HHS Public Access

Author manuscript

J Marriage Fam. Author manuscript; available in PMC 2017 October 01.

Published in final edited form as:

J Marriage Fam. 2016 October ; 78(5): 1237–1249. doi:10.1111/jomf.12342.

Call Home? Mobile Phones and Contacts with Mother in 24 Countries

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Abstract

This paper explores how the diffusion of mobile phones is associated with communication between adult children and their mothers. The paper analyzes 2001 International Social Survey Program (ISSP) data from 24 countries (N = 12,313) combined with the country-level data on the prevalence of mobile phones. Net of individual-level predictors and country wealth, adult children who resided in countries with high prevalence of mobile phones contacted their mothers more frequently. High prevalence of mobile phones was also associated with larger differences in maternal contact by gender and smaller differences by education. These findings suggest that any impact of new communication technology on intergenerational relations is complex. Although mobile phones point to higher levels of at-a-distance contact with mothers and narrower socio-economic disparities related to access and affordability of communication technology, they are also linked to wider contact disparities following gendered cultural expectations.

Keywords

communication technology; cross-national research; demography; intergenerational relations; social support; social trends

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Parent-child relationships in adulthood are important for the well-being of both generations. The two-way exchange of money and informal services constitutes a valuable resource, which is often activated in time of need (Attias-Donfut, Ogg, & Wolff, 2005; McGarry & Schoeni, 1995; Suitor, Sechrist, Gilligan, & Pillemer, 2011). With rapid population aging and mounting concerns about possible declines in family support for older people in many countries, understanding the factors behind intergenerational contact and support is important.

Previous research has investigated how socio-demographic characteristics of parents and adult children are related to the scope and intensity of intergenerational contact (Crimmins & Ingegneri, 1990; Dewit, Wister, & Burch, 1988; Grundy & Shelton, 2001; Lawton, Silverstein, & Bengtson, 1994). Fewer studies have explored how intergenerational contacts have changed over time. Surprisingly, despite predicted declines in intergenerational

solidarity (Treas, 1977; Uhlenberg, 1993), research has found an *increase* in maternal contact over the past few decades in several countries (Kalmijn & De Vries, 2009; Treas & Gubernskaya, 2012). Running against prevailing theoretical considerations and unexplained by either demographic or ideational changes (Treas & Gubernskaya, 2012), the increase in contacts with mothers is puzzling.

This article emphasizes a factor that is largely missing from the discussion of intergenerational solidarity – the rapid development and diffusion of new communication technologies. Early on, theorists speculated that mobile phones had the potential to change the nature of family relations. By reducing the impediments to kin solidarity, they would permit greater interaction between family members, particularly those separated by geographic distance (DiMaggio, Hargittai, Neuman, & Robinson, 2001). However, in part because these technological developments were relatively recent, in part because the data were rarely available, the "mobile phone" thesis remained untested.

This paper fills this gap in the research on intergenerational contact by investigating whether diffusion of mobile phones at a country level is associated with 1) the frequency of adult children's contacts with their mothers and 2) the socio-demographic disparities in maternal contact, particularly by gender, age and education. We combine detailed individual-level data from 24 countries that participated in the 2001 International Social Survey Program (ISSP) "Social Networks" module with country-level data on mobile phone use from the World Bank (2011). Random-intercept, maximum likelihood, linear models with the cross-level interactions show that the links between the availability of new communication technology and the patterns of family communication are complex. On average, maternal contact was higher in countries that experienced greater proliferation of mobile phones. Because prior research has ruled out socio-demographic change as the factor behind historical increases in mother-adult child contact and because increases have been limited to "contact at a distance" such as phone calls (Kalmijn & De Vries, 2009; Treas & Gubernskaya, 2012), mobile phones emerge as a highly plausible explanation of increased contact. On whether mobile phones equalize disparities in contact by age, gender, and socio-economic status, mobile phone prevalence is linked to narrower disparities in some cases and wider ones in others.

MOBILE PHONES AND INTERGENERATIONAL CONTACT

Each new technological advance gives rise to both utopian and dystopian views (e.g., Fischer, 1992; Marvin, 1988). On the impact of mobile phones on social life (DiMaggio et al., 2001; Katz, 2006), "time-space compression," "time-space distanciation," and "the end of geography" were invoked by theorists who argued that new technology would make geographic separation irrelevant (Giddens, 1981; Graham, 1998; Harvey, 1989). According to empirical research, however, new technologies do not revolutionize family communication so much as they supplement existing patterns (DiMaggio et al., 2001). Long distance phone calls and emails, for example, replaced letters as means of sharing information with relatives and close friends separated by long distances, but they did not make geographic separation irrelevant for family support and exchange (DiMaggio et al., 2001).

Mobile phones have received relatively little attention in research on intergenerational contact, but according to the limited research in the area, the use of new technology in family communication is extensive. Parents rely on mobile phones to monitor their teenage children's whereabouts (Devitt & Roker, 2009). Teenagers count on mobile phones to reach parents in case of emergency and sometimes turn to text messages to communicate on sensitive issues (Devitt & Roker, 2009). Mobile phones, telephone calling cards, and email are used extensively by transnational families in order to keep in touch (Vertovec, 2004; Wilding, 2006). Although initially slower than young people to adopt these innovations, older adults have also learned to use the new technology (Sawchuk & Crow, 2012; Tee, Brush, & Inkpen, 2009).

Country-to-country differences in the diffusion of new communication technologies are an untested explanation for differences in kin contact, particularly those that do not involve face-to-face interaction. As Figure 1 shows, mobile phones did not appear in general consumer markets before the early 1990s. In 1990, their availability in Europe, Australia and the U.S. was essentially zero. From this zero baseline, the number of mobile phone subscriptions per 100 persons in any given year captures not only cross-sectional mobile phone saturation in a country, but also how much mobile phone access had grown. By the start of the 21st Century, there was already substantial variation between countries, because some countries were early adopters and others lagged behind in the move to mobile phones. The variation was reduced later in the period when virtually everyone everywhere had adopted the technology. In 2001, the year for which we have data on maternal contact, the number of mobile phone subscriptions ranged from about 5 per 100 persons in Russia to almost 90 per 100 in Italy. In short, the dawn of the 21st Century pinpoints a time of substantial cross-country variation in the use of mobile phones, which permits strategic tests of hypotheses regarding communication technology. Given previous research on the extensive use of mobile phones for family communication, we expect:

> Hypothesis 1: Higher prevalence of mobile phones will be associated with more frequent contacts between adult children and their mothers.

MOBILE PHONES AND SOCIO-DEMOGRAPHIC DISPARITIES IN MATERNAL CONTACT

Diffusion of new technology is likely to influence not only the frequency of maternal contact but also socio-demographic differences in the frequency of contact. Universal *access* to technology equalizes opportunities to contact mothers by reducing the structural barriers to interaction. For instance, mobile phone calls have replaced long distance land-line calls that were expensive and not universally available, especially in remote and rural regions. The better educated are among the early adopters of new technology (Rice & Katz, 2003), partly because they are exposed to innovations at work and partly because they can afford them. With greater diffusion of mobile phones, frequent calls become available to those with relatively low incomes and limited schooling. Thus, the disparities in contact due to socio-economic constraints on communication should decrease if mobile phones are more readily available.

Hypothesis 2: Higher prevalence of mobile phones will be associated with smaller disparities in maternal contact by education.

On the other hand, greater availability of mobile phones may widen gaps in contact frequency if they enable even higher levels of communications for those adult children who, according to the dominant cultural norms, are expected to provide practical care and emotional support to mothers. Given their responsibilities for caregiving and kinkeeping, women establish stronger bonds with relatives, especially their mothers, and daughters contact their mothers more frequently than sons (Dewit et al., 1988; Spitze & Logan, 1991; Treas, 1977; Treas & Cohen, 2006; Treas & Gubernskaya, 2012). Previous research, however, found no gender differences in overall mobile phone use at the turn of the 21st Century (Rice & Katz, 2003). If gender differences in maternal contact reflect cultural norms and gender roles, we expect daughters to use new communication technology more than sons to keep in touch with mothers.

Hypothesis 3: Higher prevalence of mobile phones will be associated with greater disparities in maternal contact by gender.

Since communication is a two-way process that reflects preferences and needs of both generations, mobile phones may also be linked to greater contact for those adult children who are more dependent on their mothers. Contacts are most frequent between parents and children in their late teens and early twenties (Grundy & Shelton, 2001; Treas & Cohen, 2006; Treas & Gubernskaya, 2012). When young adults leave the parental home (e.g., for work or education) and start their own families, their contacts with parents drop off (Bucx, Van Wel, Knijn, & Hagendoorn, 2008). Later in the life course, parental contacts tend to increase, reflecting aging parents' greater need for support, but interaction rarely matches the high levels seen in young adulthood (Bucx et al., 2008; Ward, Deane, & Spitze, 2013). Broad demographic shifts suggest that young adults may be more dependent on their parents than in the past due to a prolonged transition to adulthood, delayed family formation and high economic insecurity (Settersten, 2007). The diffusion of mobile phones may enable ever higher levels of communication between young adults and their mothers. Greater availability of mobile phones is unlikely to increase middle-aged children's contact with aging mothers to the same degree, if only because older people are usually among the last to adopt technological innovations (Rogers, 2003).

Hypothesis 4: Higher prevalence of mobile phones will be associated with higher frequency in maternal contact among young adults compared to other age groups.

METHOD

The 2001 data from the International Social Survey Program (ISSP) "Social Networks" module provide a unique opportunity to evaluate the impact of mobile phones on intergenerational contact in an historical period when personal use of this technology varied widely across and, most likely, within the countries. The ISSP collected information on the frequency of adult children's contacts with mothers in 24 nations. Diverse in terms of geographic region, level of economic development, and welfare state regime, the countries are Australia, Austria, Brazil, Canada, Chile, Czech Republic, Denmark, Finland, France,

Germany, Great Britain, Hungary, Israel, Italy, Japan, Latvia, New Zealand, Norway, Poland, Russia, Slovenia, Spain, Switzerland and the U.S. The analytical sample is limited to adult children, ages 18 and above, with a surviving mother who did not reside in the same household with the child. The country-specific sample sizes and descriptive statistics are presented in the Appendix Table A.

The dependent variable, the frequency of maternal contacts that do not involve face-to-face interaction, comes from the question: “How often do you have any contact with your mother, besides visiting, either by telephone, letter, fax or email?” The response categories were: “daily” (6), “at least several times a week” (5), “at least once a week” (4), “at least once a month” (3), “several times a year” (2), “less often” or “never” (1). The missing values on the dependent variable do not exceed 2%, and we exclude these cases from the analysis.

Individual-level control variables are suggested by prior research on kin contact. Gender is a dummy variable (female = 1, male = 0). Age is categorized into 10 year groups with middle aged adults, 35–44, as the omitted reference category. Due to low frequencies in some categories in some countries, marital status has only two categories: not married (reference, 0), which includes never married, divorced/separated and widowed, and married/cohabiting (1). Education is recoded into three categories: “primary” (no education, primary or incomplete secondary), “secondary” (complete secondary) and “high” (some college, college or post-graduate). Different coding schemes for education, such as using years of education as a continuous variable or creating a 4-category variable, produced very similar results (results available on request). We opted for a three-category variable to better illustrate the interaction effects. Employment status is a dummy variable: employed full- or part-time (1) and other (0). Measured by frequency of attendance at religious services, religiosity is a categorical variable ranging from “never” (1) to “once a week” (6). Proximity to mother is measured as travel time to the place where she lives. This categorical variable is coded as “less than 15 minutes” (1), “15 to 30 minutes” (2), “30 minutes to 1 hour” (3), “1 to 2 hours”(4), “2 to 3 hours” (5), “3 to 5 hours” (6), “5 to 12 hours” (7), and “over 12 hours” (8). As an indicator of familistic values, attitudes toward intergenerational support are measured by agreement with the statement: “Adult children have a duty to look after their elderly parents.” Likert-scale responses range from “strongly disagree” (1) to “strongly agree” (5). We treat travel time to mother, religiosity, and family attitudes as continuous variables.

To gauge the prevalence of new communication technology in each country, we use 2001 data from the World Bank’s online database on the number of mobile phone subscriptions per 100 persons. Logged country GNP per capita in 2001 (The World Bank, 2011) is a control variable to adjust for societal wealth, which is positively correlated with the availability of mobile phones.

Our analytical strategy is, first, to describe the variation in maternal contacts across countries. Then, we construct nested multilevel, random intercept models that predict the frequency of the respondents’ contacts with mother. The first model includes only individual-level predictors. The next model adds the country-level variables to test the hypothesis that the diffusion of mobile phones in a country is positively associated with the

higher frequency of maternal contact. The final model includes cross-level interaction terms to test how the differences in maternal contact vary by age, gender, and educational depending on the availability of mobile phones.

RESULTS

Figure 2 presents the mean frequency of maternal contacts at a distance for 24 nations in 2001. As it shows, cross-national variation in intergenerational contact is substantial. On average, adult children in Israel contacted their mothers more than several times a week. Italy, Spain, Slovenia, Great Britain and the U.S. were among the countries where children contacted their mother more than weekly. Japanese, Brazilians and Russians contacted their mother, on average, only several times a month. Other countries fell in between.

Table 1 presents the findings from the random intercept models predicting the frequency of contacts with mother. Model 1 includes only the individual-level characteristics. Overall, the results are consistent with previous research on maternal contact. Compared to men, women are significantly more likely to contact their mothers. All things considered, younger adults interact with their mothers more frequently than their older counterparts do. The child's marital status has no effect on frequency of contact with mother, but having more siblings or more children decreases contacts. Our admittedly crude measure of employment status has no significant effect, but better educated individuals tend to contact their mothers more frequently. So do those who agree that children have a duty to support aging parents, as well as those who are more religious. Residential distance, as gauged by travel time, has a strong negative relationship with contact frequency: the longer it takes to get to the mother's home, the fewer contracts at a distance occur between grown children and mothers.

Model 2 adds to Model 1 the country-level predictors – the number of mobile phone subscriptions per 100 persons and logged GNP per capita. Supporting *Hypothesis 1*, the number of mobile phones subscriptions is positively associated with the frequency of contacts with mother, net of the individual-level predictors and the nonsignificant GNP indicator of country wealth. All things considered, adult children residing in countries with higher prevalence of mobile phones contact their mother more frequently. Including these two country-level factors also improves the model fit by reducing unexplained variation at the country level.

Model 3 includes cross-level interaction terms to test whether the differences in maternal contact by age, gender, and education vary by country-level mobile phone availability. The interaction terms between mobile phone subscriptions and the education categories are negative and statistically significant. Supporting *Hypothesis 2*, less educated adult children who reside in countries with higher prevalence of mobile phones contact their mothers more often than do adults with comparably low levels of education who reside in countries with low mobile phone prevalence. Consistent with *Hypothesis 3*, the gender interaction term is positive and statistically significant, suggesting that the higher prevalence of mobile phones is associated with a higher frequency of maternal contact for women than men. Similarly, the positive and significant interaction coefficient for the adults ages 18–24 means that the greater availability of mobile phones is associated with more frequent maternal contact for

this group than for the middle-aged reference group (age 35–44). On the other hand, the negative and significant interaction coefficient for adults ages 55 and over indicates that the association between the availability of mobile phones and contacts with mother is weaker for this group than for the middle-aged. Interestingly, the main coefficient for age 18–24 is no longer statistically significant, and the main coefficient for gender is substantially reduced. In other words, net of the other predictors, the gender difference and at least some age differences in maternal contact are significant only in countries with higher levels of mobile phones availability. As *Hypothesis 4* predicted, greater availability of mobile phones is associated with noticeably higher frequency of maternal contact among the youngest adults.

Illustrating the effects of the cross-level interactions, Figures 3, 4 and 5 plot predicted mean frequencies of maternal contact by education, gender and age. As evident from Figure 3, the disparities in maternal contact by education level were much smaller in countries where mobile phones were more readily available. Where there were only 10 subscriptions per 100 residents, those with primary education were predicted to contact mothers less than once a month as opposed to several times a month for those with college education. At 90 subscriptions per 100, the comparable frequencies were between once and several times a week for both groups. Consistent with the notion of technology as a socio-economic leveler for family interaction, the differences in maternal contact by education are small and nonsignificant in countries with high prevalence of mobile phones. According to Figure 4, however, the availability of mobile phones had remarkable implications for the maternal contacts of women. Predicted to have only slightly more contacts with mothers than men in countries where mobile phones were rare, women's frequency of contact with mother is considerably larger in countries with high prevalence of mobile phones. As a result, the gender disparities in countries with high prevalence of mobile phones were greater than in countries with low prevalence. As Figure 5 demonstrates, the differences in contacts with mother between the youngest respondents (age 15–24) and other adult children is greater in countries with higher prevalence of mobile phones.

DISCUSSION

This paper relates the diffusion of mobile phones to the patterns of intergenerational communication between adult children and their mothers. We hypothesized that the greater prevalence of mobile phones is associated with higher levels of maternal contact for children in adulthood. The results support this hypothesis. In 2001, in countries with higher rates of mobile phone subscriptions, adults report more frequent at-a-distance contact with mothers. The positive association with the number of mobile phone subscriptions at a country level is robust to the inclusion of per capita GNP, arguably the biggest factor in the selection of countries into the ranks of the early adopters of new communication technology.

In addition, we address speculation on whether new communication technology is related to socio-demographic disparities in maternal contact. The findings argue against universal generalizations. Higher prevalence of mobile phones is associated with wider disparities by gender and age, but narrower disparities by education. Being kinkeepers, women are apparently more responsive than men to the availability of cheaper, more convenient means to call home. Being more dependent on parents, the youngest adults are more sensitive than

their seniors to availability of new communication technology. On the other hand, the less frequent maternal contact for socio-economically disadvantaged adults with low education – which is clear in countries where mobile phones are less common – is not found where these phones are ubiquitous. Admittedly, lacking data on whether respondents actually have mobile phones, country level prevalence of mobile phones is, at best, an expedient measure for their use for family communication. However, to the best of our knowledge, no large scale, national data set around 2001 has information on either availability or frequency of use of mobile phones.

Although our evidence does not firmly establish causation, the relationship of mobile phones and maternal contact should be interpreted in the context of a long-running debate about the viability of the extended family. Since the 19th Century when LePlay (1982) pointed to the decline of French farm families in the face of urbanization, social scientists assumed that extended family ties were waning (Burgess, 1926; Parsons, 1949). More recently, however, demographic changes are said to prompt a resurgence of intergenerational solidarity (Bengtson, 2001). A study of 1986–2001 changes in maternal contact using ISSP data – arguably the best historical evidence on trends in intergenerational interaction – identified increases, not decreases, in adult child-mother contact at a distance over time in the seven Western nations surveyed (Treas & Gubernskaya, 2012). The 1986–2001 changes in the socio-demographic composition of the populations accounted for a trivial share of the increased frequency in maternal contact. Population shifts simply cancel one another out. For instance, although the religiosity promoting intergenerational cohesion declined, this development was offset by the declining married population, which interacted less with parents than unmarried children do (Treas & Gubernskaya, 2012). If increased contact was driven by changes in attitudes, adult children presumably would have also visited mothers more often, but the prior study found that increased contact was limited to interactions that did not require being personally present (e.g., phone calls). If neither changing preferences nor changing populations explain the increase in remote contacts, communication technology introduced between 1989 and 2001 offers an alternative account. For several countries, residential proximity between adult children and mothers became less consequential for contact at a distance over this period (Treas & Gubernskaya, 2012), consistent with theoretical arguments that new communication technology mitigated constraints on communication imposed by distance. However, our results do not fully support the “end of geography” (Graham, 1998) and “time-space distanciation” (Giddens, 1981) claims. We tested for the significance of country-level phone subscription interacted with respondent proximity. These results were not statistically significant (not presented but available on request). That is, contrary to the “end of geography” thesis, geographic proximity was a strong predictor of intergenerational contact, regardless of the availability of mobile phones. Similarly, non-significant interactions between phone subscriptions and familistic attitudes demonstrated the importance of values and preferences to contact across all levels of technology. Of course, other technologies, specifically internet usage, also increased (albeit more slowly) over this period, but our analyses did not find a statistically significant association between the number of internet users per 100 persons and maternal contact in 2001.

Inferring change from cross-sectional data on the mobile phone subscription rates for 24 countries in 2001 runs the risk of “reading history sideways” (Thornton, 2001). This developmental fallacy arises when societies defined as “backward” are taken as the starting point to gauge the progress of other societies said to be more “advanced”. We make no such assumption because we know a critical fact. As recently as 1990, there were no “advanced” societies in terms of consumer markets for mobile telephones: In all 24 countries, people had virtually no access to mobile phones. Mobile phone subscription rates in 2001 are, in essence, change scores, providing direct evidence on how rapidly new technology diffused in each country beginning in the early 1990s. In interpreting mobile phones as consequential for contact, we cannot rule out that countries where people placed a higher value on kin contact before having access to mobile phones may also have been quicker to adopt the new technology. We show here, however, that the relation between mobile phones and maternal contact holds even with controls for two indicators of values (religiosity and belief in grown children’s responsibility for parents).

In short, across 24 countries, this paper demonstrates that the country-level prevalence of mobile phones is positively associated with the frequency of at-a-distance maternal contact. It also shows that this prevalence is linked to the differences in contact by gender, by age, and by education. Because other kin relations are no doubt subject to many of the same influences as mother-child interaction, future research should examine whether greater availability of new technology is associated with more contacts between other family members as well. Although a cross-sectional study falls short of a conclusive test of the thesis that mobile phones increased kin contact over time, it contributes to an accumulating body of evidence that is consistent with a consequential role for communication technology in facilitating more frequent interaction between parents and grown children. In an era of rapid innovation, this study points to the need for research that examines how family life is responding to the new ways to keep in touch.

Acknowledgments

This research was partially supported by a grant to the Center for Social and Demographic Analysis (CSDA) at University at Albany, SUNY, from the National Institute of Child Health and Human Development (R24-HD044943). The authors are grateful to researchers at Utrecht University, Oxford University, the Bremen International Graduate School of Social Sciences, the Netherlands Interdisciplinary Demographic Institute and the anonymous JMF reviewers for their helpful comments and suggestions. Previous version of this research was presented as a poster at the 2012 Population Association of America meeting in San-Francisco, CA.

Appendix

Appendix Table A

Descriptive Statistics by Country: Adult Children with Non-Coresident Surviving Mother.

Country	Contact (1 – 6)	Female (%)	Age (18 – 83)	Married (%)	Siblings (0 – 10)	Children (0 – 10)	Employed (%)	Religiosity (0 – 5)	Primary (%)	Secondary (%)	High (%)
Australia	4.02	.56	46.63	.75	2.75	2.41	.55	1.53	.37	.35	.28
Austria	3.99	.63	41.14	.66	2.28	1.66	.49	2.11	.57	.31	.12
Brazil	3.14	.53	35.31	.59	4.99	0.72	.21	3.40	.86	.11	.03

Country	Contact (1 – 6)	Female (%)	Age (18 – 83)	Married (%)	Siblings (0 – 10)	Children (0 – 10)	Employed (%)	Religiosity (0 – 5)	Primary (%)	Secondary (%)	High (%)
Canada	3.97	.56	41.75	.79	3.19	1.91	.60	1.99	.19	.53	.28
Chile	3.60	.38	38.17	.70	4.10	2.18	.42	2.50	.47	.39	.14
Czech Republic	3.80	.61	38.45	.72	1.44	1.58	.70	0.87	.21	.66	.13
Denmark	4.08	.53	40.95	.62	1.96	1.74	.77	1.18	.20	.52	.28
Finland	3.93	.55	36.11	.74	1.97	1.36	.65	1.71	.26	.39	.34
France	3.91	.58	38.52	.62	2.25	1.54	.63	0.84	.17	.44	.38
Germany	4.02	.52	38.23	.59	1.89	1.42	.63	1.23	.66	.13	.21
Great Britain	4.22	.60	39.21	.65	2.07	0.59	.54	1.08	.50	.32	.18
Hungary	3.48	.59	39.99	.68	1.68	1.68	.59	1.16	.50	.45	.05
Israel	5.17	.67	37.23	.74	3.26	2.30	.54	1.72	.14	.63	.23
Italy	4.75	.55	41.64	.93	1.70	1.24	.71	2.43	.33	.39	.28
Japan	3.09	.56	43.24	.89	2.05	1.81	.56	1.22	.13	.63	.24
Latvia	3.81	.59	36.87	.63	1.35	1.41	.68	1.24	.36	.48	.16
New Zealand	3.72	.59	41.79	.68	2.94	0.95	.58	1.33	.28	.56	.17
Norway	4.10	.55	38.02	.53	2.23	0.78	.68	1.00	.23	.51	.26
Poland	3.47	.56	40.13	.78	2.20	1.75	.59	3.50	.45	.40	.14
Russia	3.28	.53	37.19	.79	1.71	1.43	.66	0.85	.09	.71	.20
Slovenia	4.31	.55	37.49	.83	1.85	1.67	.75	1.83	.42	.47	.10
Spain	4.52	.53	38.95	.83	2.60	1.52	.58	1.65	.47	.29	.24
Switzerland	3.72	.55	41.48	.68	2.26	1.34	.56	1.68	.74	.14	.12
U.S.	4.13	.52	38.06	.45	2.74	1.27	.67	2.41	.11	.61	.27

References

Attias-Donfut C, Ogg J, Wolff FC. European patterns of intergenerational financial and time transfers. European Journal of Ageing. 2005; 2(3):161–173.

Bengtson VL. Beyond the nuclear family: The increasing importance of multigenerational bonds. Journal of Marriage and Family. 2001; 63:1–16.

Bucx F, Van Wel F, Knijn T, Hagendoorn L. Intergenerational Contact and the Life Course Status of Young Adult Children. Journal of Marriage and Family. 2008; 70(1):144–156. DOI: 10.1111/j.1741-3737.2007.00467.x

Burgess EW. The family as a unit of interacting personalities. Family. 1926; 7:3–9.

Crimmins EM, Ingegneri DG. Interaction and living arrangements of older parents and their children: Past trends, present determinants, future implications. Research on Aging. 1990; 12(1):3–35. DOI: 10.1177/0164027590121001 [PubMed: 2315554]

Devitt K, Roker D. The role of mobile phones in family communication. Children & Society. 2009; 23(3):189–202. DOI: 10.1111/j.1099-0860.2008.00166.x

Dewit DJ, Wister AV, Burch TK. Physical distance and social contact between elders and their adult children. Research on Aging. 1988; 10(1):56–80. DOI: 10.1177/0164027588101003 [PubMed: 3387660]

DiMaggio P, Hargittai E, Neuman WR, Robinson JP. Social implications of the internet. Annual Review of Sociology. 2001; 27(1):307–336. DOI: 10.1146/annurev.soc.27.1.307

Fischer, CS. America calling: A social history of the telephone to 1940. Berkeley: University of California Press; 1992.

Giddens, A. A contemporary critique of historial materialism. Vol 1 Power, Property and the State. London: Macmillan; 1981. Time-space distanciation and the generation of power; p. 90-108.

Graham S. The end of geography or the explosion of place? Conceptualizing space, place and information technology. Progress in Human Geography. 1998; 22(2):165–185. DOI: 10.1191/030913298671334137

Grundy E, Shelton N. Contact between adult children and their parents in Great Britain 1986–1999. Environment and Planning A. 2001; 33(4):685–697.

Harvey, D. The condition of postmodernity: An enquiry into the origins of cultural change. Cambridge, Mass & Oxford, UK: Blackwell; 1990.

Kalmijn M, De Vries J. Change and stability in parent–child contact in five Western countries. European Journal of Population/Revue européenne de Démographie. 2009; 25(3):257–276. DOI: 10.1007/s10680-008-9176-4 [PubMed: 19657474]

Katz J. Mobile communication and the transformation of daily life: The next phase of research on mobiles. Knowledge, Technology & Policy. 2006; 19(1):62–71. DOI: 10.1007/s12130-006-1016-4

Lawton L, Silverstein M, Bengtson V. Affection, social contact, and geographic distance between adult children and their parents. Journal of Marriage and Family. 1994; 56(1):57–68.

Le Play, F. On family, work and social change. Chicago: The University of Chicago Press; 1982.

Marvin, C. When old technologies were new: Thinking about electric communication in the late nineteenth century. New York: Oxford University Press; 1988.

McGarry K, Schoeni RF. Transfer behavior in the Health and Retirement Study: Measurement and the redistribution of resources within the family. The Journal of Human Resources. 1995; 30:S184–S226.

Parsons, T. The social structure of the family. In: Anshen, RN., editor. The family: Its function and destiny. New York: Harper; 1949.

Rice RE, Katz JE. Comparing internet and mobile phone usage: Digital divides of usage, adoption, and dropouts. Telecommunications Policy. 2003; 27(8):597–623.

Rogers, EM. Diffusion of innovations, 5th edition. 5th. New York: Free Press; 2003.

Sawchuk K, Crow B. I'm G-Mom on the phone. Feminist Media Studies. 2012; 12(4):496–505. DOI: 10.1080/14680777.2012.741863

Settersten RA. Passages to adulthood: Linking demographic change and human development. European Journal of Population/Revue européenne de Démographie. 2007; 23(3–4):251–272.

Spitze G, Logan JR. Sibling structure and intergenerational relations. Journal of Marriage and Family. 1991; 53(4):871–884.

Suitor, JJ.; Sechrist, J.; Gilligan, M.; Pillemer, K. Intergenerational relations in later-life families. In: Settersten, RA.; Angel, JL., editors. Handbook of Sociology of Aging. Springer; New York: 2011. p. 161-178.

Tee K, Brush AJB, Inkpen KM. Exploring communication and sharing between extended families. International Journal of Human-Computer Studies. 2009; 67(2):128–138.

The World Bank. Mobile cellular subscriptions (per 100 people). 2011 Retrieved June 1, 2011, from The World Bank online database.

Thornton A. The Developmental paradigm, reading history sideways, and family change. Demography. 2001; 38(4):449–465. [PubMed: 11723944]

Treas J. Family support systems for the aged some social and demographic considerations. Gerontologist. 1977; 17(6):486–491. DOI: 10.1093/geront/17.6.486 [PubMed: 924169]

Treas, J.; Cohen, P. Maternal co-residence and contact: Evidence from cross-national surveys. In: Gauthier, AH.; Chu, CYC.; Tuljapurkar, S., editors. Allocating Public and Private Resources Across Generations. Dordrecht, Netherlands: Springer; 2006. p. 117-137.

Treas J, Gubernskaya Z. Farewell to moms? Maternal contact for seven countries in 1986 and 2001. Journal of Marriage and Family. 2012; 74(2):297–311. DOI: 10.1111/j.1741-3737.2012.00956.x

Uhlenberg, P. Demographic change and kin relationships in later life. In: Maddox, GL.; Lawton, MP., editors. Annual Review of Gerontology and Geriatrics: Focus on Kinship, Aging, and Social Change. New York: Springer; 1993. p. 219-238.

Vertovec S. Cheap Calls: The social glue of migrant transnationalism. Global Networks. 2004; 4(2): 219–224. DOI: 10.1111/j.1471-0374.2004.00088.x

Ward R, Deane G, Spitze G. Life-course changes and parent-adult child contact. Research on Aging. 2013; doi: 10.1177/0164027513510325

Wilding R. 'Virtual' intimacies? Families communicating across transnational contexts. Global Networks. 2006; 6(2):125–142. DOI: 10.1111/j.1471-0374.2006.00137.x

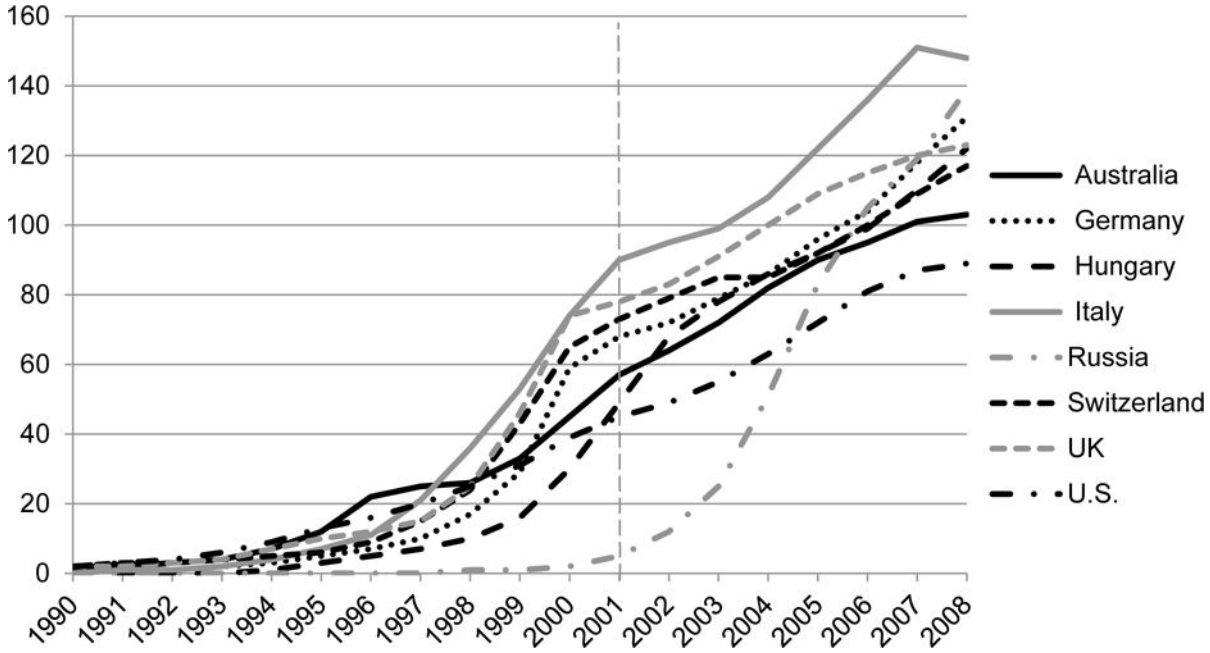

Figure 1. Mobile phone subscriptions per 100 persons in select countries
Source: World Bank Online Database (http://data.worldbank.org/)

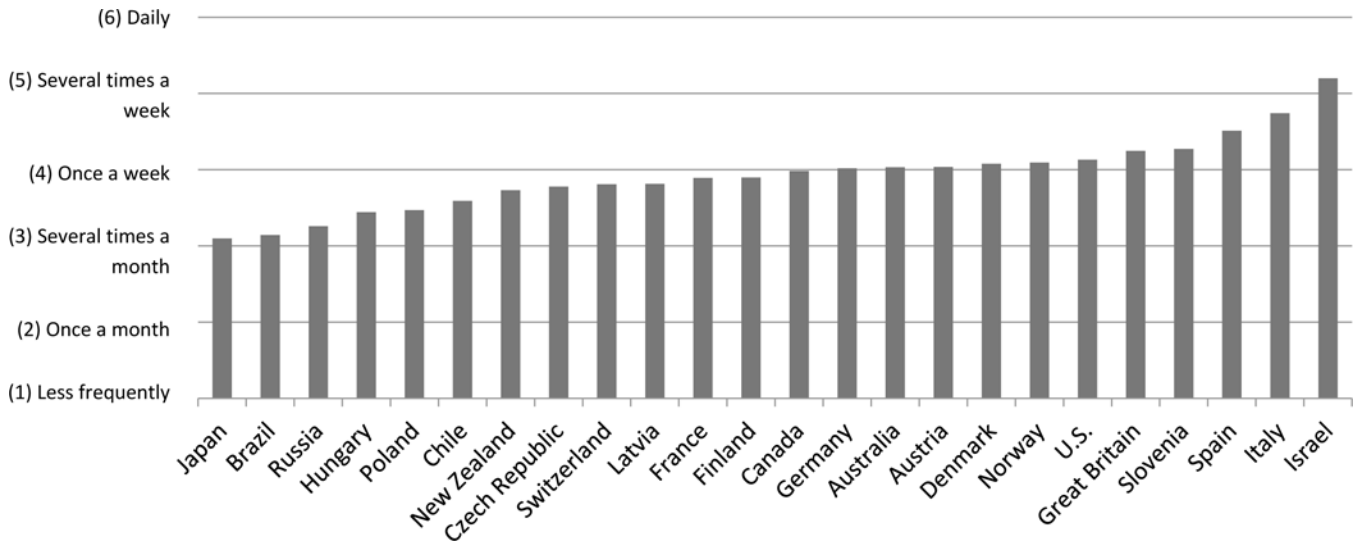

Figure 2.
Mean frequency of contacts at a distance with mother: Adult non-coresident children, 2001 ISSP

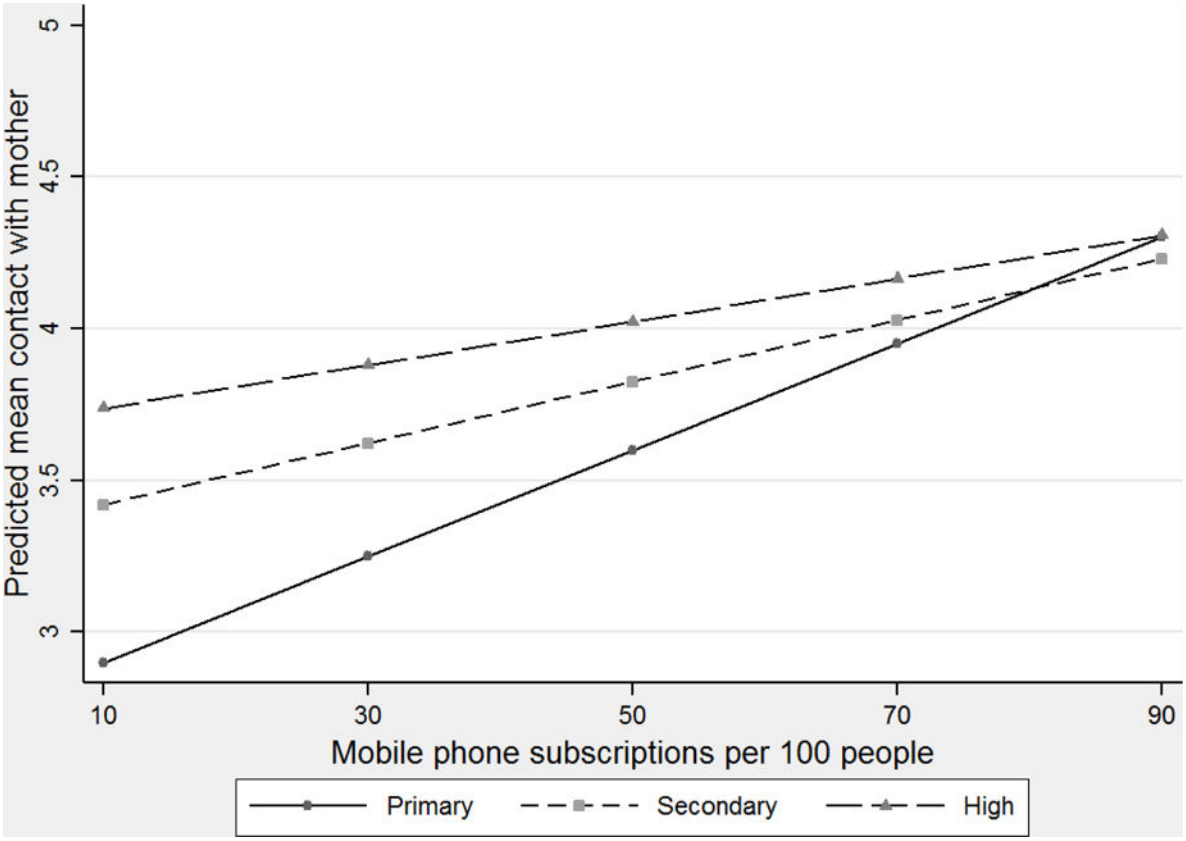

Figure 3.
Predicted Mean Frequency of Contacts with Mother by Education (Based on Model 3, Table 1).

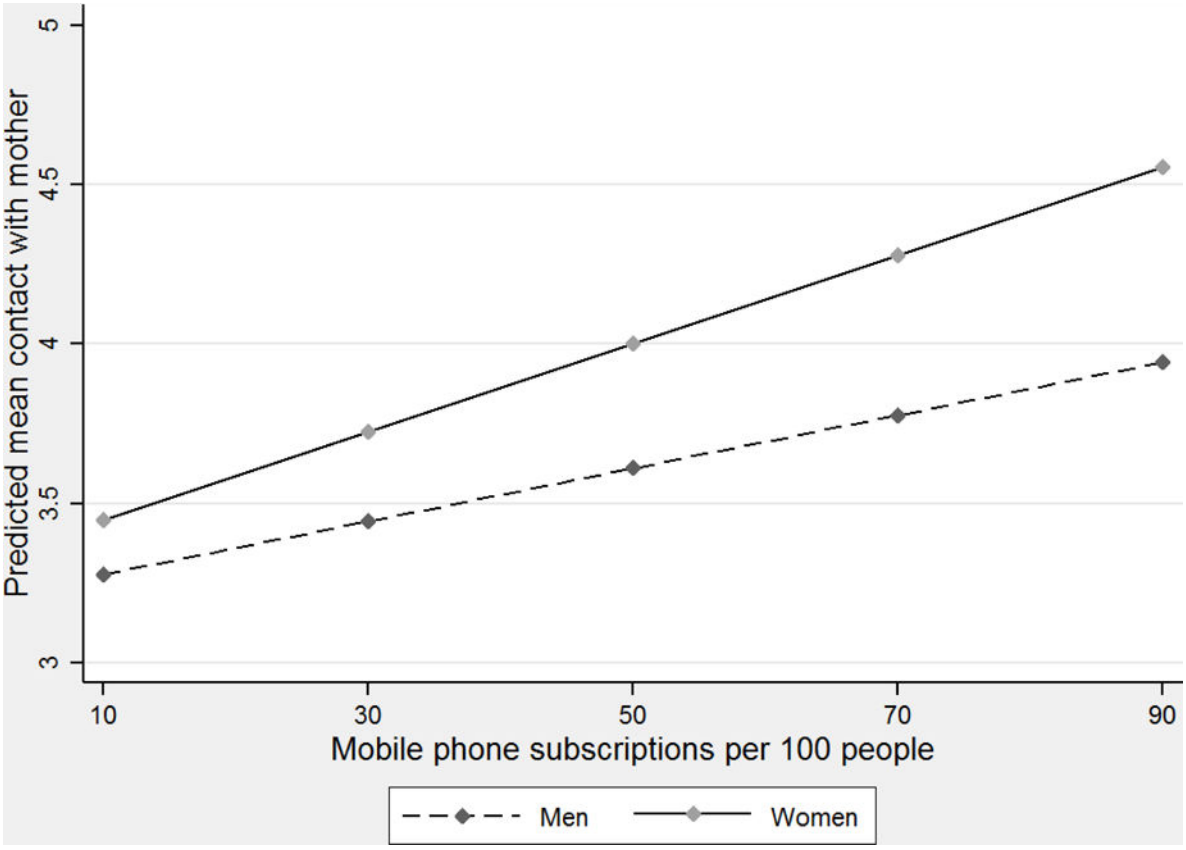

Figure 4.
Predicted Mean Frequency of Contacts with Mother by Gender (Based On Model 3, Table 1).

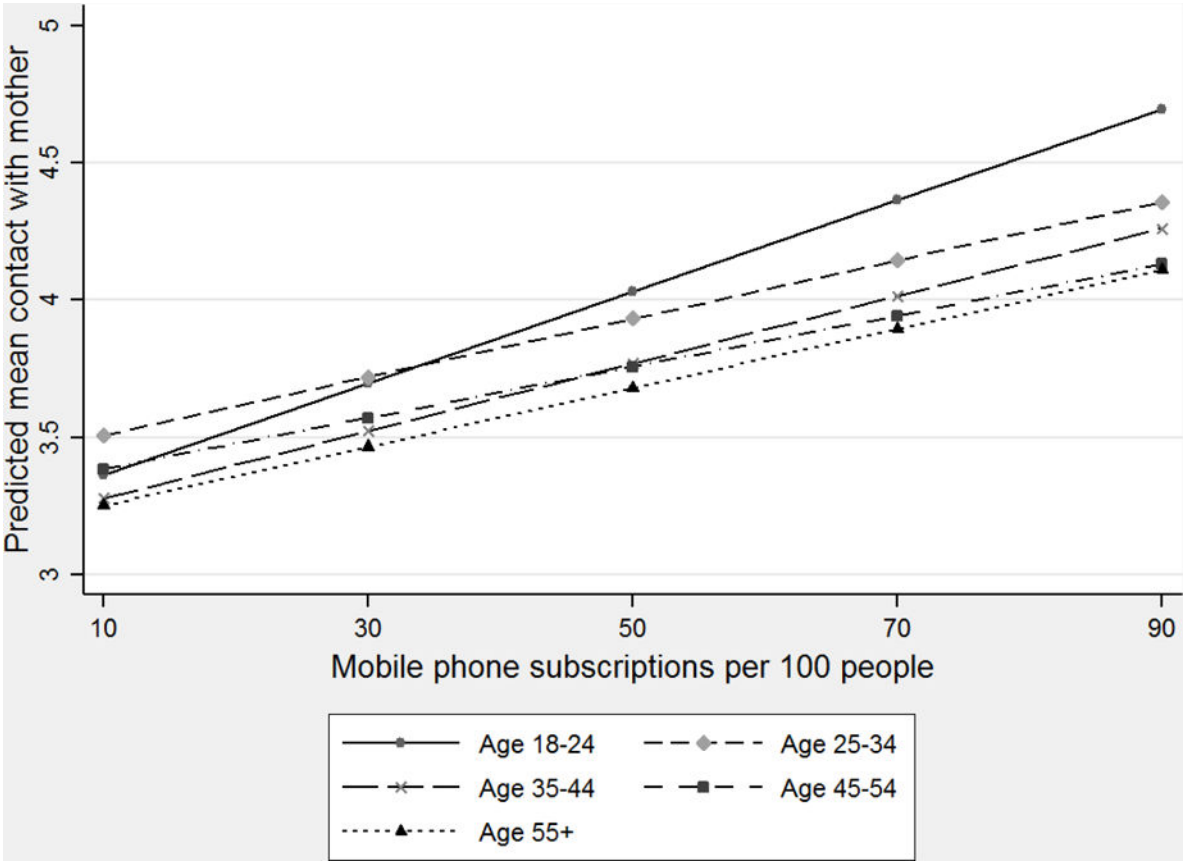

Figure 5.
Predicted Mean Frequency of Contacts with Mother by Age (Based on Model 3, Table 1).

Table 1

Random Intercept Regression Models Predicting Frequency of Contacts with Mother (N = 12,313; n = 24).

Variables	(Model 1)	(Model 2)	(Model 3)
Individual level			
Female	0.431***	0.430***	0.114
	(0.027)	(0.027)	(0.066)
(Age 35–44)			
Age 18–24	0.269***	0.271***	0.044
	(0.052)	(0.052)	(0.116)
Age 25–34	0.144***	0.145***	0.246**
	(0.034)	(0.034)	(0.083)
Age 45–54	−0.034	−0.035	0.137
	(0.036)	(0.036)	(0.093)
Age 55+	−0.111*	−0.113*	−0.011
	(0.049)	(0.049)	(0.132)
(Not married)			
Married/Cohabiting	0.001	0.001	−0.002
	(0.030)	(0.030)	(0.030)
Number of children	−0.032**	−0.032**	−0.032**
	(0.011)	(0.011)	(0.011)
Number of siblings	−0.068***	−0.067***	−0.067***
	(0.007)	(0.007)	(0.007)
(Primary education)			
Secondary education	0.145***	0.143***	0.596***
	(0.036)	(0.036)	(0.112)
High education	0.317***	0.318***	0.943***
	(0.036)	(0.036)	(0.106)
Employed	0.024	0.023	0.036
	(0.028)	(0.028)	(0.028)
Religiosity	0.026**	0.027**	0.029**
	(0.009)	(0.009)	(0.009)
Familistic attitudes	0.115***	0.117***	0.119***
	(0.013)	(0.013)	(0.013)
Proximity (travel time)	−0.128***	−0.128***	−0.127***
	(0.006)	(0.006)	(0.006)
Country level			
GNP per capita (ln)	–	0.079	0.021
		(0.195)	(0.193)
Mobile subscriptions	–	0.010*	0.015***

Variables	(Model 1)	(Model 2)	(Model 3)
		(0.004)	(0.004)
Cross-level interactions			
Female × Mobile sub.	–	–	0.006***
			(0.001)
Age 15–24 × Mobile sub.	–	–	0.004*
			(0.002)
Age 25–34 × Mobile sub.	–	–	−0.002
			(0.001)
Age 45–54 × Mobile sub.	–	–	0.000
			(0.000)
Age 55+ × Mobile sub.	–	–	−0.003*
			(0.002)
Secondary educ. × Mobile sub.	–	–	−0.007***
			(0.002)
High educ. × Mobile sub.	–	–	−0.010***
			(0.002)
Constant	3.707***	2.300	2.543
	(0.113)	(1.786)	(1.762)
St. deviation (individual)	1.400***	1.400***	1.396***
	(0.009)	(0.009)	(0.009)
St. deviation (country)	0.411***	0.311***	0.306***
	(0.061)	(0.047)	(0.046)
Rho	0.079	0.047	0.046
LR-chi 2	1226	1239	1318
Df	14	16	23
Log Likelihood	−21662	−21656	−21616

*** p<0.001,

** p<0.01,

* p<0.05. Standard errors in parentheses.