

Impact of the Consumption of Interpersonal Electronic Content (CIEC) in the Context of Romantic Relationships

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Abstract

Technical, social and economic drivers have facilitated the growth of online User Generated Content (UGC). This has raised a number of concerns regarding the privacy and misuse of that data. However, very little research has been conducted to examine the consumption of content that is available through authorised or public channels, in the context of romantic relationships. This research investigates the sources used to obtain interpersonal content, the type of content consumed (e.g. current or archived material), the emotional impact on the consumer, and the efficacy of four proposed application-level features to reduce the consumption of content.

The research was conducted with a sample of 252 participants. The findings revealed that the majority of respondents reported to engage in the consumption of interpersonal content (n=225, 89.2%), the majority of which obtain this content from 2 to 3 different types of sources (n=112, 49.8%), e.g. social networking sites, personal websites and search engines. However, most respondents conduct this type of activity less than once a month (n=107, 47.5%).

The majority of respondents (n=117, 52%) reported to experience some emotional impact (positive and/or negative). Of those who consumed online content, 16% reported to have experienced exclusively negative emotional consequences, such as increased feelings of sadness, anxiety and suspicion regarding their partner's activities. An analysis of the data did not find any correlation between emotional experience and demographic factors, including gender, age, the length of the relationship and the length of time single.

Keywords

Cybersurveillance, Electronic Surveillance, Social Media, Social Networking, Mobile Social Web, Interpersonal Content, Romantic Relationships, Emotional Impact

1 Introduction

It was reported in 2010 that 38.3 million UK adults were 'internet users' (Office of National Statistics, 2010). Web 2.0 developments and the rapid adoption of mobile communication technologies have been significant drivers in the growth of User Generated Content (UGC) (Green and Smith 2004). Further growth of UGC is predicted (Daugherty *et al.*, 2008).

The number of adults who joined social networking sites more than quadrupled, from 8% in 2005 to 35% in 2008 (Kennedy, 2009). Facebook is one of the most popular international SNS applications, claiming to have more than 500 million active users (Facebook, 2011). It has been reported that a great deal of highly personal information is shared with the online community (Furnell, 2010). This has raised a number of concerns regarding the privacy and misuse of that data, such as social engineering attacks (Sanders, 2008) and cyberstalking (Reed, 2011).

2 Cybersurveillance

Cybersurveillance is a broad term for a wide range of surveillance activities executed on, or with the aid of various technologies. Peer-to-peer cybersurveillance behaviours include cyberstalking (Spitzberg and Hoobler, 2002), Facebook stalking (Kennedy, 2009), and snooping (Dumpala, 2009). However, there are inconsistent definitions of these behaviours, and terms such as ‘stalking’, have been applied to a broad range of very different behaviours and practices.

Peer-to-peer cybersurveillance research has primarily focussed on two behaviours; cybersnooping (Phillips 2009) and cyberstalking (Spitzberg and Hoobler, 2002). These behaviours include the use of illegal, unauthorised or specialist surveillance technologies to gain information about another, and in some cases with the intention of causing harm to the individual under surveillance. However, there has been very little investigation of other behaviours on the cybersurveillance continuum such as the consumption of content through authorised or public channels.

Stern and Taylor (2007) found that 30% of respondents used Facebook for investigating ex-partners, 38% for tracking the activities of others, and 40% for monitoring current partners to check for evidence of infidelity. Phillips (2009) found that 83% of respondents monitored their partner’s comments, pictures, or messages on social networking sites, and that approximately 65% had used this information to question their partner. It has been asserted that social networking and location-based social networking sites facilitate surveillance (Kennedy, 2009). There is evidence that users do not regularly maintain their personal content online (Walther *et al.*, 2008), which may be a consequence of inadequate auditing and content management.

3 The Impact & Consequences of Consuming Interpersonal E-Content

Online communities and communication applications can have a positive impact on relationships. It has also been suggested that the activity of sharing thoughts and experiences, can bring people closer and help establish common interests (Chen, 2010). Walther (1996) asserts that computer mediated communication can be *hyperpersonal*, i.e. it can facilitate a more enhanced mode of communication than face-to-face methods.

However, it has been reported that the act of observing others can result in mental health problems, paranoia and anti-social behaviour (Atkinson, 2007). The opportunity to observe previous partners may make it difficult to overcome a

breakup, and ‘watching’ them move on with their lives can exacerbate feelings of loss and distress (Gershon, 2010).

Muise *et al.* (2009) found that when partners are connected to ex-partners or other unknown parties, there is greater opportunity for the development of jealousy and suspicion. Jealousy can threaten self-esteem when individuals are unfavourably comparing themselves to perceived rivals (Guerrero and Afifi, 1998). It has been suggested that offline artefacts relating to former relationships (such as photographs and affectionate messages) were not often made available to new partners before the creation of social networking sites (Bowe, 2010).

A further consequence is the erosion of trust between both partners in the relationship as a result of surveillance behaviour. One may feel disgruntled for being subjected to surveillance, and thus withdrawing from the relationship, whilst the other may become *more* suspicious of their activities because they are more withdrawn (Muise *et al.*, 2009).

4 Method

An online survey technique was employed. Participants were required to be aged 18 or over, a current member of at least one social networking site, and if not currently in a relationship, they must have been in a relationship previously. Those who were *not* in a monogamous relationship were asked questions relating to former partners, and those in a relationship were asked about their current partner.

A pragmatic sampling approach was selected due to practical considerations, although it is acknowledged that the sample generated may not be representative. Participants were recruited through Plymouth University contacts and web-based advertisements (e.g. posts on social networking sites and public discussion forums).

The survey contained primarily quantitative based questions, but included an open question to capture any comments from the participants upon completion of the survey. An extensive search of the literature revealed that a comprehensive, reliable and valid scale for measuring emotional impact does not exist. Loosely based on the principles of the I-PANAS-SF (Thomson 2007), two 5-item subscales of negative affect (NA) and positive affect (PA) were constructed, based on their relevance to the context of romantic relationships. A five-point scale was developed to measure whether the emotion was experienced from ‘much more’ to ‘much less’, with the central item measuring no change.

5 Results

A total of 352 responses were received. Precisely 100 were insufficient and thus removed, resulting in 252 responses for analysis. Significantly more females ($n=170$, 67.5%) than males ($n=81$, 32.1%) responded to the survey, which may present bias in the results (1 respondent did not disclose their gender) therefore some of the results are split by gender. The age range was between 18 and 63 (mean = 29.7, SD = 9.8). The student ($n=123$, 48.8%) vs. non-student samples ($n=129$, 51.2%) were

almost equally distributed. The majority of respondents ($n=172$) were in a relationship (including engaged and married), 66 were single, divorced or separated and 14 were dating or in an open relationship.

The number of respondents who consume interpersonal electronic content was 225 (89.2%), and there was very little difference between the proportions of males ($n=71$, 87.7%) and females ($n=153$, 90%) who reported to conduct this practice. Further analysis of the data showed that there was a significant negative correlation between age and level of e-content consumption ($r(N=252) = -.400 p < .001$), indicating that the higher the age, the lower the level of consumption.

Over half of SDO respondents reported to communicate with their ex-partner/s via SNS ($n=34$, 51.5%), and those in a relationship reported the highest percentage of those conducting SNS communication (with their partners, $n=111$, 83.5%). Of the total sample of those who consume interpersonal e-content ($n=225$), the majority of respondents do so less than once a month ($n=107$, 47.5%). Over a quarter of respondents reported to do so either once a day, or one or more times a week ($n=59$, 26.2%). Very few respondents reported to consume data several times a day ($n=6$, 2.6%).

A one-way ANOVA was conducted to analyse the variance of consumption scores between each of the single groups (categorised by the length of time since their last relationship). The results were not statistically significant ($F(4, 61) = 2.264$, $MSE = 103.637$, $p = 0.073$). Statistical analysis revealed that there was a significant negative correlation between the length of the relationship and level of consumption ($r(N=172) = -.429 p < .001$).

5.1 Surveillance of Third Parties

Within the single, dating and open relationship (SDO) sample, 89% ($n=71$) reported to consume e-content. Of those, 52.1% ($n=37$) used the site to find out about their ex-partner/s' current partner. In addition, 4 participants said that they would if they had the necessary access. Participants were also asked how applicable a series of statements were to describe their motivation to get information about their ex-partner (question E1). Over half of the respondents ($n=40$, 56.3%) said that the statement "I want to find out more information about my ex-partner/s current partner" was applicable.

Almost a quarter ($n=46$, 26.7%) of those in a relationship conducted a search engine search related to their partner, and 10.5% ($n=18$) related to their partners ex-partners. Overall 32.6% ($n=56$) of respondents accessed at least one of their partners sites (blog/personal website: $n=33$, 19.2%; social media site: $n=33$, 19.2%; professional blog/profile $n=15$, 8.7%) and 13.4% ($n=23$) accessed those of their ex-partner/s (blog/personal website: $n=7$, 4.1%; social media site: $n=18$, 10.5%; professional blog/profile $n=5$, 2.9%).

Just under a third of those in a relationship ($n=52$, 30.2%), used social networking sites to find out about their *partner's ex-partners*. There was however a distinct difference in the responses to this question from those who had access to their

partner's social networking site ($n=47$, 35.3%) and those who did not ($n=5$, 12.8%). Further analysis of the data revealed a significant negative correlation between the length of the relationship and the motivation to retrieve information about their partners former partners, by those with access to their partners SNS content ($r(N=130) = -.382 p < .001$).

5.2 Access to Content & Application/Site Features

A bivariate correlation analyses revealed that the results were not statistically significant between the frequency with which mobile/portable devices are used to access online information and the level of online interpersonal content consumption ($r(N=252) = .105 p=.095$). However, a weak positive correlation was found between the use of laptop devices and level of interpersonal content consumption ($r(N=252) = .177 p=.005$).

Respondents were asked whether any of the following technological changes would reduce their content consumption:

- (a) If sites were restricted to display only the last 30 days of information;
- (b) If content owners could determine who viewed their information (but not including details about the frequency of visits);
- (c) If content owners could determine who viewed their information, including details about the frequency and length of time;
- (d) If an alert could be set up to warn users when exceeding a certain period of time on a page.

The only feature which would result in the majority of respondents reducing this behaviour ($n=105$, 46.7%) was item c. However, notably almost the same number of people ($n=102$, 45.3%) reported that there would be no change. Furthermore, 8% of respondents ($n=18$) said that their consumption would increase in this case.

5.3 The Impact & Consequences of Consuming Interpersonal E-Content

The majority of respondents ($n=117$, 52%) reported that there was some impact on their emotions either positively and/or negatively. Those who experienced the least impact on positive and negative affect were those who were in a relationship and did not have access to their partner's SNS content ($n=16$, 66.7%). SDO respondents experienced the most emotional change ($n=48$, 67.6%), and proportionately more reported an exclusively negative affect ($n=17$, 23.9%) than those in a (monogamous) relationship ($n=19$, 12.3%). Those who were in a relationship and had access to their partners SNS content reported proportionately the greatest positive impact on their emotions ($n=30$, 23.1%). A bivariate correlation analysis showed that the results are not statistically significant between the respondent's emotional affect scores and their level of consumption ($r(N=225) = -.093 p=.164$).

6 Discussion

Within the context of romantic relationships, an overwhelming majority (89.2%) of respondents reported to consume interpersonal e-content. Similarly to the findings presented by Tokunaga (2010), there was very little difference between the proportion of males and females who reported to consume this e-content. Despite the large proportion of users who reported to use at least one mobile or portable device daily (to access the internet), there did not appear to be any relationship between the frequency with which they use these devices and their level of interpersonal e-content consumption. This indicates that access to these technologies does not necessarily predict an increase in consumption.

For each of the relationship categories, the *main subject* of the e-content consumed was either their current partner (those in a relationship) or their ex-partner (SDO respondents). Content was consumed on *connected third parties*, i.e. partner's ex-partners or ex-partners current partners, although this was markedly less in comparison to the 'main subject'. However, this demonstrates how content from other members are utilised in information seeking strategies in the context of romantic relationships. This suggests that SNS users' content may be being consumed in unexpected ways and perhaps in ways users would not permit.

However, the data revealed that there was a significant positive correlation between the frequency of communication (with partners/ex-partner/s via SNS) and level of e-content consumption, indicating that the more frequently they communicate, the greater their consumption of interpersonal content. Assuming that the communication was 'direct' communication (as opposed to indirect communication such as second-order information (Gershon, 2010)) this suggests that some respondents are actively participating in the site and not 'lurking' as found in similar studies (Preece *et al.*, 2004). Although participants were not questioned about the level of interaction with connected third parties (such as current partner's former partners), therefore lurking may occur on those sites.

6.1 The Impact & Consequences of Consuming Interpersonal E-Content

As found by Tokunaga (2010), a significant negative correlation was found between the length of the relationship and level of consumption, indicating that the longer the relationship, the lower the level of consumption. This would correlate with other findings that those who are in unstable or new relationships are more likely to conduct surveillance (Persch, 2007).

An assessment of the mean CIEC scores (i.e. the range of sources accessed and frequency with which online content is searched for/viewed) revealed that the group of single respondents with the highest mean score were those who had been single for 1 year to less than 3 years. Furthermore, within this group *every* respondent consumed e-content in this context. One reason why some participants may be consuming online content related to a former partner, after a significant period of time since the relationship terminated, is that some relationships can end amicably (Sprecher and Fehr, 1998) and former romantic partners remain friends post-breakup (Sprecher *et al.*, 1998). In support of this, this investigation revealed that the most

applicable statement to describe the motivation of SDO respondents was ‘I am friends with my ex-partner/s, and I use social networking sites to look for information about all of my friends’ (78.9%).

Of the 52% that experienced some change in emotion, 18% reported to exclusively experience a positive impact, 16% exclusively a negative impact, and 18% a mixed impact. However, emotions are “...highly complex and subtle phenomena whose explanation requires careful and systematic analysis of their multiple characteristics and components. The major reason for the complexity of emotions is their great sensitivity to personal and contextual circumstances” (Ben-Ze'ev, 2004). For those who experienced a negative change, the precise cause of that change is unknown, and given the complexity of emotions it is likely that it is caused by a number of factors.

Nevertheless it is important to note the findings of Muişe *et al.* (2009), who reported that increased time spent conducting surveillance on Facebook, contributed more to feelings of jealousy, beyond other contributory personal and relational factors, which the authors referred to as “...Facebook-specific jealousy”. Similarly, Bowe (2010) reported that the content on social network sites can create relational problems, to which there is no ‘offline equivalent’. He argues that there would be no such impact before these sites existed.

The respondent’s emotional scores were compared with their consumption score, the results of which were not able to find any conclusive evidence that emotional impact was related to the frequency or range of sources used to consume data. Therefore, this research has demonstrated that application-level strategies to reduce the consumption of interpersonal content are not an effective technique to improve user experience in this context. Furthermore, preventing the consumption of interpersonal content would be to the detriment of those who have experienced positive benefits from engaging in this behaviour. In addition, the findings demonstrate that of the four proposed application-level features, only one was revealed as a *potentially* successful method to reduce online content consumption.

7 Limitations and Future Research

An internet-based survey is problematic as there are few opportunities to check the responses for honesty and accuracy. Furthermore, due to a lack of a suitable sampling frame, the sampling methods used were not able to generate a representative sample and therefore may be subject to bias. Terms such as ‘romantic relationship’ and ‘single’, were left to the interpretation of the respondent. As reported by Bowe (2010), this may have resulted in great variations in the definition of these terms, which could have impacted on the responses submitted. It is therefore important in future studies that any terms which may be open to cultural interpretations are clarified during the research process. An interview approach may be beneficial in such contexts.

Both the CIEC Scale and Emotional Impact Scale, were not sufficiently evaluated (using factor analysis for example), therefore the quality and accuracy of the results obtained is unknown. Furthermore, it is unclear the extent to which the respondents

were consciously aware of their emotions (in order to be able to accurately reflect on them), or suppressing their emotions (and thus responses) for cultural or other personal reasons. Responses may also have been bias by any negative perceptions of the consumption of online content.

A qualitative methodological approach may be a more appropriate method to examine and assess the experiences of emotion, and context within which they experience those emotions (e.g. personal diaries could be kept by respondents over a period of time (Sprecher et al., 1998)). This approach would be further complemented by Brain Computer Interface (BCI) technologies which can be used to measure emotional state, which may overcome the limitations of response bias as discussed above.

The results have provided an insight into how users source content from multiple sites, and the frequency of the consumption, but little is known as to precisely how much content is being consumed, i.e. how much time do they spend consuming this content, or spend engaging in information-retrieval activities. Further in-depth analysis of this behaviour is required in order to determine and define the different levels of cybersurveillance behaviour on the continuum, their characteristics, methods, similarities, differences and the profile of those who conduct those behaviours. This will serve to benefit academic research as specific behaviours can be isolated and investigated. Research is required to examine the perception of these behaviours in society, whether these behaviours are 'unwanted', and if so in which circumstances, and whether its public perception correlates with its position on the continuum.

8 Conclusion

The results revealed that particular types of e-content have the potential to cause a negative emotional response. This affect may be reduced in three ways; firstly discussing and agreeing on the 'idioms of practice' within a relationship (Gershon, 2010), secondly controlling access to the content, and thirdly controlling the publication of that content. Furthermore, this research supports strategies for increasing user awareness, developing emotional responsive interfaces and conducting further research into the efficacy of existing content management and archiving tools.

9 References

- Atkinson, S. (2007) Risk Reduction through Technological Control of Personal Information. Doctor of Philosophy. University of Plymouth.
- Ben-Ze'ev, A (2004) Love Online: Emotions on the Internet. UK: Cambridge University Press.
- Bowe, G. (2010) Reading Romance: The Impact Facebook Rituals Can Have On A Romantic Relationship. *Journal of Comparative Research in Anthropology and Sociology*. 1(2), pp.61-77.
- Chen, G.M. (2010) Tweet this: A uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Computers in Human Behavior*. pp.1-8. Available at:

<http://linkinghub.elsevier.com/retrieve/pii/S0747563210003213> (accessed on 15 January, 2011).

Daugherty, T., Eastin, M.S. and Bright, L. (2008) Exploring Consumer Motivations for Creating User-Generated Content. *Journal of Interactive Advertising*. 8(2). Available at: <http://jiad.org/article101> (accessed on 3 July, 2011).

Dumpala, P. (2009) Who married your ex? Is your gorgeous neighbour available and have bad things befall the bully from high school? Available at: <http://thenewblackmagazine.com/view.aspx?index=1935> (accessed on 3 January, 2011).

Facebook, (2011) Press Room. Available at: <http://www.facebook.com/press/info.php?statistics> (accessed on 3 January, 2011).

Furnell, S.M (2010) Online identity: Giving it all away? Information Security Technical Report, pp.1-5. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1363412710000245> (accessed on 20 December, 2010).

Gershon, I. (2010) *The Breakup 2.0: Disconnecting over New Media*. USA: Cornell University Press.

Green, N. and Smith, S. (2004) 'A Spy in your Pocket'? The Regulation of Mobile Data in the UK. *Surveillance & Society* 1(4), pp.573-587.

Guerrero, L.K. and Affifi, W.A. (1998) Communicative responses to jealousy as a function of self-esteem and relationship maintenance goals: A test of Bryson's dual motivation model. *Communication Reports*. 11(2), pp.111-122.

Kennedy, M.C. (2009) Facebook and Panopticism: Healthy Curiosity or Stalking? Master of Arts. Scripps College of Communication of Ohio University. Available at: <http://etd.ohiolink.edu/send-pdf.cgi/Kennedy%20Mary.pdf?ohiou1258038346> (accessed on 5 January, 2011).

Muise, A., Christofides, E. and Desmarais, S. (2009) More Information than You Ever Wanted: Does Facebook Bring Out the Green-Eyed Monster of Jealousy? *Cyberpsychology & Behavior*. 12(4), pp.441-444.

Office for National Statistics (2010) Internet Use. Available at: <http://www.statistics.gov.uk/cci/nugget.asp?id=8> (accessed on 15 March, 2011).

Persch, J.A. (2007) Jealous much? MySpace, Facebook can spark it. Available at: <http://www.msnbc.msn.com/id/20431006/> (accessed on 21 November, 2010).

Phillips, M. (2009) You're Invading MySpace!: Predicting the Use of Social Networking Sites for Surveillance in Romantic Relationships. Master of Arts. San Diego State University.

Preece, J., Nonnecke, B., and Andrews, D. (2004) The top 5 reasons for lurking: Improving community experiences for everyone. *Computers in Human Behavior*. 20, pp.201-223.

Reed, J. (2011) Social network sites 'have duty' to stop cyberstalking. Available at: <http://www.bbc.co.uk/newsbeat/14085766> (accessed on 12 July 2011).

Sanders, B.G. (2008) *An Assessment of People's Vulnerabilities in Relation to Personal and Sensitive Data*. Master of Science. University of Plymouth.

Spitzberg, B.H. and Hoobler, G. (2002) Cyberstalking and the technologies of interpersonal terrorism. *New Media & Society*. 4(1), pp.71-92.

Sprecher, S. and Fehr, B. (1998) The Dissolution of Close Relationships. In Harvey, J.H. Perspectives on loss: a sourcebook. UK: Psychology Press. pp.99-112.

Sprecher, S., Felmlee, D., Metts, S., Fehr, B. And Vanni, D (1998) Factors Associated with the Distress Following the Breakup of a Close Relationship. Journal of Social and Personal Relationships. 15(6) pp.791-809.

Stern, L. A., & Taylor, K. (2007) Social networking on Facebook. Journal of the Communication, Speech, & Theatre Association of North Dakota. 20, pp.9-20.

Thompson, E. R. (2007) Development And Validation Of An Internationally Reliable Short-Form Of The Positive And Negative Affect Schedule (PANAS). Journal Of Cross-Cultural Psychology. 38(2), pp.227-242.

Tokunaga, R. S. (2010) Social networking site or social surveillance site? Understanding the use of interpersonal electronic surveillance in romantic relationships. Computers in Human Behavior. Available at: <http://tinyurl.com/4v9ol8f> (accessed on 15 January, 2011).

Walther, J. B. (1996) Computer-mediate communication: Impersonal, interpersonal, and hyperpersonal interaction. Communication Research. 23(1), pp.3-43.

Walther, J. B., Van Der Heide, B., Kim, S., Westerman, D., & Tong, S. (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, pp.28-49.