



Navigating Expansive Social Horizons

The Social Utility of Mobile Phone E-Mail Among Japanese Youth

Jeffrey Boase
Rutgers University





Overview

Mobile Phone E-Mail in Japan

Implications for Personal Networks

Literature Review

Analysis and Results of a Youth Survey in Japan

Summary and Implications



Why mobile phone e-mail in Japan?

- **In Japan mobile phone e-mail is the Killer App!**
- From 2001 - 2005 e-mail phones increased from 7.5m to 87m
- 88% of mobiles phones are e-mail enabled
- Mobile “e-mail” typically used like SMS



Why Japanese youth?

- In Japan, mobile e-mail is used most heavily by adolescents
- 90% of Japanese adolescents have mobile e-mail
Source: 2002 report from the Ministry of Public Management, Home Affairs, Posts and Telecommunications
- On average

Adolescent males: send **43** e-mail messages per week

Adolescent females: send **95** e-mail messages per week

Source: National Survey of adolescents in Japan, Ishiii 2006



Empirical Question

What are the social implications of mobile e-mail for personal networks?



Literature themes

Japan as unique

Historic accounts

Japanese culture

Japan as typical

Fashion

Social control & identity

Social bonding



Japan as unique Historic accounts

- ❑ Mobile e-mail is rooted in pager adoption
- ❑ This is a description, not explanation
- ❑ Pagers were adopted by adolescents in other countries as well



Japan as unique Mobile and Japanese culture

- Popular media
Japanese high-tech youth culture

But only 17% of adolescents access
PCs regularly

- Scholars have speculated about
Japanese culture and mobile

e.g. helps disclose subjective self
(Ishii 2004)

But, few studies use comparative
data



Source: Wired magazine's "Japanese Schoolgirl Watch"



Japan as typical Mobile fashion

- Adolescents treat mobile as fashion accessories
- Technology is used to express personal identity
- Not only in Japan, but in other countries as well
e.g. Katz and Sugiyama 2005; Ling 2003; Lobet-Maris 2003; Okada 2005

Japan as typical

Identity and control

- ❑ Mobile e-mail is the 'back door of communication'
- ❑ Discreetly sending messages to escape adult control
- ❑ Maintains independence that is critical to identity formation
- ❑ Lots of empirical support in Japan and elsewhere

e.g. Ito and Okabe, 2005, in Japan; Fortunati and Magnanelli, 2002, in Italy; Ling 2000, 2002, 2005, in Norway; Ling and Yttri, 2005, in Norway; Selwyn, 2003, in Britain



Japan as typical Mobile bonding

- ❑ Ultra-connection with close friends, 24/7
- ❑ Constant availability gives a feeling of connection
- ❑ Lots of empirical support in Japan and elsewhere

e.g. Döring et al., 2005, in Germany; Furutani and Sakata, 2007, in Japan; Höflich and Rössler, 2002, in Germany; Ito and Okabe, 2005, in Japan; Kasesniemi and Rautiainen, 2002, in Finland; Kobayashi and Ikeda, 2007, in Japan; Ling, 2005, in Norway; Lobet-Maris and Henin, 2002, in Belgium; Matsuda, 2000, in Japan; Nakamura, 2001, in Japan; Selian, 2004, in America; Thurlow and Brown, 2003, in America





Summary

Although Japan is unique, it is also typical

Regarding **personal networks**, literature has focused on **social bonding**





Socio-emotional selectivity theory

- Personal networks of youth are fluid, large, and complex
(Degirmencioglu et al. 1998; Cairns et al. 1995; Oka 1999)

- Socio-Emotional Selectivity Theory
(Carstensen et al., 1999)

Youth value exploration; adults value emotional stability

Social exploration means youth maintain sizable networks with others from different social groups

Do youth use mobile phone e-mail to maintain large and complex networks?



Hypotheses

- As personal network **size** increases, the frequency of sending mobile phone e-mail increases.
- As personal network **complexity** increases, the frequency of sending mobile phone e-mail increases.
- As **grade** increases, the frequency of sending mobile phone e-mail increases.



Evidence



Youth Survey

2008

1,317 youth

8 - 16 years old

Tokyo, Chiba, Kanagawa

Randomly selected from a roster of
internet using households





Measures

■ Dependent

Sending mobile e-mail to friends

- Never (25%)
- Less once a week (12%)
- 1-2 times a week (13%)
- 4-5 times a week (13%)
- Every day (37%)





Measures

■ Independent

Number of friends

Known from class, extracurricular clubs, cram school, art groups, sports groups, and scouts/girl guides

Mean network size = 24

Median network size = 17





Measures

■ Independent

Network complexity

Know at least one friend from class, extracurricular clubs, cram school, art groups, sports groups, and scouts/girl guides

Range = 0 - 5

Mean & median = 2





Measures

■ Independent

Grade

Four

Five

Six

Junior high 1st year

Junior high 2nd year

Junior high 3rd year



Ordered Logit Regression: Sending Mobile Phone E-Mail

	Model I	Model II	Model III	Model IV	Model V
Female	0.457 ***	0.488 ***	0.456 ***	0.720 ***	0.762 ***
	0.129	0.129	0.129	0.136	0.138
2 Years Experience	0.010	-0.011	0.010	-0.197	-0.222
	0.136	0.136	0.136	0.144	0.145
Own a Mobile (Ref = parent's mobile	2.541 ***	2.572 ***	2.542 ***	2.159 ***	2.188 ***
	0.156	0.157	0.157	0.161	0.163
Network Size		0.009 ***			0.011 ***
		0.003			0.004
Network Complexity			0.002		-0.007
			0.067		0.081
Grade (Ref = Grad 4)					
Grade 5				0.773 ***	0.782 ***
				0.266	0.267
Grade 6				1.265 ***	1.261 ***
				0.254	0.254
Junior high 1				2.506 ***	2.535 ***
				0.259	0.260
Junior high 2				2.680 ***	2.682 ***
				0.268	0.270
Junior high 3				2.727 ***	2.754 ***
				0.270	0.271
Cutoff 1	0.508	0.731	0.513	1.816	2.074
	0.157	0.178	0.236	0.245	0.314
Cutoff 2	1.304	1.529	1.309	2.751	3.012
	0.165	0.185	0.241	0.258	0.325
Cutoff 3	2.056	2.287	2.061	3.662	3.932
	0.175	0.195	0.248	0.273	0.338
Cutoff 4	2.743	2.983	2.749	4.468	4.748
	0.183	0.204	0.254	0.283	0.347
Pseudo R2	0.120	0.123	0.120	0.193	0.197
LR Chi2	320.39	328.10	320.39	514.69	524.59
N	890	890	890	890	890

*** p < .001 ** p < .01 * p < .05

Ordered Logit Regression: Sending Mobile Phone E-Mail

	Model I	Model II	Model III	Model IV	Model V
Female	0.457 ***	0.488 ***	0.456 ***	0.720 ***	0.762 ***
	0.129	0.129	0.129	0.136	0.138
2 Years Experience	0.010	-0.011	0.010	-0.197	-0.222
	0.136	0.136	0.136	0.144	0.145
Own a Mobile	2.541 ***	2.572 ***	2.542 ***	2.159 ***	2.188 ***
(Ref = parent's mobile	0.156	0.157	0.157	0.161	0.163
Network Size		0.009 ***			0.011 ***
		0.003			0.004
Network Complexity			0.002		-0.007
			0.067		0.081
Grade (Ref = Grad 4)					
Grade 5				0.773 ***	0.782 ***
				0.266	0.267
Grade 6				1.265 ***	1.261 ***
				0.254	0.254
Junior high 1				2.506 ***	2.535 ***
				0.259	0.260
Junior high 2				2.680 ***	2.682 ***
				0.268	0.270
Junior high 3				2.727 ***	2.754 ***
				0.270	0.271
Cutoff 1	0.508	0.731	0.513	1.816	2.074
	0.157	0.178	0.236	0.245	0.314
Cutoff 2	1.304	1.529	1.309	2.751	3.012
	0.165	0.185	0.241	0.258	0.325
Cutoff 3	2.056	2.287	2.061	3.662	3.932
	0.175	0.195	0.248	0.273	0.338
Cutoff 4	2.743	2.983	2.749	4.468	4.748
	0.183	0.204	0.254	0.283	0.347
Pseudo R2	0.120	0.123	0.120	0.193	0.197
LR Chi2	320.39	328.10	320.39	514.69	524.59
N	890	890	890	890	890

*** p < .001 ** p < .01 * p < .05

Ordered Logit Regression: Sending Mobile Phone E-Mail

	Model I	Model II	Model III	Model IV	Model V
Female	0.457 ***	0.488 ***	0.456 ***	0.720 ***	0.762 ***
	0.129	0.129	0.129	0.136	0.138
2 Years Experience	0.010	-0.011	0.010	-0.197	-0.222
	0.136	0.136	0.136	0.144	0.145
Own a Mobile	2.541 ***	2.572 ***	2.542 ***	2.159 ***	2.188 ***
(Ref = parent's mobile	0.156	0.157	0.157	0.161	0.163
Network Size		0.009 ***			0.011 ***
		0.003			0.004
Network Complexity			0.002		-0.007
			0.067		0.081
Grade (Ref = Grad 4)					
Grade 5				0.773 ***	0.782 ***
				0.266	0.267
Grade 6				1.265 ***	1.261 ***
				0.254	0.254
Junior high 1				2.506 ***	2.535 ***
				0.259	0.260
Junior high 2				2.680 ***	2.682 ***
				0.268	0.270
Junior high 3				2.727 ***	2.754 ***
				0.270	0.271
Cutoff 1	0.508	0.731	0.513	1.816	2.074
	0.157	0.178	0.236	0.245	0.314
Cutoff 2	1.304	1.529	1.309	2.751	3.012
	0.165	0.185	0.241	0.258	0.325
Cutoff 3	2.056	2.287	2.061	3.662	3.932
	0.175	0.195	0.248	0.273	0.338
Cutoff 4	2.743	2.983	2.749	4.468	4.748
	0.183	0.204	0.254	0.283	0.347
Pseudo R2	0.120	0.123	0.120	0.193	0.197
LR Chi2	320.39	328.10	320.39	514.69	524.59
N	890	890	890	890	890

*** p < .001 ** p < .01 * p < .05

Ordered Logit Regression: Sending Mobile Phone E-Mail

	Model I	Model II	Model III	Model IV	Model V
Female	0.457 ***	0.488 ***	0.456 ***	0.720 ***	0.762 ***
	0.129	0.129	0.129	0.136	0.138
2 Years Experience	0.010	-0.011	0.010	-0.197	-0.222
	0.136	0.136	0.136	0.144	0.145
Own a Mobile	2.541 ***	2.572 ***	2.542 ***	2.159 ***	2.188 ***
(Ref = parent's mobile	0.156	0.157	0.157	0.161	0.163
Network Size		0.009 ***			0.011 ***
		0.003			0.004
Network Complexity			0.002		-0.007
			0.067		0.081
Grade (Ref = Grad 4)					
Grade 5				0.773 ***	0.782 ***
				0.266	0.267
Grade 6				1.265 ***	1.261 ***
				0.254	0.254
Junior high 1				2.506 ***	2.535 ***
				0.259	0.260
Junior high 2				2.680 ***	2.682 ***
				0.268	0.270
Junior high 3				2.727 ***	2.754 ***
				0.270	0.271
Cutoff 1	0.508	0.731	0.513	1.816	2.074
	0.157	0.178	0.236	0.245	0.314
Cutoff 2	1.304	1.529	1.309	2.751	3.012
	0.165	0.185	0.241	0.258	0.325
Cutoff 3	2.056	2.287	2.061	3.662	3.932
	0.175	0.195	0.248	0.273	0.338
Cutoff 4	2.743	2.983	2.749	4.468	4.748
	0.183	0.204	0.254	0.283	0.347
Pseudo R2	0.120	0.123	0.120	0.193	0.197
LR Chi2	320.39	328.10	320.39	514.69	524.59
N	890	890	890	890	890

*** p < .001 ** p < .01 * p < .05

Ordered Logit Regression: Sending Mobile Phone E-Mail

	Model I	Model II	Model III	Model IV	Model V
Female	0.457 *** 0.129	0.488 *** 0.129	0.456 *** 0.129	0.720 *** 0.136	0.762 *** 0.138
2 Years Experience	0.010 0.136	-0.011 0.136	0.010 0.136	-0.197 0.144	-0.222 0.145
Own a Mobile (Ref = parent's mobile	2.541 *** 0.156	2.572 *** 0.157	2.542 *** 0.157	2.159 *** 0.161	2.188 *** 0.163
Network Size		0.009 *** 0.003			0.011 *** 0.004
Network Complexity			0.002 0.067		-0.007 0.081
Grade (Ref = Grad 4)					
Grade 5				0.773 *** 0.266	0.782 *** 0.267
Grade 6				1.265 *** 0.254	1.261 *** 0.254
Junior high 1				2.506 *** 0.259	2.535 *** 0.260
Junior high 2				2.680 *** 0.268	2.682 *** 0.270
Junior high 3				2.727 *** 0.270	2.754 *** 0.271
Cutoff 1	0.508 0.157	0.731 0.178	0.513 0.236	1.816 0.245	2.074 0.314
Cutoff 2	1.304 0.165	1.529 0.185	1.309 0.241	2.751 0.258	3.012 0.325
Cutoff 3	2.056 0.175	2.287 0.195	2.061 0.248	3.662 0.273	3.932 0.338
Cutoff 4	2.743 0.183	2.983 0.204	2.749 0.254	4.468 0.283	4.748 0.347
Pseudo R2	0.120	0.123	0.120	0.193	0.197
LR Chi2	320.39	328.10	320.39	514.69	524.59
N	890	890	890	890	890

*** p < .001 ** p < .01 * p < .05



Summary and Implications



Summary

What are the social implications of mobile e-mail for personal networks?

- Literature has focused heavily on bonding
- Socio-emotional selectivity theory --> mobile phones may also be used to maintain **large and complex networks**



Summary

Findings

- As network size increases, mobile phone e-mail increases
- No association between network complexity and mobile phone e-mail
- As grade increases, mobile phone e-mail increases
- Network size and mobile phone e-mail *remain significantly associated* even when factoring in grade



Implications

- Mobile phones may reinforce close relationships, but they can also help maintain large networks
- Life stage matters greatly
- New questions
 - To what extent are mobiles used to grow networks over time?
 - What strategies do youth use to grow their personal networks using mobile devices?



Thank You

Jeffrey Boase

jboase@rci.rutgers.edu

Rutgers University

Assistant Professor, Department of Communication
Deputy Director, Center for Mobile Communication Studies