-experimental design. *Violence Against Women*, 15(2), 133-147. Retrieved May 10, 2009.
- First Monday. (2009, January). *First Monday* [This month: 2009]. Retrieved January 22, 2009, from <http://firstmonday.org/>
- Fowler, F. J. (1995). Questions to measure subjective states. In *Improving survey Questions: Design and evaluation* (pp. 46-77). Thousand Oaks, CA: Sage.
- Gabbay, N. (2006, September 10). MySpace case study: Not a purely viral start. Message posted to <http://www.startup-review.com//case-study-not-a-purely-viral-start.php>
- Gangadharbatla, H. (2008, Spring). Facebook me: Collective self-esteem, need to belong, and internet self-efficacy as predictors of the iGeneration's attitudes toward social networking sites. *Journal of Interactive Advertising*, 8(2). Retrieved December 25, 2008.
- Gardner, M. & Steinberg, L. (2005). Peer influence on risk taking, risk preference, and

- risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology*, 41 (4), 625-635. Retrieved February 3, 2009, from EBSCOhost database.
- Gerstein, R. S. (1984). Intimacy and privacy. In *Philosophical dimensions of privacy: An anthology* (pp. 265-271). New York, NY: Cambridge University Press. Retrieved from library January 7th, 2009.
- Gibbons, F. X., & Buunk, B. P. (1999, January). Individual differences in social comparison: Development of a scale of social comparison orientation. *Journal of Personality and Social Psychology*, 76(1), 129-142.
- Goddard, C. (2008, March). Cyber world bullying. *Education Digest*, 73(7), 4-9. Retrieved from Academic Search Elite database. (31203799)
- Goffman, E. (1959). *The presentation of self in everyday life*. Garden City, New York: Doubleday.
- Goessling, B. (2008, January 30). 2nd thoughts about Facebook photos. *Star Tribune* (Minneapolis, MN). Retrieved from Newspaper Source database. (2W62W63275596133)
- Griskevicius, V., Goldstein, N. J., Mortensen, C. R., Cialdini, R. B., & Kenrick, D. T. (2006). Going along versus going alone: When fundamental motives facilitate strategic (non)conformity. *Journal of Personality and Social Psychology*, 91(2), 281-294. Retrieved January 29, 2009.

- Griskevicius, V., Goldstein, N. J., Cialdini, R. B. (2008). Applying (and resisting) Peer Influence. *MIT Sloan Management Review*. 49 (2), 84-88. Retrieved January 27, 2009.
- Gross, R., & Acquisti, A. (2005, November). Information revelation and privacy in online social networks (the Facebook case). In *ACM Workshop on Privacy in the Electronic Society*. Retrieved December 18, 2008, from <http://www.heinz.cmu.edu/~acquisti//facebook-gross-acquisti.pdf>
- Hardy, M., & Heyes, S. (1999). Social influence. In *Beginning psychology* (5th ed., pp. 109-130). Oxford: Oxford University Press. (Original work published 1979)
- Hargittai, E. (2008). Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication*, 13(1), 276-297. Retrieved December 7, 2008.
- Harper, R. G., Matarazzo, J. D., & Wiens, A. N. (1978). *Nonverbal communication: The state of the art*. New York: Wiley.
- Hassan, Z. (2005, July 25). The six or seven axioms of mass social change. In *Worldchanging: Bright green* [Scholarly work or essay]. Retrieved September 2, 2009, from <http://www.worldchanging.com/archives/003171.html>
- Henderson, S., & Gilding, M. (2004). 'I've never clicked this much with anyone in my life:' trust and hyperpersonal communication in online friendships. *New Media & Society*, 6(4), 487-506. Retrieved December 15, 2008.
- Hempel, J. (2009, February 17). *How Facebook is taking over our lives* [Press release].

Retrieved March 24, 2009, from

http://money.cnn.com/2009/02/16/technology/hempel_facebook.fortune/index.htm

Hempel, J., & Kowitz, B. (2009, March 2). How Facebook is taking over our lives.

Fortune, 159(4), 48-56.

History of the Internet. (n.d.). *History of the Things* [Online resource]. Retrieved October

22, 2009, from <http://www.historyofthings.com/history-of-the-internet>

Ibrahim, Y. (2008). The new risk communities: Social networking sites and risks.

International Journal of Media and Cultural Politics, 4(2), 245-253. Retrieved

December 7, 2008, from EBSCOhost database.

Internet world stats. (2009). The world big picture [Usage and population statistics].

Retrieved April 15, 2009, from <http://www.internetworldstats.com/stats.htm>

Jaccard, J., Blanton, H., & Dodge, T. (2005). Peer influences on risk behavior: An analysis

of the effects of a close friend. *Developmental Psychology*, 41(1), 135-147. Retrieved

January 27, 2009, from EBSCOhost database (DOI: 10.1037/0012-1649.41.1.135).

Jeffries, S. (2009, March 7). How to understand people: Part 1: Understanding groups:

Hands up if you're an individual: What makes people follow orders or causes

crowds to turn violent? And why do people readily agree with the majority, even

when they know they're wrong? Stuart Jeffries explores the fascinating world of

social psychology and the mentality of groups. *The Guardian*, p. 52. Retrieved

from International Newspapers database.

- Jones, E. E., Wells, H. H., & Torrey, R. (1958). Some effects of feedback from the experimenter on conformity behavior. *Journal of Abnormal and Social Psychology*, 57, 207-213. Retrieved from PsycARTICLES database.
- Josephson Institute. (2008, November 30). The ethics of American youth - 2008 summary. In *Youth* [Press release]. Retrieved December 1, 2008, from <http://charactercounts.org///.html>
- Kiesler, S., Siegel, J., & McGuire, T. W. (1984, October). Social psychological aspects of computer-mediated communication. *American Psychologist*, 39(10), 1123-1134. Retrieved August 31, 2009, from PsycInfo database.
- Kinsman, S. B., Romer, D., Furstenberg, F. F., & Schwarz, D. F. (1998, November). Early sexual initiation: The role of peer norms. *Pediatrics*, 102(5), 1185-1192. Retrieved from Health Source: Nursing/ Academic Edition database. (1272089)
- Kolek, E. A., & Saunders, D. (2008). Online disclosure: An empirical examination of undergraduate Facebook profiles. *NASPA Journal*, 45(n1), 1-25. Retrieved from <http://publications.naspa.org/naspajournal/vol45/iss1/art2/>
- Kornblum, J. (2008, July 15). Cyberbullying grows bigger and meaner. *USA Today*. Retrieved from Academic Search Elite database. (J0E195193454708)
- Krasnova, H., Hildebrand, T., Gunther, O., Kovrigin, A., & Nowobilska, A. (2008). Why participate in online social networks? An empirical analysis. In W. Golden, T. Acton, K.

- Krämer, N. C., & Winter, S. (2008). Impression management 2.0: The relationship of self-esteem, extraversion, self-efficacy, and self-presentation within social networking sites. *Journal of Media Psychology*, 20(3), 106-116. Retrieved December 7, 2008.
- Ladik, D. M., Carrillat, F. A., & Solomon, P. J. (2007, Summer). The effectiveness of university sponsorship in increasing survey response rate. *Journal of Marketing Theory and Practice*, 15(3), 263-271. Retrieved April 8, 2009.
- Langer, E. J. (1978). Rethinking the role of thought in social interaction. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2, pp. 35-58). Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers.
- Lashbrook, J. T. (2000, Winter). Fitting in: Exploring the emotional dimension of adolescent peer pressure. *Adolescence*, 35(140), 747-757. Retrieved from Academic Search Elite database.
- Latané, B. (1981, April). The psychology of social impact. *American psychologist*, 36(4), 343-256. Retrieved from PsycARTICLES database.
- Latané, B. (1996). Dynamic social impact: The creation of culture by communication. *Journal of Communication*, 46(4), 13-25.
- Lea, M., & Spears, R. (1992). Paralanguage and social perception in computer-mediated communication. *Journal of Organizational Computing*, 2(3/4), 321-341.
- Lea, M., & Spears, R. (1995). Love at first byte? Building personal relationships over computer networks. In J. T. Wood & S. Duck (Eds.), *Understudied relationships: Off the beaten track* (pp. 197-233). California: Sage.

Le Bon, G. (1896). *The crowd: A study of the popular mind*. New York: The Macmillan Co. .

Retrieved December 23, 2008, from <http://etext.virginia.edu/etcbin/toccer-new?id=BonCrow.sgm&images=images/modeng&data=/texts/english/mode/ng/parsed&tag=public&part=1&division=div2>

Lee, E.-J. (2003). *Effects of representational similarity on deindividuation and conformity to group norms in computer-mediated communication*. Paper presented at International Communication Association, San Diego, CA. Retrieved from Communication & Mass Media Complete database. (16028919)

Lee, E.-J. (2007, June). Deindividuation effects on group polarization in computer-mediated communication: The role of group identification, public-self-awareness, and perceived argument quality. *Journal of Communication*, 57(2), 385-403. Retrieved from Communication & Mass Media Complete database.

Lenhart, A. (2009, January 14). Adults and social network websites. *Pew Internet & American Life Project*, 1-17. Retrieved February 9, 2009.

Lenhart, A., & Madden, M. (2007, January 3). Social Networking Websites and Teens: An Overview. *Pew Internet & American Life Project*, 2-10. Retrieved February 3, 2009.

Lenhart, A., & Madden, M. (2007, April 18). How teens manage their online identities and personal information in the age of MySpace. *Pew Internet & American Life Project*, 1-45. Retrieved December 23, 2008.

- Levy, S., Breslau, K., Ordoñez, J., Weingarten, T., Ehrenfeld, T., Dy, C., Braiker, B., Summers, N., Stein, S. (2007, August 27). Facebook grows up. *Newsweek*, 150(8/9), 40-46. Retrieved from Academic Search Elite database. (26205118)
- Lewis, K., Kaufman, J., & Christakis, N. (2008). The taste for privacy: An analysis of college student privacy settings in an online social network. *Journal of Computer-Mediated Communication*, 14(1), 79-100. Retrieved December 11, 2008, from <http://www3.interscience.wiley.com//>
- Lichtenstein, O. (2009, January 28). Generation Sex. *Daily Mail*, p. 22. Retrieved from Newspaper Source database. (36405148)
- Madson, L. (2005, Winter). Demonstrating the importance of question wording on surveys. *Teaching of Psychology*, 32(1), 40-43. Retrieved May 9, 2009.
- Manfreda, K. L., Bosnjak, M., Berzelak, J., Haas, I., & Vehovar, V. (2008). Web surveys versus other survey modes: A meta-analysis comparing response rates. *International Journal of Market Research*, 50(1), 79-104. Retrieved April 9, 2009.
- Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008, August 15). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology*, 29, 446-458. Retrieved December 25, 2008.
- Maslow, A. H. (1943). A theory of human motivation. In *Classics in the history of psychology* [Online version of an original work]. Retrieved February 15, 2009, from <http://psychclassics.yorku.ca/Maslow/motivation.htm>
- Matthews, D. (1998, December 4). The Internet's network effect causing Internet stocks

- to rise. *Business Press*, 11(30), 14. Retrieved from MasterFILE Premier database. (1370997)
- Maxwell, C. & Chase, E. (2008). Peer pressure – beyond rhetoric to reality. *Sex education*. 8 (3), 303-314. Retrieved January 22, 2009, from EBSCOhost database (Interlibrary loan).
- Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2007, January). I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education*, 56(1), 1-17. Retrieved December 7, 2008.
- McCafferty, M. (2009, May). I'm a Facebook addict. *Health*, 23(4), 102.
- McCreary, L. (2008, October). What was privacy? *Harvard Business Review*, 86(10), 123-131.
- Mcintosh, J., MacDonald, F., & McKeganey, N. (2003, May). The initial use of drugs in a sample of pre-teenage schoolchildren: The role of choice, pressure and influence. *Drugs: Education, Prevention & Policy*, 10(2), 147-158.
- Mead, G. H. (1934). *Mind, self and society*. Chicago: University of Chicago.
- Miller, C. C. (2009, January 2). Facebook is no friend of power.com. In *Technology* [Press release]. Retrieved January 8, 2009, from <http://bits.blogs.nytimes.com///suespowercom/?scp=2&sq=facebook&st=cse>
- Milgram, S. (1967). The small world problem. *Psychology Today*, 2, 60-67
- Milgram, S. (1970, March). The experience of living in cities. *Science*, 13, 1461-1468.

- Milgram, S. (1992). Some conditions of obedience and disobedience to authority. In J. Sabini & M. Silver (Eds.), *The individual in a social world* (2nd ed., pp. 136-161). New York: McGraw-Hill. (Original work published 1977)
- Milgram, S., Bickman, L., & Berkowitz, L. (1969). Notes on the drawing power of crowds of different size. *Journal of Personality and Social Psychology*, 13(2), 79-82. Retrieved August 19, 2009.
- Milgram, S., & Toch, H. (1969). Collective behavior: Crowds and social movement. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (2nd ed., Vol. 4, pp. 507-610). Massachusetts: Addison-Wesley.
- Mintel (2008, December). *Home Personal Computers – US – December 2008*. Retrieved February 14, 2009, from Mintel Market Research Database.
- Mintel (2009, January). *In-home Shopping - US - January 2009*. Retrieved February 15, 2009, from Mintel Market Research database.
- Mintel. (2009, January). *Social Networking - US - January 2009*. Retrieved March 6, 2009, from Mintel Market Research Database.
- Moscovici, S. (1985). Social influence and conformity. In L. Gardner & E. Aronson (Eds.), *The handbook of social psychology* (3rd ed., pp. 347-412). New York: Newbury Award Records, Inc.
- Net extends bullying around the clock. (2007, April 3). *The Australian*, p. 31. Retrieved from Newspaper Source database. (200704031031376181)
- Nisbett, R. E., & Wilson, T. D. (1977, May). Telling more than we can know: Verbal

- reports on mental processes. *Psychological Review*, 84(3), 231-259. Retrieved July 28, 2009, from PsycArticles database.
- O'Connor, T. (2005, April 14). Free Will. In *Stanford encyclopedia of philosophy* [Scholarly work]. Retrieved October 14, 2008, from <http://plato.stanford.edu/entries/freewill/>
- O'Reilly, B., & Ham, M. K. (2007, November 14). Policing the Net: Drunk women on FaceBook, sexual Predator on Craig's List. *O'Reilly Factor (FOX News)*. Retrieved from Newspaper Source database. (32U0194531916FX2)
- O'Toole, T. (2006, May 19). Internet revives hazing issue. *USA Today*. Retrieved from Academic Search Elite database. (J0E212965510606)
- Park, C. W., & Lessig, V. P. (1977, September). Students and housewives: Differences in susceptibility to reference group influence. *Journal of Consumer Research*, 4, 102-110. Retrieved from Communication & Mass Media Complete database. (4661795)
- Parks, M. R., & Floyd, K. (1996, Winter). Making friends in cyberspace. *Journal of Communication*, 46(1), 80-97.
- Paulhus, D.L., & Margesson, A. (1994). *Free-will and Determinism (FAD) scale*. Unpublished measure, University of British Columbia, Vancouver.
- Porter, S. R., & Whitcomb, M. E. (2007, Winter). Mixed-mode contacts in web surveys: Paper is not necessarily better. *Public Opinion Quarterly*, 71(4), 3. Retrieved April 9, 2009.

- Postmes, T. (2001). Deindividuation. In *About deindividuation theory, a social psychological account of the individual in the crowd and an attempt to explain anti-normative collective action* [Short scholarly work or summary]. Retrieved February 16, 2009, from <http://people.exeter.ac.uk/tpostmes/deindividuation.html>
- Postmes, T. (2001). Deindividuation. In *Deindividuation theory* [Scholarly work]. Retrieved May 31, 2009, from <http://psy.ex.ac.uk/~tpostmes/deindividuation.php>
- Postmes, T., & Spears, R. (1998). Deindividuation and anti-normative behavior: A meta-analysis. *Psychological bulletin*, 123(3), 238-259. Retrieved December 23, 2008, from Psychology Bulletin database.
- Postmes, T., Spears, R., & Lea, M. (1998, December). Breaching or building boundaries? SIDE-effects of computer-mediated communication. *Communication Research*, 25(6), 689-715.
- Postmes, T., Spears, R. & Lea, M. (2000). The formation of group norms in computer-mediated communication. *Human Communication Research*. 26(3), 341-371.
- Quint, B. (2004, May). Peer Pressure. *Searcher*, 12(5), 4-6. Retrieved January 27, 2009, from Academic Search Elite database.
- Reicher, S. (1987). Crowd behavior as social action. In *Rediscovering the social group: A self-categorization theory* (pp. 171-203). Oxford, UK: Basil Blackwell.
- Reicher, S. D., Spears, R., & Postmes, T. (1995). A social identity model of

- deindividuation phenomena. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology* (Vol. 6, pp. 161-198). West Sussex, England: John Wiley & Sons.
- Reis, H. T., Wheeler, L., & Nezlek, J. (1980). Physical attractiveness in social interaction. *Journal of Personality and Social Psychology*, 38(4), 604-617. Retrieved August 26, 2009, from PsycArticles database.
- Rheingold, H. (2002). *Smart mobs: The next social revolution*. Cambridge, MA: Perseus Publishing.
- Richmond, R. (2009, January 29). On networking sites, learning how not to share; [Circuits]. *The New York Times*, p. B.5. Retrieved from ProQuest National Newspapers Premier database.
- Roberts, D. (2009, June 29). Facebook posts can come back to haunt employees [Editorial]. *New Orleans CityBusiness (LA)*. Retrieved from MasterFILE Premier database.
- Rogers, E. M. (1995). *The diffusion of innovations* (4th ed.). New York: The Free Press. (Original work published 1962)
- Rose, R. L., Bearden, W. O. & Manning, K. C. (2001). Attributions and conformity in illicit consumption: The mediating role of group attractiveness. *Journal of Public Policy & Marketing*. 20(1), 84-92. Retrieved January 27, 2009, from Proquest database.
- Rosenberg, A. S., & Rubin, D. (2006, November 8). Facebook faux pas.: Now your

- friends all know what you did. *Philadelphia Inquirer, The (PA)*. Retrieved from Newspaper Source database. (2W62W62799104882)
- Rushe, D., & Kay, W. (2007, September 30). Can facebook be worth...\$10bn? *The Sunday Times*.
- Salmon, C. T., & Kline, F. G. (1983). *The spiral of silence ten years later: An examination and evaluation*. (Monograph). (ERIC Document Reproduction Service No. ED235528) Retrieved March 3, 2009, from <http://eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accession=ED235528>
- Sanders, S. (2006, May 2). SIDE theory, small world networks, and smart mob formation: A beginners guide. In *Matei.org: itthink* [Scholarly article]. Retrieved September 20, 2009, from matei.org website: <http://matei.org/itthink/2006/05/02/side-theory-small-world-networks-and-smart-mob-formation-a-beginners-guide/>
- Santor, D. A., Messervey, D., Kusumakar, V. (1999). Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abuse. *Journal of Youth and Adolescence*, 29 (2), 163-182. Retrieved January 29, 2009.
- Sarewitz, D. (2007). 18: Daniel Sarewitz. In J.-K. B. Olsen & E. Selinger (Eds.), *Philosophy of technology: 5 questions* (pp. 171-182). United States: Automatic Press.

- Schonlau, M., Fricker, R. D., & Elliott, M. N. (2002). Reports and Bookstore. In *Conducting Research Surveys via E-mail and the Web* [Monograph/Report]. Retrieved April 16, 2009, from http://www.rand.org/pubs/monograph_reports/MR1480/
- Szelényi, K., Bryant, A. N., & Lindholm, J. A. (2005, August). What money can buy: Examining the effects of prepaid monetary incentives on survey response rates among college students. *Educational Research and Evaluation*, 11(4), 385–404. Retrieved April 8, 2009.
- Shallice, T. (1978). The dominant action system. In J. L. Singer & K. S. Pope (Eds.), *The stream of consciousness* (pp. 115-157). New York: Plenum Press.
- Shariff, A. F., Schooler, J., & Vohs, K. D. (2008). The hazards of claiming to have solved the hard problem of free will. In J. Baer, J. C. Kaufman, & R. F. Baumeister (Eds.), *Psychology and free will* (pp. 181-204). New York: Oxford University Press.
- Sheldon, P. (2008). The relationship between unwillingness-to-communicate and students' Facebook use. *Journal of Media Psychology*, 20(2), 67-75. Retrieved December 7, 2008.
- Sheldrake, R. (2003). *The sense of being stared at*. New York: Crown Publishers.
- Siegel, J., Dubrovsky, V., Kiesler, S., & McGuire, T. W. (1986). Group processes in computer-mediated communication. *Organizational Behavior And Human Decision Processes*, 37, 157--187.
- Spears, R. (1995). Isolating the collective self. In A. Oosterwegel & R. A. Wicklund

- (Eds.), *The self in European and North American culture: Development and processes* (pp. 309-322). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Spears, R., Lea, M., & Lee, S. (1990). Deindividuation and group polarization in computer-mediated communication. *British Journal of Social Psychology*, 29, 121-134.
- Spears, R., & Lea, M. (1994, August). Panacea or panopticon?: The hidden power in computer-mediated communication. *Communication Research*, 21(4), 427-459.
- Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer Influence. *Developmental psychology*, 43(6), 1531-1543.
- Stern, L. A., & Taylor, K. (2007). Social networking on Facebook. *Journal of the Communication, Speech & Theatre Association of North Dakota*, 20, 9-20. Retrieved February 3, 2009.
- Subrahmanyama, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008, August 15). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, 29, 420-433. Retrieved January 25, 2009.
- Suler, J. (2001, June). The online disinhibition effect. In *The psychology of cyberspace* [Scholarly work]. Retrieved September 1, 2009, from <http://wwwusr.rider.edu/~suler/psycyber/disinhibit.html>

- Sussman, S., Pokhrel, p., Ashmore, R. D., Brown, B. B. (2007). Adolescent peer group identification and characteristics: A review of literature. *Addictive Behaviors* 32. 1602-1627. Retrieved February 2, 2009.
- Symes, B. (1995, May 26). Marshall McLuhan's 'Global Village'. In *Aberystwyth University: media* [Academic essay]. Retrieved March 5, 2009, from <http://www.aber.ac.uk/media/Students/bas9401.html>
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *The psychology of intergroup relations* (2nd ed., pp. 7-24). Chicago: Nelson-Hall.
- Taylor, S. E., & Fiske, S. T. (1978). Salience, attention, and attribution: Top of the head phenomena. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 11, pp. 249-288). New York: Academic Press, Inc.
- Teese, R. & Bradley, G. (2008). Predicting recklessness in emerging adults: A test of a psychosocial model. *The Journal of Social Psychology*. 148 (1), 105-126. Retrieved December 23, 2008, from EBSCOhost database.
- Tong, S. T., Van der Heide, B., Langwell, L., & Walter, J. B. (2008). Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook. *Journal of Computer-mediated Communication*, 13, 531-549. Retrieved November 28, 2008.
- Trotter, W. (1919). *Instincts of the herd in peace and war*. New York: The Macmillan Company.

- Tufekci, Z. (2008, June). Grooming, Gossip, Facebook and MySpace. *Information, Communication & Society*, 11(4), 544 – 564. Retrieved February 3, 2009.
- Turkle, S. (1995). *Life on the screen*. New York: Simon and Shuster.
- Turner, J. C. (1987). A self-categorization theory. In *Rediscovering the social group: Self-categorization theory* (pp. 42-67). Oxford, UK: Basil Blackwell.
- Ungar, M. T. (2000, Spring). The myth of peer pressure. *Adolescence*, 35(137), 167.
- Vallacher, R. R., & Wegner, D. M. (1985). *A theory of action identification*. Hillsdale, NJ: Lawrence Erlbaum.
- Vise, D. D. (2008, April 27). Schoolyard face-offs blamed on Facebook taunts. *The Washington Post*. Retrieved from Newspaper Source database.
(WPT165354490908)
- Vohs, K. D., & Schooler, J. W. (2008). The value of believing in free will. *Psychological science*, 19(1), 49-54. Retrieved March 26, 2009, from Academic Search Elite database.
- Walther, J. B., Gay, G., & Hancock, J. T. (2005, September). How do communication and technology researchers study the Internet? *Journal of Communication*, 55(3), 632-657.
- Walther, J. B., Van Der Heide, B., Kim, S.-Y., Westerman, D., & Tong, S. T. (2008). The role of friends' appearance and behavior on evaluations of individuals on Facebook: Are we known by the company we keep? *Human Communication Research*, 34, 24-49.

- Wegner, D. M. (1989). *White bears and other unwanted thoughts: Suppression, obsession and the psychology of mental control*. New York: Viking Penguin.
- Wegner, D. M. (2002). *The illusion of conscious will*. Cambridge, Massachusetts: The MIT Press.
- Wegner, D. M., & Bargh, J. A. (1998). Control and automaticity in social life. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 446-496). New York: McGraw-Hill Companies.
- Wegner, D. M., Giuliano, T., & Hertel, P. (1985). Cognitive interdependence in close relationships. In W. J. Ickes (Ed.), *Compatible and incompatible relationships* (pp. 253-276). New York: Springer.
- Weisstein, E. W. (2007). Critical mass. In *Wolfram Research: Physics* [Definition]. Retrieved May 10, 2009, from <http://scienceworld.wolfram.com/physics/CriticalMass.html>
- Westcott, M. R. (1977, July). Free will: An exercise in metaphysical truth or psychological consequences. *Canadian Psychological Review*, 18(3), 249-263. Retrieved from Academic Search Elite database.
- Williams, M. (2009, September 10). Obama Warns Kids on Stupid Facebook Posts. In *Yahoo! Tech: News* [News article]. Retrieved from http://tech.yahoo.com/news/pcworld/20090910/tc_pcworld/obamawarnskids onstupidfacebookposts

Wilson, K. (2008, February). In Your Facebook. *American Journalism Review*, 30(1), 12-

13. Retrieved February 28, 2009, from Communication & Mass Media Complete database.

Zimbardo, P. G. (1969). The human choice: individuation, reason, and order vs.

deindividuation, impulse, and chaos. In W. J. Arnold & D. Levine (Eds.),

Nebraska Symposium on Motivation (pp. 237-307). Lincoln, Nebraska: University of Nebraska Press.

Zimbardo, P. (2007). *The lucifer effect: Understanding how good people turn evil*. New York: Random House.

Zywica, J., & Danowski, J. (2008). The faces of facebookers: Investigating social

enhancement and social compensation hypotheses; predicting Facebook™ and

offline popularity from sociability and self-esteem, and mapping the meanings of popularity with semantic networks. *Journal of Computer-Mediated Communication*,

14, 1-34. Retrieved December 7, 2008.

Appendix A

1

[Thank you for participating in this survey. The researcher is aware that social networking sites have currently attained a status and image in society of close to being completely accepted. But that does not erase the fact that its initial critical surge might have incurred some social costs or negative consequences, which might have been swept under the rug (as is proper or not). This is what this research project seeks to investigate. The main purpose of this study is to collect data and information that may reveal trends, events and occurrences that deserve the attention of policymakers, government and school officials and other administrators. If you can provide answers that are a true and accurate depiction of this technology's character at its most potent level of prevalence and ubiquity, it would certainly shed light for the researcher as well as give a clearer and more complete picture of the nature of social networking sites' rise over the past few months and years. Social networking site Facebook remained a teenage domain only until recently (Late Jan to Mid Feb), when the mainstream started taking up to it. Currently over half of its users are 30 + years old (Facebook.com, 2009). Social and environmental changes have taken place from the time this proposal was being crafted to the present where the variable it seeks to measure resides. You may even be experiencing fatigue from the overuse of social networking sites (Intel, 2009). The researcher urge you to please do not allow the present state of affairs to negatively cloud your judgment or cause you to embellish, excessively accessorize or unnecessarily alter your responses, as it is only the most accurate self-report data that the researcher seeks to gather.

The first section will collect data about your level of knowledge and level of participation on the social networking site, Facebook. Please check one response for each item.

1. Do you have Internet access?

- ☐ Yes
☐ No

2. Can you estimate how many hours do you spend surfing the Internet in a day (24 hours in one day)?

3. Can you estimate how many hours do you spend surfing the Internet in a week (24 hours x 7 days)?

4. Have you ever heard of Facebook?

- ☐ Yes
☐ No

5. How many online social networking accounts do you have?

- ☐ 0
☐ 1
☐ 2
☐ 3
☐ 4 or more

6. How often do you feel the need to have a Facebook page?

- ☐ Never
☐ Seldom
☐ From time to time
☐ Often
☐ Frequently
☐ All the time

7. What is your experience with the use of Facebook?

- ☐ No, I have never used it
☐ Yes, tried it once, but have not used it since

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- ☐ Yes, have tried it in the past, but do not use it nowadays
- ☐ Yes, currently use it sometimes
- ☐ Yes, currently use it often

8. Can you estimate how many persons you know are using Facebook?

- ☐ 0 – 9
- ☐ 10 – 50
- ☐ 51 – 150
- ☐ 151 – 300
- ☐ more than 300

9. If you can express a sentiment concerning the adoption of Facebook in society, which would it be?

- ☐ Only a few
- ☐ Some
- ☐ Many but not all
- ☐ Everyone
- ☐ The Whole World
- ☐ Other: ____

10. How many times do you log on to your social networking site account in a typical day (if you have one)?

- ☐ 0
- ☐ 1 time
- ☐ 2 times
- ☐ 3 times
- ☐ 4 times
- ☐ 5 times
- ☐ 6 times
- ☐ 7 times
- ☐ 8 times
- ☐ 9 times
- ☐ 10 times
- ☐ more than 10 times

11. Can you estimate how much time you spend engaging in activities on Facebook in a typical week?

- ☐ 0 – 1 hours
- ☐ 2 – 3 hours
- ☐ 4 – 5 hours
- ☐ 5 – 6 hours
- ☐ ≥ 6 hours

12. Is or are your best friend(s) on Facebook?

- ☐ Yes
- ☐ No

13. Is there anyone whom you find attractive who is not on Facebook?

- ☐ Yes
- ☐ No
- ☐ I don't know

14. Do you in general like to seek out new experiences or try out new technologies?

- ☐ Yes
- ☐ No

___ Maybe

3

15. Is there a social group or clique of friends that you frequently spent time with?

___ Yes

___ No

16. The following is a Collective Self-esteem scale to assess your individual opinion on groups that you may belong to. Please respond according to a 1-7 scale, with 1 =strongly disagree, 2 = disagree, 3 = disagree somewhat, 4 = neutral, 5 = agree somewhat, 6 = agree, and 7= strongly agree. Please provide one response for each item in the blanks provided.

___ I am a worthy member of the social groups I belong to

___ I feel I don't have much to offer the social groups I belong to

___ I am a cooperative participant in the social groups I belong to

___ I often feel I am a useless member of my social groups.

___ I often regret that I belong to some of the social groups I do

___ In general, I'm glad to be a member of the social groups I belong to

___ Overall, I often feel that the social groups of which I am a member are not worthwhile

___ I feel good about the social groups I belong to

___ Overall, my social groups are considered good by others

___ Most people consider my social groups, on average, to be more ineffective than other social groups

___ In general, others respect the social groups that I am a member of

___ In general, others think that the social groups I am a member of are unworthy

___ Overall, my group memberships have very little to do with how I feel about myself

___ The social groups I belong to are an important reflection of who I am

___ The social groups I belong to are unimportant to my sense of what kind of a person I am

___ In general, belonging to social groups is an important part of my self-image

17. The following is the ATSCI. For each statement, please respond according to a 0 – 5 scale, with 0 = always false and 5 = always true. Please provide only one response for each statement.

___ It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.

___ I actively avoid wearing clothes that are not in style.

___ At parties I usually try to behave in a manner that makes me fit in.

___ When I am uncertain how to act in a social situation, I look to the behavior of others for cues.

___ I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.

___ I find that I tend to pick up slang expressions from others and use them as part of my own vocabulary.

___ I tend to pay attention to what others are wearing.

___ The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.

___ It's important to me to fit into the group I'm with.

___ My behavior often depends on how I feel others wish me to behave.

___ If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.

___ I usually keep up with clothing style changes by watching what others wear.

___ When in a social situation, I tend not to follow the crowd, but instead behave in a manner that suits my particular mood at the time.

The next section will attempt to assess your current experience with regards to the efficacy levels of peer influences in affecting your decision for participation in Facebook. Please circle one response for each interval scale-type (1 - 9) question. If unsure or neutral circle '5'. If not applicable, put the words "N.A." next to the question number.

18. Do you feel an implicit need to have a Facebook page?

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___ Yes

___ No

19. If you have a Facebook page, what impact do the remarks made on 'the wall' have on you?

Little or none	*	*	*	*	*	*	*	*	*	* Deep emotional impact
	1	2	3	4	5	6	7	8	9	

20. If you check your Facebook account regularly, what impact do the postings your friends make have on you in real life?

21. Do the contents you read on others' Facebook pages affect you, if so how?

22. How much credibility do you attribute to the opinions of your best friend(s) if any?

Little or none	*	*	*	*	*	*	*	*	*	A lot
	1	2	3	4	5	6	7	8	9	

23. In what year did you first join Facebook?

___ n/a

___ 2004

___ 2005

___ 2006

___ 2007

___ 2008

___ 2009

24. How useful has Facebook been for the organizing of parties?

Not at all	*	*	*	*	*	*	*	*	*	Very Much
	1	2	3	4	5	6	7	8	9	

25. How much do you agree or disagree with the following statement? 'I cannot foresee at any time at all, whether in the past, at present, or in the future that peer pressure had anything to do with my participation on social networking sites.'

Strongly disagree	*	*	*	*	*	*	*	*	*	Strongly agree
	1	2	3	4	5	6	7	8	9	

26. How much do you agree or disagree with the following statement? 'Being forced to conform to the majority is an inevitable part of life and happens to everybody.'

Strongly disagree	*	*	*	*	*	*	*	*	*	Strongly agree
	1	2	3	4	5	6	7	8	9	

27. How much do you agree or disagree with the following statement? Unequal opportunity exists in life and there is nothing one can do to change this.⁵

Strongly disagree	*	*	*	*	*	*	*	*	*	Strongly agree
1	2	3	4	5	6	7	8	9		

28. How much do you agree or disagree with the following statement? In this Information society, one needs to be informed or be left behind.¹

Strongly disagree	*	*	*	*	*	*	*	*	*	Strongly agree
1	2	3	4	5	6	7	8	9		

29. Please check one item for the following question. Are you happy with the number of friends you have on Facebook? Do you think this number should be:

- ☐ Increased greatly
☐ Increased slightly
☐ Stay the same
☐ Decreased slightly
☐ Decreased greatly

30. How much do you perceive your friends to be benefiting from the use of Facebook for the purposes of dating?

None	*	*	*	*	*	*	*	*	*	A lot
1	2	3	4	5	6	7	8	9		

31. How much do you perceive your friends to be benefiting from the use of Facebook for the purposes of enhancing career opportunities?

None	*	*	*	*	*	*	*	*	*	A lot
1	2	3	4	5	6	7	8	9		

32. How much do you perceive your friends to be benefiting from the use of Facebook for various social capital enhancing activities (i.e. becoming popular, accepted, cool)?

None	*	*	*	*	*	*	*	*	*	A lot
1	2	3	4	5	6	7	8	9		

33. How much social influence do you perceive to be present in affecting your decision to join or participate? Please circle one response.

Very little	*	*	*	*	*	*	*	*	*	Tremendously
1	2	3	4	5	6	7	8	9		

34. Are you under the impression that you will be deprived of large amounts of social benefits if you do not join in with social networking sites?

- ☐ Yes
☐ No

35. How much social benefit do you perceive is at stake, with regards to participating on Facebook activities?
Please circle one response.

6

Little or none	*	*	*	*	*	*	*	*	*	A lot
	1	2	3	4	5	6	7	8	9	

36. Have you been told or advised by people whom you trust or perceive to have great credibility to join in these sites?

___ Yes
___ No

37. Are there influential figures whose opinions you have high regard indicating the usefulness of social networking sites?

___ Yes
___ No

38. If you answered yes to the above item, please state how many. Please check one response.

___ 1
___ 2
___ 3
___ 4
___ 5 or more

For the following questions, please circle one response.

39. Please estimate how much credibility you assign to those whose opinions have affected your decision to participate in Facebook?

Little or none	*	*	*	*	*	*	*	*	*	Much
	1	2	3	4	5	6	7	8	9	

40. Do the actions and behavior of people around you have a great impact on your own choices and behavior?

___ Yes
___ No

41. Please estimate how much influence others' opinions have on your own choice?

Little or none	*	*	*	*	*	*	*	*	*	Much
	1	2	3	4	5	6	7	8	9	

42. Have you ever been told or given the impression that not joining social networking sites would brand you a 'loser'?

___ Yes
___ No

43. Are there rumors circulating around campus that inform or hint to you of great drama, excitement and other important things happening on Facebook?

___ Yes
___ No

44. How often do you get the impression that not joining Facebook would leave you a 'loner'?

7

Little or none	*	*	*	*	*	*	*	*	*	Often
	1	2	3	4	5	6	7	8	9	

45. What is the degree of perceived threat of social isolation or other social costs incurred of not participating in social networking sites?

None	*	*	*	*	*	*	*	*	*	Very Deep
1	2	3	4	5	6	7	8	9		

Following are some subjective state items that may require you to use memory recalls in order to provide the most accurate answers.

46. When you are faced with a moral or ethical dilemma, or in a situation of high uncertainty and ambiguity, how likely are you to conform to the perceived will of the majority?

Very unlikely	*	*	*	*	*	*	*	*	*	Very likely
1	2	3	4	5	6	7	8	9		

47. Time-specific>> Do you always feel you have enough courage to resist or that it requires great boldness beyond your ken to resist the pressure of social conformity of joining social networking sites? Please check one response.

- ☐ I feel that Facebook is just an online medium with no power or influence over me.
☐ I always feel I can resist joining in the activities of Facebook whenever I want.
☐ I sometimes feel I am powerless to resist, but sometimes I can overcome it.
☐ I sometimes feel pressure to check my Facebook page.
☐ I cannot resist the social forces that compel me to check my Facebook profile everyday.

48. At the most critical moment of its rise, how powerful did you think the spread of Facebook throughout the population was?

No effect	*	*	*	*	*	*	*	*	*	Global
Supreme										
	1	2	3	4	5	6	7	8	9	

49. At the height of Facebook's popularity and surge in membership participation levels, how much freedom of choice did you perceive yourself to have had with regards to choosing whether or not to join Facebook?

None	*	*	*	*	*	*	*	*	*	Complete freedom
<hr/>										
	1	2	3	4	5	6	7	8	9	

Please rate on a scale of 1 to 9, how you feel about the following statements. Circle or check one response for each item.

50. I love Facebook.

Strongly disagree *	*	*	*	*	*	*	*	*	Strongly agree
1	2	3	4	5	6	7	8	9	

8

51. I hate Facebook.

Strongly disagree *	*	*	*	*	*	*	*	*	Strongly agree
1	2	3	4	5	6	7	8	9	

52. I feel the fear of alienation if I do not join or participate in Facebook.

Strongly disagree *	*	*	*	*	*	*	*	*	Strongly agree
1	2	3	4	5	6	7	8	9	

53. I feel the happiness and joy of life in participating in Facebook.

Strongly disagree *	*	*	*	*	*	*	*	*	Strongly agree
1	2	3	4	5	6	7	8	9	

54. I am flourishing, partying and thoroughly enjoying myself because of Facebook.

Strongly disagree *	*	*	*	*	*	*	*	*	Strongly agree
1	2	3	4	5	6	7	8	9	

55. Please list some of the motivations(s) you experienced before deciding to participate in Facebook. If it is not too much trouble, please also rank order them according to their importance level in the brackets provided using numerical digits, with 1 being most influential in your decision and the largest number being the least. Below are some suggestions to prime your mind into giving more descriptive answers.

_____ ()
 _____ ()
 _____ ()
 _____ ()
 _____ ()
 _____ ()
 _____ ()
 _____ ()
 _____ ()
 _____ ()

Examples:

It is fun.
 It is useful.
 It helps me keep in touch with friends from high school.
 To make plans with friends.
 It informs me of the latest happenings.
 There is a lot of drama, and I love it.

My friends are on it and I will feel left out if I do not check it regularly.
 Everyone is on it; I do not wish to live under a rock.
 Monitoring or to 'watch' others
 There are features that I like
 To view or share photos

It may open up opportunities for professional or
career advancement.

To make new friends.

I join because I feel powerless against social
conformity.

I am powerless to resist a powerful influence.

I join because I feel totally helpless to resist a
controlling force

10

This section is for collecting census data on a societal scale.

56. Do you think Facebook was a social revolution?

☐ Yes
☐ No

Please circle one response for the following statement(s):

57. Facebook has made human lives better.

Strongly disagree	*	*	*	*	*	*	*	*	*	Strongly agree
	1	2	3	4	5	6	7	8	9	

58. Can you estimate to what degree your notions of free choice persist when the level of peer pressure increases?

None	*	*	*	*	*	*	*	*	*	Very high
	1	2	3	4	5	6	7	8	9	

Thank you for getting this far, we are almost done! The last section is for collecting demographic data about yourself to ensure that we have a good cross section of people in our survey. Remember that all responses remain STRICTLY CONFIDENTIAL.

59. In what year were you born: 19__

60. What is your gender? Please check one.

☐ Male
☐ Female
☐ I do not wish to say
☐ Other: __

61. Which of the following best describes your ethnicity? Please check one.

☐ Hispanic
☐ White or Caucasian
☐ Asian or Asian American
☐ American Indian & Alaska Native
☐ Black or African-American
☐ Middle-Eastern
☐ Other: __

62. What is your major in college?

63. Do you currently live on campus or off campus?

☐ On campus
☐ Off campus

64. How many years have you been in RIT?

_____ years _____ months

11

65. What is your religious orientation?

- ☐ Christian
- ☐ Buddhist
- ☐ Taoist
- ☐ Muslim
- ☐ Other: _____
- ☐ No religious affiliation

66. Do you have any other opinion you would like to express about this subject?

Appendix B

1

Thank you for participating in this survey.

Your name was randomly selected from a list of RIT students. The questionnaire has only identification numbers for each name on the list. The list will be destroyed after the return deadline is reached. There is no way the researcher can identify your name with any data on the questionnaire.

The first section will collect data about your level of knowledge and level of participation on the social networking site, Facebook. Please check **one** response for each item.

1. Do you access Facebook?

☐ Yes

☐ No

If No, please don't answer any more questions. Thank you for your participation.

2. How many hours do you spend engaging in activities on Facebook in a typical week?

.....

3. The following scale is intended to assess your opinion regarding groups to which you belong.

Instructions: Please respond according to a 1-5 scale, with 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree. Please check one response for each item in the blanks provided.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am a worthy member of the social groups I belong to.					
I feel I don't have much to offer the social groups I belong to.					
I am a cooperative participant in the social groups I belong to.					
I often feel I am a useless member of my social groups.					
I often regret that I belong to some of the social groups I do.					
In general, I'm glad to be a member of the social groups I belong to.					

2

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Overall, I often feel that the social groups of which I am a member are not worthwhile.					
I feel good about the social groups I belong to.					
Overall, my social groups are considered good by others.					
Most people consider my social groups, on average, to be more ineffective than other social groups.					
In general, others respect the social groups that I am a member of.					
In general, others think that the social groups I am a member of are unworthy.					
Overall, my group memberships have very little to do with how I feel about myself.					
The social groups I belong to are an important reflection of who I am.					
The social groups I belong to are unimportant to my sense of what kind of a person I am.					
In general, belonging to social groups is an important part of my self-image.					

4. The following group of questions attempts to assess social attitudes. Please respond by checking one box for each item.

	Always false (0)	(1)	(2)	(3)	(4)	Always true (5)
It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.						
I actively avoid wearing clothes that are not in style.						
At parties I usually try to behave in a manner that makes me fit in.						

3

	Always false (0)	(1)	(2)	(3)	(4)	Always true (5)
When I am uncertain how to act in a social situation, I look to the behavior of others for cues.						
I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.						
I find that I tend to pick up slang expressions from others and use them as part of my own vocabulary.						
I tend to pay attention to what others are wearing.						
The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.						
It's important to me to fit into the group I'm with.						
My behavior often depends on how I feel others wish me to behave.						
If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.						
I usually keep up with clothing style changes by watching what others wear.						
When in a social situation, I tend not to follow the crowd, but instead behave in a manner that suits my particular mood at the time.						

5. The following group of questions attempts to assess some of your beliefs in general. Please respond by checking one box for each statement.

	Totally disagree (1)	(2)	Unsure (3)	(4)	Totally agree (5)
People have complete control over the decisions they make.					
People must take full responsibility for any bad choices they make.					

4

	Totally disagree (1)	(2)	Unsure (3)	(4)	Totally agree (5)
People can overcome any obstacles if they truly want to.					
Criminals are totally responsible for the bad things they do.					
People do not choose to be in the situations they end up – it just happens.					
We should avoid punishing people because many of them can't help doing what they do.					
Strength of mind can always overcome the body's desires.					

The next section attempts to assess your experience regarding peer influences in affecting your decision to participate in Facebook. Please circle one response for each interval scale-type (1 – 7) question. If unsure or neutral circle "4." If not applicable, put the words "N.A" next to the question number.

6. If you have a Facebook page, what impact do the remarks made on "the wall" have on you?

None • • • • • • • Profound
1 2 3 4 5 6 7

7. How much do you agree or disagree with the following statement?: Peer pressure has not affected my participation on Facebook.

Strongly disagree • • • • • • • Strongly agree
1 2 3 4 5 6 7

8. How much do you agree or disagree with the following statement?: Being forced to conform to the majority is an inevitable part of life and happens to everybody.

Strongly disagree • • • • • • • Strongly agree
1 2 3 4 5 6 7

5

9. How much do you perceive your friends to be benefiting from the use of Facebook for various social capital enhancing activities (i.e. becoming popular, accepted, cool)?

None	•	•	•	•	•	•	•	A lot
	1	2	3	4	5	6	7	

10. What is the degree of perceived threat of social isolation or other social costs incurred of not participating in social networking sites?

Very little	•	•	•	•	•	•	•	Very Much
	1	2	3	4	5	6	7	

11. When you are faced with a moral or ethical dilemma, or in a situation of high uncertainty and ambiguity, how likely are you to conform to the perceived will of the majority?

Very unlikely	•	•	•	•	•	•	•	Very likely
	1	2	3	4	5	6	7	

The last section is for collecting demographic data about you to ensure that we have a good cross section of people in our survey. Remember that all responses remain STRICTLY CONFIDENTIAL.

12. In what year were you born: 19____

13. What is your gender?

____ Male
____ Female

14. Which of the following best describes your ethnicity?

____ Hispanic
____ White or Caucasian
____ Asian or Asian American
____ American Indian or Alaska Native
____ Black or African-American
____ Middle-Eastern
____ Other: _____

15. What is your major in college?

6

16. Do you currently live on campus or off-campus?

- ☐ On campus
- ☐ Off campus

17. How many years have you been in RIT?

_____ year(s) _____ month(s)

Thank you for participating in this survey. Kindly mail this back to the researcher using the return envelope provided. Have a nice day!

Appendix C

R·I·T

July 8, 2009

Rochester Institute of Technology

College of Liberal Arts
Department of Communication
Professional & Technical Communication, B.S.
Advertising & Public Relations, B.S.
Journalism, B.S.
Communication & Media Technologies, M.S.
92 Lomb Memorial Drive
Rochester, New York 14623-5604
585-475-6649 Fax: 585-475-7732

Dear

The widespread growth of social networking sites in recent years has seen students across America using this new medium of communication to stay in touch with friends, make plans and get to know new people. In the college environment, Facebook and MySpace are most popular, garnering active participants numbering in the hundreds of millions. The exponential swell in adoption of this new technology had been helped in part by the pervasiveness of the Internet, which has revolutionized how people communicate and participate daily life, in the community and in society in the Age of Information.

Being a native of this radical transition that has transformed human life and come to characterize our generation as the 'digerati,' your opinion on this important subject matter is of utmost value to gaining a better understanding of the socio-psychological impact that new technologies have brought upon individuals living in society in the 21st century. Your name was drawn from a random sample of RIT undergraduate students. In order that the results will truly represent the thinking of the students of RIT, it is important that each questionnaire be completed and returned.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that we may check your name off of a mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire.

The results of this study will be made available to the general public. If you would like to receive a summary, please write "Copy of Results Requested" on the back of the return envelope, and printing your name and address below it. PLEASE DO NOT PUT THIS INFORMATION ON THE SURVEY ITSELF.

Thank you for your assistance.

Sincerely,

Jason Soon
Primary Researcher

Appendix D

This study involves research and its purpose is to assess the level of self-reported perceived peer pressure affecting participation on Facebook.

The research will require you the participant to spend some time answering a set of questions on paper. The paper questionnaire should take approximately five minutes to complete and will include items about your opinions, social attitudes, and beliefs about life.

No psychological or physiological harm is expected.

Your truthful responses will serve to inform the public and the data collected will be useful to the researcher in furthering studies on social relations.

The researcher sees no other way in which this study can be done.

Your voluntary participation is invited; although no difficulty is anticipated, psychological problems that may occur will not be compensated.

Your information will be kept strictly confidential by the highest standards. The researcher will not be able to trace any data collected back to persons selected for the study.

Your participation in this study is voluntary and there will not be any penalty or loss of benefits should you choose not to participate.

You can also choose to stop participating in the study at any time and there will be no loss of benefits or any penalties. However the researcher sincerely hopes that you will respond.

You may contact the researcher via email should you have any questions about the study. Although not needed, a lawyer will be better able to furnish you details regarding your rights. You are most advised to seek help at the nearest health and medical center should any adverse conditions arise as a result of participating in any part of this study.

Rochester Institute of Technology
Student Health Center
Phone: (585) 475-2255
TTY: (585) 475-5515

Please sign and date below if you have read the above.

Signed: _____

Date: _____

Appendix E

R·I·T

July 15, 2009

Rochester Institute of Technology

College of Liberal Arts
Department of Communication
Professional & Technical Communication, B.S.
Advertising & Public Relations, B.S.
Journalism, B.S.
Communication & Media Technologies, M.S.
92 Lomb Memorial Drive
Rochester, New York 14623-5604
585-475-6649 Fax: 585-475-7732

Dear

A week ago, I mailed you a survey inviting your participation in a survey study. Being a valued member of the RIT academic community, your knowledge and opinion on subject matter of social networking sites is of utmost value in evaluating the overall socio-psychological impact that this new technology has made in its diffusion into the lives of individuals. As of today, we have not yet received your completed questionnaire.

The phenomenal rise of social networking sites in the age of the Internet has defined a generation, and transformed human life in many ways. It cannot be denied that new communication media has made many improvements to the lives of individuals in society and enhanced welfare, but there are also numerous negative developments that can be associated with its introduction and rapid diffusion in society. The most salient of which include issues of privacy intrusion.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. Your name was drawn through a scientific sampling process in which each student in RIT had an equal chance of being selected. This means that only about one out of every 30 students in RIT are being asked to complete this questionnaire. In order for the results of this study to be truly representative of the opinions of all RIT undergraduate students it is essential that each person in the sample return their questionnaire.

If you have already filled out the survey, please accept my sincere thanks. If you have not, I invite you to please take a moment to do it now. Your opinion on the subject matter provides important information that may provide critical guiding direction for policymakers, administrators and other officials.

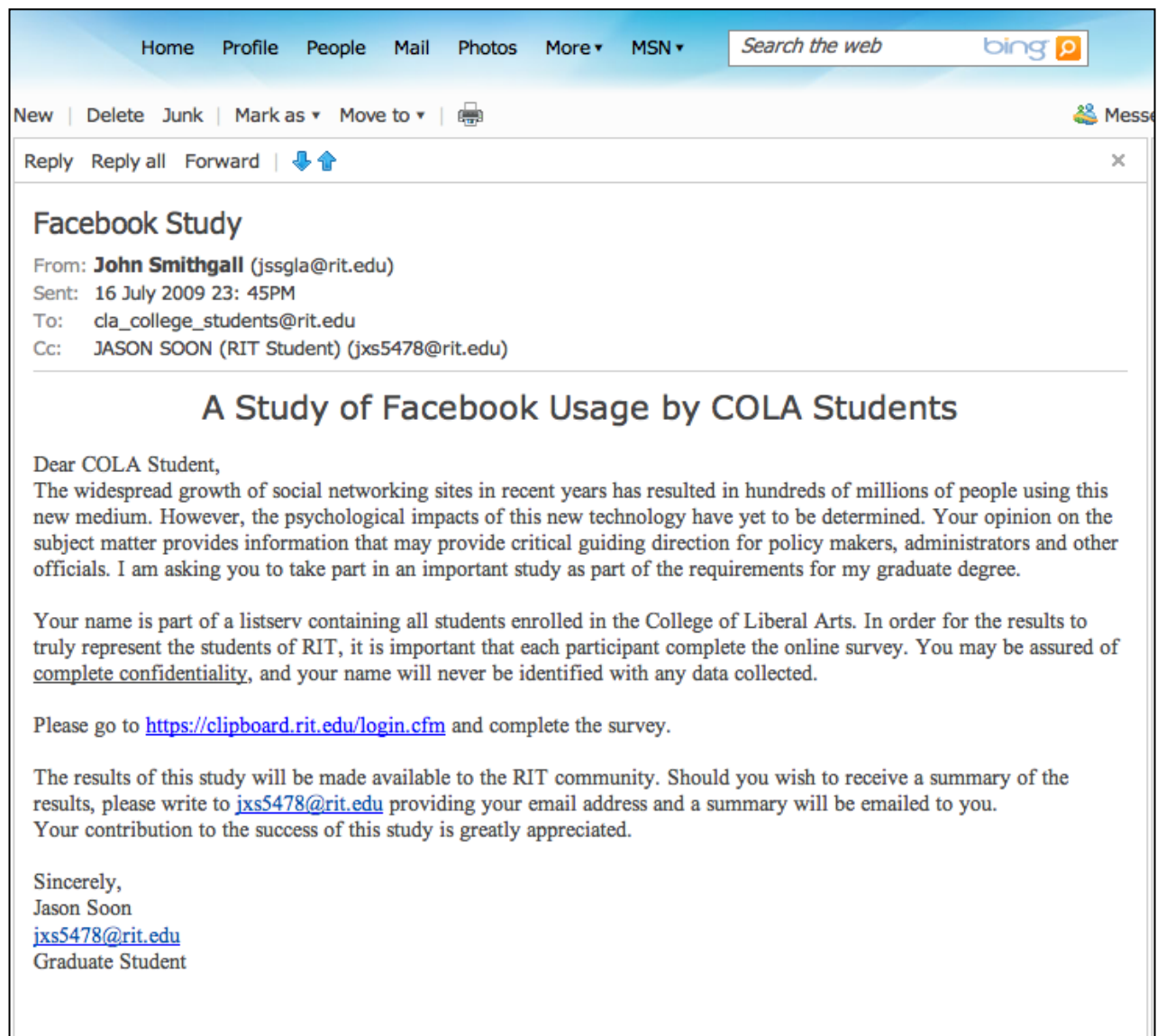
Your contribution to the success of this study will be appreciated greatly.

Most sincerely,

Jason Soon
Primary Researcher

Appendix F

As it appears on the author's Mac computer, 13-inch screen, Mozilla browser, Hotmail account on October, 18, 2009 . . .



Appendix G

Same story . . . (Note the distorted appearance of the title headline; the author tried to negotiating with the person in charge of emailing the listserv but it still encountered error . . .)

