THE JOY AND DOUBT
IN READING AND FORWARDING
CHAIN E-MAILS

By
Jimmy Chow Chun-hung

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Supervisor:
Prof Louis Leung

School of Journalism and Communication
The Chinese University of Hong Kong

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Abstract

This study explored primarily the uses and gratifications of chain e-mail. In a focus group and a survey study, respondents suggested two prime reasons in reading and resending chain e-mails, respectively, entertainment and sustainment of social network. However, the study also discovered that chain e-mailers have low intention to verify the credibility of chain messages, or even if they doubt the reliability of a message, neither do they care about forwarding it out nor bother to debunk. Comparing the transmission pattern of Internet rumour to that of hearsay rumour, the difference lies in their immediacy, accuracy and coverage.

Introduction

With the Internet, information – whether true or false – is exchanged at an astonishing rate. Such super information highway has already proven to be the greatest boon to the proliferation of chain e-mail, or e-mail message that suggests to the recipient to forward it to people they know, sometimes as many as possible, some at least 10, or coupled with similar pleads. Unlike traditional chain letters we have in mind, chain e-mail nowadays comprises far more different types of contents than merely blessings or urging you to send cash to strangers.

E-mail, which now can be forwarded to multiple recipients with just a click, is the most fertile soil to cultivate the transmission of chain messages. But still, the old-day chain letters have not yet disappeared, but very often arrive in our e-mail inbox by surprise. These messages usually are greetings from friends, telling you that you are being remembered by somebody by the time you receive it, and, please, forward it to at least 10 people, or else bad luck will arrive[1]. They usually promise reward for spreading the message – blessing, good luck or a clear conscience. Most recipients should be able to tell this is a kind of well-intended jokes, and at last using it to greet many friends at one time is time-saving, amusing and harmless, except the negative effect that e-mail addresses are leaked to strangers.

However, great many of other chain messages – those that carry rumours and urban legends[2] – are from time to time harmful and deliberately provide deceptive information maligning certain companies or people. Some chain message recipients, unfortunately, are ensnared to set rumours afloat by forwarding the misleading message to friends of theirs. Having observed the phenomenon that a chain e-mail does not necessarily provide the right information, why do so many people spend time in reading, and more important, in sending out chain e-mails would be of significant academic interest. As such the primary purpose of this study is to explore the uses and gratifications derived from reading and resending chain e-mails. In addition to this, a number of other interesting research questions have also been explored.

Since the inception of computer-mediated communication (CMC) and the popularisation of home e-mail use, CMC scholars have much discussed its utility in creating social connections. Studies have shown that interactive e-mail messages within a social context play a crucial role in the social dynamics of CMC, keeping message threads and their authors together (Rafaeli, 2001). Other studies have also shown that the role of e-mail and bulletin boards in providing support and information exchange among groups of professional such as teachers and scientists

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[1] Read in Appendix II a sample chain blessing the writer received in March 2004
[2] Urban legends, or popularly believed narratives, as those in Appendix II

(Sproull & Faraj, 1995). In a sense, the majority of work on CMC has focused on its use in organisational contexts and its general effect on social relationships.

Again, Stafford, Kline and Dimmick (1999) assessed the uses and gratifications of e-mail uses. Based on the principle research question "What are the reasons people use e-mail from their home computers: specifically, do home e-mail users report the use of e-mail for sustaining their interpersonal relationships?", the American scholars surveyed 881 randomly picked respondents in Ohio, of which 112 individuals indicated home e-mail use. Of the respondents all, some 15% reported that they exchange e-mail to keep in touch with friends and family members, and yet another 5% reported the intention to share and exchange information with people they know. As tipped by this study, relational maintenance is one of the major gratifications in exchanging e-mails, and hence facilitates the formulation of the first research question and hypothesis:

RQ_1: What are the reasons people spend time to read and send chain e-mails?

H_1: People sending more chain e-mails are more inclined to sustain their interpersonal relationships.

When a rumour is spread by thousands of Internet messages, one can easily picture how fast its transmission and how extensive its coverage could be. Rumour has been one of the most elusive social phenomena that social scientists have been attempting to study. Basically, rumours are public communications, usually embellished by allegations or attributions based on circumstantial evidence that reflect people's assumptions or suspicions about how the world work (Rosnow, 1988).

The earliest contemporary – and the most authoritative – study on how rumour starts and spreads was a World War II work done by Gordon W Allport and Leo Postman (1947). According to their basic law of rumour, rumours are set in motion when the story is perceived by both the speaker and the listener as important and true facts that are shrouded in ambiguity. They employed a serial reproduction paradigm, in which a research participant first examined a depiction of highly detailed social situation presented in a slide. This participant then described any salient details to a second participant, who in turn passed on recalled information to a third person and so forth. Accordingly, the initial descriptions shrank to striking brevity as the information was communicated from one person to the next, without an opportunity for feedback. However, it has been observed that real-world rumours, rather than dissolving into shadows of their original forms, sometimes expand into a colossus of invented facts.

Readers in Hong Kong, at this point, may bring to mind the hoax that fooled many Hong Kongers on the Fool's Day in 2003, the year where Severe Acute Respiratory Syndrome (Sars) gloomed the city. On that day, a hoax e-mail, replicating local news portal Mingpao.com, was widely circulated. Within a few hours, phone calls were around the city rumouring the Hong Kong Government had announced the city as "an infected area". Overreacting people then rushed to supermarkets to make panic purchase of rice and canned food consequently.

The incident best exemplifies Allport and Postman's basic law of rumour. In this case, rumour was set in motion when the story ("Hong Kong as an infected area") was perceived by both the speaker (senders) and the listener (recipients) as important and true facts that were shrouded in ambiguity (until the government made clarifications on the media and mobile phone messages). The situation by that time was threatening and nebulous, so the rumour served to reduce people's feelings of anxiety and

uncertainty. Believers then reacted responsively to relieve such feelings by taking actions (panic buying).

Certainly not all are rumours, but it is sure that great many of chain e-mails are plain deceptive information. However, as it is very different from the hearsay transmission of rumours as experimented by Allport and Postman in 1947, the Internet is supposed to be the fastest way to disseminate information regardless of their credibility. In attempt to gauge the transmission speed as well as coverage of chain e-mail, an American student in her science project examined how quickly data can be spread via chain e-mail[3]. She initially sent a chain e-mail to 23 people, and the next day she had 220 replies. Two days later people in 47 states and 25 countries had responded, while 14 days later, replies were arriving every 27 seconds and then at the rate of one every 2.3 seconds. In just over three weeks, she had received 160,179 e-mails from 189 countries and 50 states.

Let's look at the exponential spread by using simple calculations. Say, the chain e-mail originator sends the first message to five people. Let's also assume that the first-tier recipients all forward the message to another five people each, all of whom are concerned about the message and forward to again five friends each, and so on and so on. In only five rounds, there will be 3,125 copies of the message on 3,125 computers (5 x 5 x 5 x 5 x 5 = 3,125). Consider also how the distribution of e-mails might vary: The first person in a chain may distribute the mail to five people, but those five people might each distribute it to many more, depending on how many they have in their address books. It is therefore easy to picture how messages can be spread like wildfire. Under current circumstance, it is impossible to conduct a similar experiment like the college girl made; it would still be well-justified to measure the speed, coverage and accuracy of chain e-mail transmission with a survey, in which the following research question has been explored:

RQ$_2$: What is the transmission pattern of chain e-mail: specifically, in terms of coverage, speed and accuracy?

Is KFC selling real chicken at all? Many people scratched their head with uncertainties flying around when asked. As revealed in the survey, many of the respondents even consider KFC chicken as genetically manipulated organisms. The KFC myth can be classified as a canonical urban legend, popularly believed narrative yet typically false. Some of these are mildly amusing, but some others, like this, are deceptive and harmful. Here is the original story[4]:

> KFC has been part of our American traditions for so many years. Many people, day in and out, eat at KFC religiously. Do they really know what they are eating? During a recent study of KFC done at the University of New Hampshire, they found some very upsetting facts.
>
> First of all, has anybody noticed that just recently, the company has changed its name? Kentucky Fried Chicken has become KFC. Does anybody know why? We thought the real reason was because of the "FRIED" food issue. It isn't. The reason why they call it KFC is because they cannot use the word chicken anymore. Why? KFC does not use real chicken. They actually use genetically manipulated organisms. These so-called chickens are kept alive by tubes inserted into their bodies to pump blood and nutrients throughout their structure. They have no beaks, no feathers, and no feet. Their bone structure is dramatically shrunk to get more meat out of them. This is great for KFC because they do not need to pay so much for their production costs. There is no more

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[3] Read Appendix II for the original letter
[4] Extracted from http://diamond-back.com/emailhoaxes.html

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plucking of the features or the removal of the beaks and feet.

The government has told them to change all their menus so they do not say chicken anywhere. If you look closely you will notice this. Listen to their commercials, I guarantee you will not see or hear the word chicken. I find this matter to be very disturbing. I hope people will start to realise this and let other people know.

Please forward this message to as many people as you can. Together we make KFC start using real chicken again.

If the University of New Hampshire has ever conducted such research, then this news must have headlined major American newspapers instead of hearing it from a forwarded e-mail. People become hoaxed seemingly because they lack the motivation to cross-check its credibility from other sources. Even more badly, without making themselves clear, they forward the hoax to others further convincing others to join the bandwagon. It would then be of significance to know whether chain e-mail recipients perform cross-checking before spreading out the word:

RQ$_3$: Do recipients cross-examine credibility of chain messages?

The KFC legend is undeniably well-structured, made up of several plausible elements and is in well compliance with the criteria of "Internet rumour", as elaborated by Bordia and Rosnow (1998). In their study aiming to test whether transmission of rumours on the Internet is confluent with older theories in rumour study, they conducted content analysis on exchanged messages discussing about certain rumours.

Accordingly, to make the rumour more credible, the rumourmonger needs to make its message authenticating, such as (a) references to personal experience ("First of all, has anybody noticed that just recently, the company has changed its name?"), (b) citations of news media or other authorities as sources ("During a recent study of KFC done at the University of New Hampshire, they found some very upsetting facts.") and (c) references to self as an expert on something. Also as defined by the AFU and Urban Legends Archive[5], the KFC myth possesses all the qualities of a good urban legend: (a) It appears mysteriously and spreads spontaneously; (b) it contains elements of humour; (c) it makes a good story; (d) and it has potential life after-the-fact since it probes for responses.

If one ensures that the chain e-mail that s/he is about to send is credible, it can mean either ways. S/he might be sceptical about incoming mails no matter they are from friends or not and therefore verify suspicious messages at all time. Conversely, s/he might expect that friends do the cross-checking in a similar way s/he does, so s/he places more confidence on chain e-mails from friends. To prove which assumption is tenable, the following research question has been formulated:

RQ$_4$: Do cross-checkers expect messages from friends credible?

After all, it would be intriguing to explore the relationship between behaviours in using chain e-mail and respective factors about the uses and gratifications as well as demographics. For example, if individuals report the use of chain e-mail for maintenance of personal relationships, does this use affect their cross-checking incentive? Or do individuals having a strong desire to tell friends important news strive to ascertain the message's credibility they are sending? To answer all these, the

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[5] http://www.urbanlegends.com

fifth research question was formulated:

> RQ$_5$: To what extent can uses and gratifications of reading and resending chain e-mails and demographics predict such chain e-mailing behaviours as cross-checking, debunking and sending only sure messages?

Methodologies

There have been no previous studies focusing solely on the use of chain e-mail within the CMC domain. Also since this study lies across the boundary between CMC (i.e. use of e-mail) and social psychology (i.e. rumour transmission), it would be more effective to look into the research by means of qualitative and quantitative research methods. Therefore, a small-scale focus group has been piloted well before the survey, which also makes great contribution to the construction of the questionnaire.

Focus group

The focus group, attended by four participants, took place on March 13, 2004 at a conference room of an office in Tsim Sha Tsui. Slightly shorter than the duration of an average focus group, the meeting lasted for some 45 minutes beginning at 1:00pm. Two male attendees, Samson Kwok and Leo Lee, and two other female, Karen Kong and Alice So, were invited to the discussion, all of who are in their 20's, co-workers in the same company, and read and are experienced in sending chain e-mails at home and at workplace. They were requested to discuss on the following questions regarding the uses and gratifications about reading and passing on chain messages, their credibility, cross-checking practices and finally to comment on some widely circulated chain stories known as urban legends.

Why do you spend time in reading chain e-mails?

Agreed by all, the primary reason to read chain c-mails is entertainment. "Reading chain e-mails, especially in the office, is one good pastime because I'd be looking like concentrating on my work when I'm actually not!" said Karen. Trust in friends also motivates them to read the messages. Samson told the group that he picks chain e-mails from his best friends before reading those from others like colleagues. However, then, it came as little discrepancy when the group discussed whether they should treat chain e-mail as a reliable information source. Samson, Alice and Leo expressed reservations over chain e-mails' credibility and reliability, arguing that many of them could be hoaxes and pranks. Karen was yet on the other side of the table, insisting that sometimes chain e-mail could reveal important news omitted by other information channels.

Why do you forward chain e-mails to others after reading them?

For the reasons to forward chain e-mails, they all have arrived at a conclusion that to keep in touch with a large number of friends. Leo mentioned: "It's so hard to keep myself remembered by a large group of friends from all walks of life. I simply keep them e-mailed usually by sending them chain greetings or jokes to maintain our relationships. And it really works! I receive feedback from some very often." Other reasons discussed include intention to share with friends important or interesting

messages. Karen added that she has some degree of intention to show off that she has a broad social network and connectivity to latest news.

What makes a chain e-mail credible?

Generally, they accepted the view that if several friends sending them the same chain message, they would accept that this message is of a higher credibility than other mails, but does not entail that it is absolutely trustworthy because, they, as senders, do not perform cross-checking very often. Leo added that with photos, the mail could look more convincing.

Do you ascertain the mail's credibility before sending it out?

Very often, they do not. Alice said, "I tend to send what I believe by intuition without validating the message from other sources, all because rarely I have the patience to do so." And time matters. "I usually read these kinds of messages briefly and quickly in the office. Certainly I don't have excess time to do cross-checking. After all chain mails are unimportant and are not worth much of my time!" told Samson.

Do you believe the following chain stories?

Female canton-pop singers of an entertainment group have affairs with their big boss: Participants were sceptical about this claim but did not deny its possibility. However, all of them regarded this "news" very newsworthy and yet of a high entertainment value. Thus three of them have forwarded the story to the others after reading it. The situation here explains how such urban legend can be widely shared via e-mail in Hong Kong.

KFC chicken is not real chicken at all. The meat comes from genetically modified living thing that has no pain and no brain: Like the KFC chicken, this story is imported from the US and surprisingly, has been translated into Chinese. Participants said they had read this chain message long time ago, and until today, they were unable to judge whether KFC is selling real chicken. They could not determine its credibility but remain sceptical about KFC chicken.

Single travellers find their kidney stolen when they wake up in an iced bathtub with warnings written on their stomachs: "Call 911 now or you will die soon.": Participants reflected that when they read this story, they were shocked. Also originated from the US, the story has been translated into Chinese. This urban legend still stays alive due to its shocking effect, as observed in the discussion, and also because it makes an interesting conversation for people.

Do not open e-mail messages from a particular e-mail address. Only if you open the e-mail, the sender will be able to access to and control your computer. Apparently it takes some computer knowledge to judge its credibility. Nonetheless if recipients are wary enough, they should be able to figure out that this is a hoax. First, if the hacker plots to attack e-mail recipients, s/he can easily pretend the message is from any e-mail address[6]. Further, only opening an e-mail is harmless unless the recipient is lured to open the attached executable file. Back to the focus group. Unanimous conclusion has been reached that this hacker alert is credible – though obviously this is a hoax. Anyway, our participants were only a few among thousands of others who were trapped. Asked if they would forward it to others, the answer was yes. And

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[6] To tackle this security loophole, Microsoft will unveil its "anti-spam technology" in two years

would they cross-check it from other authoritative sources such as Microsoft or Norton? No.

A young girl is about to die of cancer. She wants her wish to be circulated around the globe and receive messages from as many people as possible. Now it only takes you a click to make her dream come true: Both Karen and Samson said that it takes nothing to fulfil the wish of a dying kid even it might be a prank. Karen remarked, "This is harmless and if one click can help others, I will do it even if I'm hoaxed."

Survey

Sampling and questionnaire

Limited by available resources, the data for this exploratory study were collected through snowball sampling method in Hong Kong. The bilingual questionnaire, published on the researcher's website[7], was sent to his e-mail contacts, most of which were friends and colleagues of his. As if chain e-mail, recipients of the questionnaire were urged to forward the website to as many others as they know.

During the survey period from March 28 to April 10, 2004, altogether 385 respondents submitted their answers despite the fact that other 20 submissions were found invalid, reducing the valid number to 365.

Originally, the questionnaire was constructed in English but was then translated into Chinese to tailor to the reading habit of most Hong Kong e-mail users. The questionnaire comprises six major parts: (1) People's habit in receiving, reading and sending chain e-mails; (2) The coverage, speed and accuracy of dissemination of chain e-mails; (3) Popularly exchanged types of chain e-mails; (4) Uses and gratifications in reading and forwarding chain e-mails; (5) People's cross-checking habit and other chain e-mailing behaviours; and (6) demographics of respondents.

Sample profiles

Of these 365 respondents, 75% reported that they had ever sent out chain e-mails with the remaining 36.5% reporting that they never had sent any. About 54% and 26.3% said that they read "1-10" and "11-20" chain messages respectively on average in a week; another 8.8% and 4.4% answered "21-30" and "31-40" respectively. Of those chain e-mailers, totalling to 274, the majority, or 84.1%, reported that they usually send "1-10" messages in a week, with 6.3% and 3.0% for that of the groups "11-20" and "21-30" respectively.

In terms of demographics, specifically, gender, female makes up the majority amounting to 69.8% and the ratio of male respondents, as the minority group, is 30.2%. Most respondents age less than 34, of which 52.5% is within "25-34", 43.1% is in the group "18-24" and 1.9% are 18 years old or below. The mean age category is calculated as 2.56 (SD = .58), which lies across groups "18-24" and "25-34". With respect to education level, the majority, 44%, falls into the group "undergraduate", to which the second group is "post-secondary school" and "secondary school", both at 18.7%. "Followed by "postgraduate or above" at 18.4%, only 0.3% of respondents mentioned that they receive primary education. The mean of education level is 3.62 (SD = .99). Most respondents, 48.2%, earn a monthly income of no more than HK$10,000 while 35.8% earn between HK$10,000 and HK$20,000 a month. The third income group is "HK$20,001-30,000" (12.7%) and the forth is

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"HK$30,001-40,000" (20%). The mean income group has been computed at 1.73 (SD= .86).

Measurements

The focus group conducted in advance certainly has made many contributions in digging up research questions and devising the questionnaire. As mentioned in the part "sampling and questionnaire", basically, setting the demographic variables aside, there are five major measurements in the questionnaire.

First of all, respondents' frequency of receiving, reading and sending chain e-mails have been measured in the first few questions by asking, "how often do they retrieve e-mails" and "how many chain e-mails do they receive/read/send in a week on average", given that a set of answers has been assigned to each question.

The second measurement pertains to the coverage, speed and accuracy about the transmission of chain messages. Respondents were asked "whether they had sent the first mail in the chain", that "how long do they usually take to send the mail after reading one", that "how many recipients do they usually include in one outgoing message", and that "whether they modify the contents of outgoing chain e-mails".

The third measurement sheds light on the popularly exchanged types of chain e-mails. By requesting respondents to state "how often do they receive each type", one question is intended to rank popularity of each type based on their means. The fourth part should be more interesting. By letting respondents to answer to what extent they believe four well-known urban legends, this part aims to test whether the respondents can detect deceptive information. They were requested to rank the credibility of each story within the range from "highly incredible" to "highly credible", also with an option "uncertain" in-between.

The forth measurement is about the attributes of uses and gratifications regarding reading and sending chain e-mails, which highlights the main focus of this study. More specifically, the variables within uses and gratifications of reading chain messages can be further subdivided into "entertainment" and "credibility of chain e-mails" (as shown in Table 1). Similarly, in sending chain e-mails, U&G variables can be factorised as "relational maintenance" and "show-off purpose" (also as seen in Table 1).

Finally, with a list of attitude statements (from strongly disagree to strongly agree, in rating 1-4), the fifth part measures respondents' chain e-mailing behaviours as dependent variables, for instance, whether they do cross-checking, whether they make feedback to uncover lies, and whether they treat mails from friends more credible.

Survey findings

Motives in chain e-mailing

An exploratory factor analysis is performed to more clearly define the U&G factors in reading and resending chain e-mails. A principal component factor analysis, along with Varimax rotation (with Kaiser Normalisation), produces a four-factor solution, of which eigenvalues of each are all larger than 1.0, respectively representing 62.1% and 71.1% of the total variances of reading and resending messages.

The first factor extracted from the reading variables, named "entertainment" (eigenvalue = 2.09, variance = 41.7% and Cronbach's alpha = .57), consists of three attitude statements measuring respondents' satisfaction from entertaining themselves and others by reading chain messages. If we look closer at the three variables separately within the "entertainment" factor, it can easily be spotted out that chain

mail readers quite feel that chain stories are entertaining, with 72.5% either strongly agreeing or agreeing with the statement "chain stories are entertaining" (Mean = 2.75, SD = .659). Readers, correspondingly, very often read chain messages to kill time ("Strongly agree" = 5.8%, "Agree" = 46.9%, mean = 2.46, SD = .789) and to share the stories with friends ("Strongly agree" = 11.9%, "Agree" = 57.2%, mean = 2.75, SD = .737).

The then summarised factor, as named "credibility" factor (eigenvalue = 1.02, variance = 20.4% and Cronbach's alpha = .62), pictures the general attitude towards credibility of chain messages, encompassing two attitude statements. With the mean equalling to 1.99 for both statements "chain e-mail is a reliable information source" ("Strongly disagree" = 22.5%, "Disagree" = 56.9%, SD = .682) and "chain messages are trustworthy" ("Strongly disagree" = 18.1%, "Disagree" = 65.8%, SD = .613), it can be concluded that people do not trust chain e-mails much generally.

Because only part (274 respondents) of the sample reported that they have experience in sending chain e-mails, it is then necessary to process the factors extracted from resending variables separately. As shown in the second part of Table 1, the first factor, "show-off" (eigenvalue = 2.37, variance = 47.3% and Cronbach's alpha = .86), contains two attitude statements assessing respondents' desire to show off their social connection to others as well as connectivity to news sources. However, according to the results here, chain e-mailers do not much regard their purpose in doing so as showing off something. More concretely, statements "to show my social connection" results in 84.3% answering "strongly disagree" and "disagree" (mean = 1.83, SD = .748), while "to show I'm always the first to know" yields 82.5% answering "strongly disagree" and "disagree" (mean = 1.86, SD = .755).

The second factor extracted from sending variables is "relational maintenance" (eigenvalue = 1.19, variance = 23.8% and Cronbach's alpha = .65), including three variables measuring people's desire to sustain their interpersonal relationships by sending out chain e-mails to friends. As expected, it is observed that chain e-mailers possess a strong intention to sustain their social networks. "To stay in touch with friends" is, similarly, agreed and strongly agreed by 77.2% of respondents (Mean = 2.93, SD = .804); "to share with friends interesting stories" is overwhelmingly agreed and strongly agreed 93.1% (Mean = 3.21, SD = .682). Last but not least, "to tell friends about something important" is accepted by 76.2% of the surveyed individuals (Mean = 2.90, SD = 7.44).

< Insert Table 1 about here >

Chain e-mailing & interpersonal relationship

Having proven that exchanging chain e-mails somehow serves to maintain people's social connections, it is then logical to further prove that whether heavier chain e-mailers are more inclined to sustain their interpersonal relationships than others.

On the ground of the factor "relational maintenance" generated from Table 1, a bivariate correlation test has been conducted to analyse the correlation between "the number of chain e-mails sent in a week" as the independent variable and "relational maintenance" as the dependent variable. Because both variables are measured in ordinal scale, it is most appropriate to apply Kendall's tau and Spearman's rho in testing the correlation. Accordingly, the correlation has been proven significant at 0.05 level (2-tailed) (r = .13, p < .05), meaning that the null hypothesis of no relationship has to be rejected, and thus, the hypothesis is accepted. It entails that people sending more chain messages are more inclined to sustain their interpersonal relationships.

Transmission pattern of chain e-mails

The purpose of this research question is to gauge the three different dimensions about the transmission of chain e-mails. Respondents were asked: (1) How long do they usually take to send out a chain message after reading one; (2) how many recipients do they usually include in one outgoing mail; (3) that whether they hide recipients' e-mail addresses; (4) that whether they modify the contents of the story and (5) specifically what and how much they modify.

Speed. Of the 274 respondents indicating that they used to forward chain messages, 65.7% replied that they click the forward button right after reading the message, and another 15.5% said they direct chain messages in an hour. From this pattern, to some extent, it can be generalised that over 80% of chain mailers pass on messages within a very short time, usually in an hour.

Coverage. Some 40% indicated that they usually forward the mail to "1-5" recipients, and about 30%, 10.4% and 13.5% said they do it for "6-10", "11-15" and 16-20" respectively. Asked if they would conceal the mailing addresses of others, the vast majority 80% answered they don't. Such finding is worth a point note because spammers often seed chain e-mails to collect warm e-mail addresses, or active e-mail accounts that frequently and regularly retrieved by users. At present about 10.4 million spam e-mails are sent every minute worldwide. Spammers collect e-mail addresses from various different sources, and chain e-mails are one way very effective. A list of warm e-mail addresses can be valuable to Internet marketers[8].

Accuracy. Altogether 120 respondents, or 44%, out of all chain e-mailers used to modify the messages they had passed on. Almost all, 98%, indicated that they did not change the whole story, but some 21% replied that they had changed some parts. Another 8.6% reported that they make the message brief for easier reading, and significantly 28% said they add comments to outgoing messages in addition to the originals. Comparing the accuracy of chain e-mails to that of hearsay transmission of rumour, chain e-mail is somehow more accurate but do not deliver messages of highest accuracy as it is supposed to do. In brief, over 40% chain mailers said they had done something on the outgoing messages, meaning that there is a possibility that the information will become distorted or twisted.

Speed	Right away	In 1 hour	In 1 day	In 1 week	In 1 month	> 1 month
	65.7%	15.5%	6.8%	6.8%	2.0%	3.2%
Coverage	1-5 recipients	6-10 recipients	11-15 recipients	16-20 recipients	21-25 recipients	26+ recipients
	39.4%	28.7%	10.4%	13.5%	3.2%	4.8%
Accuracy	Changing all	Changing part	Summari-sation	Adding Comments		
	1.9%	20.8%	8.6%	27.9%		

Table 2 Transmission pattern of chain e-mails

Cross-examining credibility

According to the frequency statistics in Table 3, remarkably 77.5% of respondents denied to do anything to cross-check and validate chain messages that they are to

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[8] Business Week (December 15, 2003)

send. As badly as this, 78.5% of mail readers do not debunk deceptive messages by making reply to senders even they know that the message is false.

<Insert Table 3 about here>

RQ$_2$ and RQ$_3$ are to some extent interrelated. In terms of transmission speed, people pass on messages quickly, usually within in an hour. When speaking coverage, they send to 1-20 people depending on how many contacts on their lists. For accuracy, about half of the exchanged messages are distorted and varied versions may be created. Very unfortunately, nearly 80% of chain e-mailers are hands off in verifying outgoing messages even if they know they are wrong. But at least one point for sure is that about 77% send only what they are sure of.

From this transmission pattern, it can be summarised that the majority of chain e-mail readers/senders do nothing to cross-check messages' credibility, make no feedback to the senders even if they know the message is incorrect, but at least, they do not spread out the word if they are not sure. Here the word "sure" only means personal judgement by sender's experience and intuition, not a confirmation from any other sources.

Cross-checking & message's credibility

Do cross-checkers expect messages from friends credible? To have this RQ answered, two variables, "I strive to cross-check the message's credibility if I doubt it" and "I make feedback to elucidate if I find the message deceptive" have been aggregated using factor analysis (Principal component analysis, Varimax with Kaiser Normalisation). One comprehensive factor (.898) has been created then with eigenvalue being larger than 1 and variance explained equalling to 80.69% (Cronbach's Alpha = .760). In plainer words, these two factors are highly related to each other forming one bigger factor, better named as "cross-checker".

Ensued by a correlations test comparing "cross-checker" against "if the chain message is sent by my friends, then it is credible", correlation coefficients are -.103 and -.121 respectively for Kendall's tau and Spearman's rho (significant at the 0.05 level (2-tailed)). All it means that the higher the value of one variable, the lower value of the other would be due to their negative relationship. It leads to the notion that when one tends to cross-check messages, the lesser degree s/he trusts messages from friends are reliable, and vice versa.

Predicting chain e-mailing behaviour

To explore RQ$_5$, a multiple regression has been run to measure how the U&G factors in reading and sending chain e-mails as well as demographics as predictor variables are to predict chain e-mailing behaviours as the dependent variables, which have been narrowed down to three variables: "cross-checking" chain messages' credibility, making feedback for "elucidation" and sending only "sure messages". As tabulated in Table 4, it is uncovered that in many ways the predictor variables and chain e-mailing behaviours are of high correlation.

"Chain stories are entertaining" is neither correlated with "cross-checking" and "elucidation", however, it has been proven significant in correlation with "sure messages" (r=.146, p<=.01). Such result implies that if a recipient reads chain messages for entertainment, the more likely one would forward messages that s/he is sure of. Surprisingly, if one intends to kill time by reading chain mails, s/he is less likely to do cross-checking and make feedback to elucidate deceptive messages as "I

want to kill time" negatively correlates to "cross-checking" (r=-.180, p<=.001) and "elucidation" (r=-.117, p<=.05). Noticeably, in predicting chain e-mailing behaviours, credibility factors play a crucial role. "Chain e-mail as reliable info source" is significantly correlating to both "cross-checking" (r=.210, p<=.001) and "elucidation" (r=.313, p<=.001). Logically, it indicates that if one treats chain e-mail as a reliable information source, s/he is more likely to do cross-checking and debunk rumours and hoaxes. On the contrary, people who think chain e-mails are trustworthy, they tend to engage in cross-checking (r=.103, p<=.05), elucidation (r=.223, p<=.001) and send sure messages (r=.115, p<=.05).

Under the "relational maintenance" factor, "stay in touch with friends" is correlated with "sure messages" (r=.122, p<=.05). It can be explained by the mindset that letting friends have messages you are sure of is a way to keep in touch with them. Moreover, if one forwards chain e-mails because one wants to "tell friends about something important", s/he only sends out messages s/he is sure about (r=.196, p<=.001). Within the factor "show-off", "show social connection" is found a significant predictor to "cross-checking" (r=.108, p<=0.5) and "sure messages" (r=-.230, p<=.001). Also, "show connectivity to first-hand news" significantly predicts "cross-checking" (r=.117, p<=.05) and "sure messages" (r=-.209, p<=.001).

In predicting chain e-mailing behaviours, demographics also matter. Male senders are found more likely to do "cross-checking" (r=.175, p<=.01) but less likely to send messages they are sure of (r=-.155, p<=.01). Plus, elder chain e-mailers are found more likely to debunk false messages (r=.295, p<=.001). But surprisingly, higher-income group is found less likely to cross-check mails' credibility (r=-.148, p<=.01) and debunk (r=-.085, p<=.05).

<Insert Table 4 about here>

Other findings

In addition to the five research questions and one hypothesis, the questionnaire also serves to reveal some other interesting facts about chain e-mail. First, respondents were asked to rank the receiving frequency of 14 types of popularly passed on chain stories, from 1 (have never received) to 5 (always receive). Second, respondents were tested whether they had been hoaxed by four widely circulated urban legends, all of which have already been proven fake.

Popularly exchanged types of chain e-mails

By asking how often respondents receive 14 kinds of contents (1=never, 2=rarely, 3=sometimes, 4=often and 5=always), the following results have been ranked according to their mean scores. As ranked in the table, jokes, inspiring stories, greetings, IQ/psycho tests and love stories[9] are the most frequently exchanged contents. They share similar features that all are entertaining, and serve well to maintain friendships, conforming to earlier survey findings that reading chain e-mails is for leisure, and sending chain e-mails to sustain interpersonal relationships.

Types of chain e-mail	Mean	SD
1. Jokes	3.51	1.065
2. Inspiring stories	3.44	1.200
3. Greetings	3.41	1.163

---

[9] Sample mails can be read in Appendix II

4. IQ/Psycho tests	3.30	1.090
5. Love stories	3.15	1.079
6. Virus warning	3.13	1.086
7. Healthcare info	2.94	.989
8. Rumours	2.85	1.146
9. Horoscopes	2.76	1.112
10. Odd news	2.67	.918
11. Games	2.60	.965
12. Porn materials	2.40	1.319
13. Celebrity news	2.32	.946
14. Ghost stories	2.19	.959

Urban legends: Believe or not?

Respondents were asked to answer how much they would believe four popularly passed on urban legends, also known as folklores. They are the "KFC myth", "kidney theft story", "e-mail hacker" and "donation from cancer fund".

Close to the results generated in the focus group, it comes as little surprise that the majority, 46.6%, is uncertain whether they are eating real chicken at KFC. And even worse, about 18% said KFC chicken is not real chicken. Apparently this story has all the hallmarks of a hoax: the evil corporate conspiracy and the plea for grassroots action by forwarding the message to as many people as possible. If these chain mail recipients spare a little time to check out the website of the University of New Hampshire or by just searching on CNN, they wouldn't have appeared that credulous.

In the kidney theft story, an individual wakes up after a strange night, only finding himself lying in a bathtub packed with ice. Next to the victim is a phone and on his stomach is a note instructing him to call 911 if he doesn't want to die. The person calls, and when the rescuers take the body out of the bathtub, two incisions are noticed on the backside. The person's kidneys have been removed to be sold to someone waiting for a donation. This myth deserves a round of applause for its vividness and shock effect. Impressive enough, about 16% of respondents are duped and some 30% could not determine whether it is true or false.

Sober-minded e-mail users should have realised that if hackers really plot to invade their computers, they can pretend messages are from any e-mail address. If the hacker has been using one e-mail address and got exposed, the hacker can immediately change to another fake ID. Common sense also makes one realise that if opening a message, it does not damage the computer unless recipients are enticed to open the attached file. Without these understandings, about 53% of respondents believe the hoax and yet another 33% were unable to judge. This phenomenon also leads to the fact that computers to many users are indispensable, driving users to protect and warn their computer from danger.

By purely conscience, forwarding a message to as many people as possible asking them to click on a link for once, it could probably help a cancer girl who needs money for surgery. So why not? The kind-hearted 14% think this donation from the Cancer Fund is true while 32.7% are uncertain. However, such donation relatively makes no sense, as, in case a girl is in severe stage, she cannot wait for people to end out the chain e-mails. The only thing from this example is that the cancer girl is the scumbag who put that site up. It is just a prank to get a million hits? Absolutely not. The page had revenue generating ad banner on it. Every time someone visited that page the guy made money, even more if the visitor clicked on the ad banner.

Conclusions and discussions

As summarised by the title of this study, the joy in using chain e-mails refers to the uses and gratifications that e-mailers delight on reading and forwarding chain messages, and the doubt implies the suspicion, uncertainty and gullibility when people come to distinguish true and false, right and wrong.

In consistence with the survey, the earlier focus group has confirmed that the major purpose for people to read chain e-mails is entertainment. Whether it being a joke, a short inspiring story, a chain greeting or a simple IQ test, netizens seem to be taking pleasure in reading a variety of chain messages. Although some might treat chain e-mail as an information source, the majority does not think so, as, to a larger extent, they do not consider chain e-mail trustworthy. It just sounds a bit contradictory if one does not have confidence in a message's credibility, one still forwards it to friends. Indeed, regardless of credibility, people intend more to sustain their interpersonal relationships via chain messages. Both the focus group and the hypothesis have revealed that heavier chain e-mailers have a higher intention to keep in touch with friends of theirs through forwarding chain e-mails. That is very true – comparing it to many of other communication methods like making phone calls, writing an e-mail or sending messages on instant messaging applications, putting an extra e-mail address into the recipient list seems to be very time-saving. It is the fastest and most convenient way to keep contact with a large group of community members, costing no more than some clicks.

According to the basic law of rumour proposed by Allport and Postman (1947), rumours are set in motion when the story is perceived by both the speaker and the listener as important and true facts that are shrouded in ambiguity. It is far too unfair to say all information on chain e-mail is rumour-like, but the reality is that much of it is unreliable and the source of them is difficult to be traced. The survey findings already have discovered that within an hour, chain e-mailers would forward important messages they regard to others, usually 1-20 recipients for each outgoing mail. Half of them may add a few lines of comments or do little modification, but the vast majority tends to remain the story original. From this pattern, the difference between traditional way of rumour transmission and chain e-mail transmission lies in their immediacy, accuracy and coverage. Unfortunately, chain e-mailers have low incentive to do cross-checking even if they are sceptical about the message's credibility, and even if they are sure one particular message from a friend is deceptive, they do not bother to make feedback to make it clear. Both of these two behaviours share the same features with rumour transmission theory.

In predicting chain e-mailing behaviours, uses and gratifications in reading and sending chain e-mails play the key role. People reading chain messages as entertainment tend to forward mails they are sure of; and if one reads them to kill time, one relatively has a low motivation to do cross-checking. It is clear that generally people do not consider chain e-mail as a reliable information source, so they do not do cross-checking much and do not make feedback to elucidate deceptive mails. Similarly, because chain e-mailers do not think chain messages are trustworthy, they neither do cross-checking, nor make feedback, nor send out only credibility-assured messages. Male chain e-mailers have been found more likely to do cross-checking and higher-income group is found less likely to cross-examine.

Rumour study has long been a subject matter in the territory of social psychology. Yet Internet transmission of rumour has been quite understudied since the emergence of CMC study, and this research is only among the few beginning to analyse the blend of rumour and powerful communication channel. Thus many concepts here are only primitive ideas lacking support of solid communication theories. Though that the

writer has done his best to carry out his study, just like many other one-man researches, its representativeness has been weakened by its relatively small sample size and non-random sampling method. Instead of survey study, qualitative methods may also generate more in-depth findings. Focus group is one way simplest, future studies may also apply more systematic content analysis to quantify and analyse varied different types of chain messages in order to coin a more concrete definition to chain e-mail. Also, experiment will be appropriate to measure individuals' chain e-mailing behaviour.

Last but not least, chain e-mailers might just wonder what the harm is in forwarding an e-mail to their friends. The answer is that some of the latest hoaxes are intended to do more than just deceiving them. Some malign certain companies, some aim to clog computer systems, some are to create social fear, some serve to collect e-mail addresses for spammers, and authors of some make money from banner ads. But at last, all messages on chain e-mails provide some entertainment value; they can also instigate great fear and fury. It is just because of the latter, precautions and cross-examinations are advised to chain e-mail readers and senders in order to cope with these hoaxes.

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Table 1
Factor analysis of uses and gratifications
in reading and resending chain e-mails

	1	2	3	4	Mean	SD	Entertain-ment factor	Credibility factor
Indicators of reading chain e-mails (n=365)	%	%	%	%				
Chain stories are entertaining	5.0	22.5	65.3	7.2	2.75	.659	.644	
I want to kill time	12.8	34.4	46.9	5.8	2.46	.789	.806	
I can have more interesting topics with peers	2.8	25.0	57.2	11.9	2.75	.737	.692	
Chain e-mail is a reliable information source	22.5	56.9	19.4	1.1	1.99	.682		.811
The messages are trustworthy	18.1	65.8	15.0	1.1	1.99	.613		.836
Eigenvalue							2.09	1.02
Variance explained (%)							41.7	20.4
Cronbach's Alpha							.570	.615

	1	2	3	4	Mean	SD	Show-off factor	Relational maintenance factor
Indicators of resending chain e-mails (n = 274)	%	%	%	%				
Stay in touch with friends	6.5	16.3	54.7	22.5	2.93	.804		.651
Share with friends interesting stories	4.0	2.9	61.3	31.8	3.21	.682		.836
Tell friends about something important	4.7	19.0	58.0	18.2	2.90	.744		.766
Show my social connection	35.4	48.9	13.1	2.6	1.83	.748	.914	
Show I'm always the first to know	34.7	47.8	15.7	2.2	1.86	.755	.925	
Eigenvalue							2.37	1.19
Variance explained (%)							47.3	23.8
Cronbach's Alpha							.860	.646

Measurement scale: 1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree

Extraction method: Principal Component Analysis.

Rotation method: Varimax with Kaiser Normalization.

Table 3
Frequencies statistics

Behavioural indicators (n = 375)	%	Cumulative %
Cross-examination		
Strongly disagree	19.8	19.8
Disagree	57.7	77.5
Agree	16.2	93.7
Strongly agree	6.3	100.0
Feedback to elucidate		
Strongly disagree	27.3	27.3
Disagree	51.5	78.5
Agree	16.0	94.5
Strongly agree	5.5	100.0
Send only sure messages		
Strongly disagree	4.9	4.9
Disagree	17.6	22.5
Agree	56.0	78.6
Strongly agree	21.4	100.0

Table 4
Regression of U&G factors and demographics
predicting chain e-mailing behaviours

Predictor variables	Chain e-mailing behaviours					
	Cross-checking		Elucidation		Sure messages	
	r	β	r	β	r	β
Indicators of reading chain e-mails						
Entertainment factor						
Chain stories are entertaining	n.s.	n.s.	n.s.	n.s.	.146**	.184**
I want to kill time	-.180***	-.329***	-.117*	-.204***	n.s.	.127#
More interesting topics among peers	n.s.	-.122#	n.s.	-.180**	n.s.	-.141#
Credibility factor						
Chain e-mail as reliable info source	.210***	.350***	.313***	.343***	n.s.	-.187**
The messages are trustworthy	.103*	n.s.	.223***	n.s.	.115*	.163**
Indicators of resending chain e-mails						
Relational maintenance factor						
Stay in touch with friends	n.s.	n.s.	n.s.	n.s.	.122*	.217***
Share interesting stories	n.s.	.129#	n.s.	.160*	.096#	n.s.
Tell friends about something important	-.100#	-.203**	.119*	n.s.	.196***	.220**
Show-off factor						
Show social connection	.108*	n.s.	n.s.	n.s.	-.230***	-.200*
Show connectivity to first-hand news	.117*	.259**	n.s.	.214*	-.209***	-.190*
Demographics						
Gender (Female = 1)	.175**	.246***	n.s.	n.s.	-.155**	-.012
Age	.084#	.146*	.295***	.318***	n.s.	n.s.
Education	n.s.	n.s.	n.s.	n.s.	.109*	n.s.
Monthly income	-.148**	-.246***	-.085*	-.185*	n.s.	n.s.
R Square	.278		.279		.220	
Adjusted R Square	.239		.240		.177	

Notes: Figures are standardised beta coefficients.

#p<=.1; *p<=.05; **p<=.01; ***p<=.001;

N = 274 (Only data involving reading, sending and demographics are being computed)

1. *Below is a typical chain letter, in format of e-mail, which the writer received in March 2004. It threatens recipients of having bad luck for not spreading it out. It just makes no sense at all but this kind of letter is still around.*

> Subject: 信….準到你唔信
>
> 呢封係一封愛情魔咒連鎖信..準到你唔信！！！！！！！！！！
> 話說,有個女仔收過呢封信.佢認爲係垃圾郵件,將佢 delete 左..結果,個女
> 仔o個 晚din左..... 又有個女仔收到呢封信,佢Send左比20個人.............
> 好運陸續來...............首先,股票升到砰砰聲，後來,有男仔向佢表白........
> 收到鑽石介指............過千萬家產.......
>
> ㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣
> ㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣㊣
>
> 所以,請你立即 send 比 10 個人...否則.....
> 行衰運 衰運 衰運 衰運 衰運 衰運 衰運 衰運 衰運 衰運 衰運
> 黑過墨豆!!!!!!!!!

2. *The following are three deliberately "harmful" urban legends, all of which are nothing more than rumours and hoaxes. They all look very real but wary readers should be able to debunk. Fortunately they haven't yet been translated into Chinese and haven't yet flown into the writer's inbox. (Source: http://www. urbanlegends.com)*

   #1   Subject: Pepsi removes God

   Pepsi has a new patriotic can coming out with pictures of the Empire State Bldg. and the Pledge of Allegiance on them. But Pepsi forgot two little words on the pledge, "Under God." Pepsi said they did not want to offend anyone. If this is true then we do not want to offend anyone at the Pepsi corporate office. If we do not buy any Pepsi product then they will not receive any of our monies. Our money, after all, does have the words "Under God" on it.

   Please pass this word to everyone you know. Tell your coworkers, friends, family. Tell your Sunday School class tomorrow and tell your Pastors so that they can tell the whole congregation. We want the words "Under God" to be read by every person who buys a can.

   #2   Subject: jdbmgr.exe virus warning

   Hi Everybody:

   I just received a message today from a friend. His Address Book had been infected by a virus and it was passed on to my computer. My Address Book, in turn, has been infected. The virus (called jdbgmgr.exe) is not detected by Norton or McAfee anti-virus systems. The virus sits quietly for 14 days before damaging the system. It's sent automatically by the messenger and

by the Address Book, whether or not you sent emails to your contacts. I have checked, found it, and deleted it.

Here's how to check for the virus and how to get rid of it:

DO THIS:
1. Go to Start, Find, or Search option.
2. In the files/folder option, write the name jdbgmgr.exe
3. Be sure you search your C drive
4. Click "find now"
5. The virus has a teddy bear icon with the name jdbgmgr.exe
DO NOT OPEN IT
6. Right click and delete it. It will then go to the Recycle Bin
7. Go to the recycle bin and delete it there as well. IMPORTANT

If you find the virus, you must contact all the people in your address book so they can eradicate it in their own address books. Sorry about this, I'm sure everyone in my address book will have it. I did find this on my computer so I am sure that you will too. You will need to contact everyone in your address book whether or not you have sent them e-mail recently or not. Sorry about this - I thought that you should know.

I'm not sure if it is a hoax but wanted to make you aware. The letter above is the letter that I received and as I looked on my computer and the file was there.

Best Regards,
Scott Fitzgerald

#3   Subject: McDonald's uses foreign beef

McDonald's claims that there is not enough beef in the USA to support their restaurants. Well we know that is not so. Our opinion is they are looking to save money at our expense. The sad thing of it is that the people of the USA are the ones who made McDonalds successful in the first place, but we are not good enough to purchase beef from. We personally are no longer eating at McDonalds, which I am sure does not make an impact, but if we pass this around maybe there will be an impact felt. Please pass it on Just to add a note, all Americans that sell cows at a livestock auction barn had to sign a paper stating that we do NOT EVER feed our cows any part of another cow. South Americans are not required to do this as of yet. McDonalds has announced that they are going to start importing much of their beef from South America. The problem is that South Americans aren't under the same regulations as American beef producers and the regulations they have are loosely controlled. They can spray numerous pesticides on their pastures that have been banned here at home because of residues found in the beef. They can also use various hormones and growth regulators that we can't.

 The American public needs to be aware of this problem and that they may
 be putting themselves at risk from now on by eating at good old

McDonalds. American ranchers raise the highest quality beef in the world and this is what Americans deserve to eat. Not beef from countries where quality is loosely controlled. Therefore I am proposing a boycott of McDonalds until they see the light. I'm sorry but everything is not always about the bottom line, and when it comes to jeopardizing my family's health that is where I draw the line.

I am sending this note to about thirty people. If each of you send it to at least ten more (30 x 10 = 300) ... and those 300 send it to at least ten more (300 x 10 = 3,000) ... and so on, by the time the message reaches the sixth generation of people, we will have reached over THREE MILLION consumers! If those three million get excited and pass this on to ten friends each, then 30 million people will have been contacted! If it goes one level further, you guessed it..... THREE HUNDRED MILLION People!!

Again, all you have to do is send this to 10 people. That's all. I'll bet you didn't think you and I had that much potential, did you? Acting together we can make a difference. If this makes sense to you, please pass this message on.

3. *An American student in her Science project sent the following message as a way to measure the speed and coverage of chain e-mail (Source: http://urbanlegends. about.com/library/blclass.htm):*

Subject: FW: 4th Grade Class

We are a fourth grade class at Sieden Prairie School in Matteson, Illinois. Our class has 16 boys and 7 girls. Our school has 360 students.

We decided to map an email project for our school because we were curious to see how far email can travel by Internet in the United States. Our project will last just two months, beginning January 22, 1999 and ending March 22, 1999. We would like your help. We ask that:

1. If you receive our email letter, could you email our class back telling us your location?
2. Also, please send our class letter on to 2 more people.

Thank you!! Classroom 4B Sieden Prairie School

REPLIES TO fourthgrade4b@yahoo.com

Questionnaire

http://jimichow.tripod.com

****

Definition of "chain e-mail": Any e-mail that suggests to the recipient that s/he forward it to "all your friends and relatives" or anything similar, thus forming a chain between the author of the e-mail and each recipient. 連鎖電郵的定義：凡要求收件人將訊息轉寄給"所有朋友和家人"或任何相似形式的電子郵件都可稱爲連鎖電郵，電郵的作者與所有收件人之間就構成了一個連鎖關係。

****

1. How often do you check e-mails on average?
    你平均隔多久便檢查電子郵件?
    1. At least once every hour / 每小時最少 1 次
    2. At least once every day / 每天最少 1 次
    3. At least once every week / 每星期最少 1 次
    4. At least once every month/ 每月最少 1 次
    5. Once every few months/ 幾個月 1 次

2. How many chain e-mails do you receive in a week on average?
    你平均每星期會收到多少封連鎖電郵?
    1. 1-10
    2. 11-20
    3. 21-30
    4. 31-40
    5. 41-50
    6. 50 or above 或以上

3. And how many chain e-mails do you usually read in a week?
    那麼你平均每星期會閱讀多少封連鎖電郵?
    1. 1-10
    2. 11-20
    3. 21-30
    4. 31-40
    5. 41-50
    6. 50 or above 或以上

4. What is the ratio of chain e-mails sent by your friends?
    在接收的連鎖電郵中，約佔多少是來自朋友的呢？
    1. 0-20%
    2. 21-40%
    3. 41-60%
    4. 61-80%
    5. 81-100%

5. Have you ever sent out chain e-mails?
    你曾寄出過連鎖電郵嗎？
    1. No 未曾 [Go to No. 13 / 到 No. 13]
    2. Yes 曾

6. How many chain e-mails do you usually send out in a week?
    你平均每星期會寄出多少封連鎖電郵？
    1. 1-10
    2. 11-20
    3. 21-30
    4. 31-40

5.   41-50
6.   50 or above / 或以上

7.   Have you ever sent out the first e-mail in the chain?
     你曾發放首封連鎖電郵嗎？
      1.   No / 未曾
      2.   Yes / 曾

8.   How long do you usually take to send out a chain e-mail after reading it?
     閱讀連鎖電郵後，你通常會在多久後轉寄？
     1.   In 1 month / 1 個月內
     2.   In 1 week / 1 星期內
     3.   In 1 day / 1 天內
     4.   In 1 hour / 1 小時內
     5.   Immediately / 馬上轉寄

9.   How many recipients do you usually include in one outgoing chain e-mail?
     你通常會將同一封連鎖電郵寄給多少人？
     1.   1-5
     2.   6-10
     3.   11-15
     4.   16-20
     5.   21-25
     6.   26-30
     7.   31 or above / 或以上

10.   Do you hide recipients' e-mail addresses?
      你會不會隱藏收件人的電郵地址？
      1.   No   不會
      2.   Yes   會

11.   Have you ever modified the contents of chain e-mails you sent out?
      你曾否修改連鎖電郵的內容？
      1.   No   未曾
      2.   Yes   曾

12.   I have / 我曾: (Multiple selection / 可選多項)
      1.   Changed the entire content / 修改所有內容
      2.   Changed part of the content / 修改部份內容
      3.   Summarised the story / 撮要故事
      4.   Added my own comment / 加上個人意見
      5.   Others (please specify) / 其他（請註明）:_____

13.   How often do you receive the following types of chain e-mails?
      你經常收到以下類型之連鎖電郵嗎？

		Never receive 從未收過			Always receive 經常收到	
a.	Greetings / 祝福問候	1	2	3	4	5
b.	Jokes / 笑話	1	2	3	4	5
c.	Jokes / 笑話	1	2	3	4	5
d.	Inspiring stories / 勵志小品	1	2	3	4	5
e.	Love stories / 愛情故事	1	2	3	4	5
f.	Virus warning / 病毒警告	1	2	3	4	5
g.	Porn materials / 色情訊息	1	2	3	4	5
h.	Games / 遊戲	1	2	3	4	5

i.	Celebrity news / 名人娛樂	1	2	3	4	5
j.	Odd news / 奇聞軼事	1	2	3	4	5
k.	IQ/Psycho tests / 智商/心理測驗	1	2	3	4	5
l.	Ghost stories / 鬼故	1	2	3	4	5
m.	Horoscopes / 星座運程	1	2	3	4	5
n.	Healthcare info / 健康資訊	1	2	3	4	5

14. Below is a list of popular chain messages widely circulated. Please state its credibility from level 1 to 5. 以下為一些十分流行的連鎖電郵，請以 1 至 5 來表示你對其之信任程度。

	Highly incredible 極不可信			Highly credible 極之可信	
KFC chicken is not real chicken at all. The meat comes from genetically modified living thing which has no pain and no brain. 肯德基家鄉雞售賣的雞肉並非真正雞肉，而是來自 一種經基因改造的生物。	1	2	3	4	5
Single travellers find their kidneys stolen when they wake up in an iced bathtub with warnings written on their stomachs: Call 911 now or you will die soon. 單身旅客在旅途中被騙渴下迷藥，醒後發覺身體浸於浴缸的冰塊中，腎臟被人偷去，胸口寫著 「馬上報警，要不然你將很快沒命！」	1	2	3	4	5
Do not receive any e-mail from a particular e-mail account as the sender will be able to access to and control your computer after opening the mail. 不要開啓來自某電郵地址的電郵，因發件人可藉 此進入並控制你的電腦。	1	2	3	4	5
The more people you send the e-mail to, the more the cancer fund will donate to a cancer girl who is in need to undergo a life-saving surgery. 你轉寄此郵件的人越多，癌病基金便會捐更多現金予一名正急於施手術的癌病女孩。	1	2	3	4	5

15. Do you agree with the following statements pertaining to the uses and gratifications of chain e-mails? 你同意以下一些有關閱讀及轉寄連鎖電郵的動機和原因嗎？

I spend time in reading chain e-mails because:
我花時間閱讀連鎖電郵， 因為：

	Strongly disagree 十分不同意			Strongly agree 十分同意
a. chain stories are entertaining. 連鎖故事十分有趣	1	2	3	4
b. I want to kill time. 用來消磨時間	1	2	3	4

c.　chain e-mails are yet another reliable information source.　　1　2　3　4
連鎖電郵乃可靠的消息來源

c.　I can have more interesting topics among peers.　　1　2　3　4
與朋友能有更多話題

d.　the stories are trustworthy.　　1　2　3　4
故事內容十分可信

Note: If you have never sent out or forwarded any chain e-mail, please go to No.15.
註：如你從沒寄出或轉寄任何連鎖電郵，請直接到 No.15。

I resend chain e-mails to:
我轉寄連鎖電郵，目的是：

e.　stay in touch with friends.　　1　2　3　4
與朋友保持聯繫

f.　share interesting stories with friends.　　1　2　3　4
與朋友分享有趣故事

g.　tell friends about something　　1　2　3　4
告訴朋友一些重要事情

h.　show my strong social connection.　　1　2　3　4
突顯我的社交網絡

i.　show I'm always the first to know.　　1　2　3　4
顯示我總能得悉最新消息

16.　Do you agree with the following statements pertaining to the behaviours of reading/sending chain e-mails? 你同意以下一些有關閱讀/轉寄連鎖電郵的行為表現嗎？

I strive to cross-examine the credibility of　　1　2　3　4
a chain message if I find it doubtful.
如我發覺某連鎖電郵並不可信，我會
透過其他途徑尋根問底。

I make feedback to the sender to elucidate　　1　2　3　4
if I find the message deceptive.
如連鎖電郵存欺騙成份，我會回覆
發件人，道出真相。

I only send what I am sure.　　1　2　3　4
我只轉寄可信的連鎖電郵。

If the chain message is sent by my friends,　　1　2　3　4
it is credible.
如果連鎖郵件是朋友寄出，它的可信性
相對提高。

If more than one friend sending me the same   1   2   3   4
story, the message is very credible.
如果連鎖電郵是由多於一個朋友寄出，
它的可信性十分高。

Personal particulars / 個人資料：

17. Gender / 性別：
    1. Female / 女
    2. Male / 男

18. Age / 年齡：
    1. 18 or below / 或以下
    2. 18-24
    3. 25-34
    4. 35-44
    5. 45-54
    6. 55-64
    7. 65 or above / 或以上

19. Education / 教育程度：
    1. Primary school / 小學
    2. Secondary school / 中學
    3. Post-secondary school / 專上教育
    4. Undergraduate / 學士學位
    5. Postgraduate or above / 碩士學位或以上

20. Monthly income / 平均月入：
    1. Below HK$10,000 / 或以下
    2. HK$10,000 - HK$20,000
    3. HK$20,001 - HK$30,000
    4. HK$30,001 - HK$40, 000
    5. HK$40,001 or above / 或以上