

**The value of mixed method longitudinal panel studies in ICT research:
Transitions in and out of 'ICT poverty' as a case in point.**

Dr Ben Anderson (benander@essex.ac.uk)

Deputy Director, Chimera, University of Essex

PP1, Ross Building

Adastral Park

Ipswich, Suffolk, IP5 3RE

www.essex.ac.uk/chimera/

Paper submitted to:

Information, Communication & Society

(iCS, Routledge)

Figures

Figure 1: Cross-sectional measures of poverty	2
Figure 2: Longitudinal measures of poverty	2
Figure 3: Penetration of household internet access and personal mobile telephone ownership in the UK 1998-2001. Source = Home OnLine data, % of individuals in each age group (w1,2,3, weighted)	4
Figure 4: Transitions in household Internet access in the UK 1998-2001. Source = Home OnLine waves 1-3, longitudinal sample only, unweighted.....	5
Figure 5: Transitions in the personal ownership of mobiles in the UK 1998-2001. Source = Home OnLine waves 1-3, longitudinal sample only, unweighted.	6
Figure 6: Proportion of age groups who were persistently ICT poor and who were ICT dropouts over three waves of the Home On-Line panel survey. Unweighted, age at wave one (1999).....	7

Tables

Table 1: Home On-Line - Final sample size of individuals, including children.....	3
Table 2: Home On-Line - Number of waves interviewed and number of waves for which a diary was completed	3
Table 3: Persistent 'ICT poverty' results – models 1.1 and 1.2.....	8
Table 4: 'Dropout results – models 2.1 and 2.2.....	9

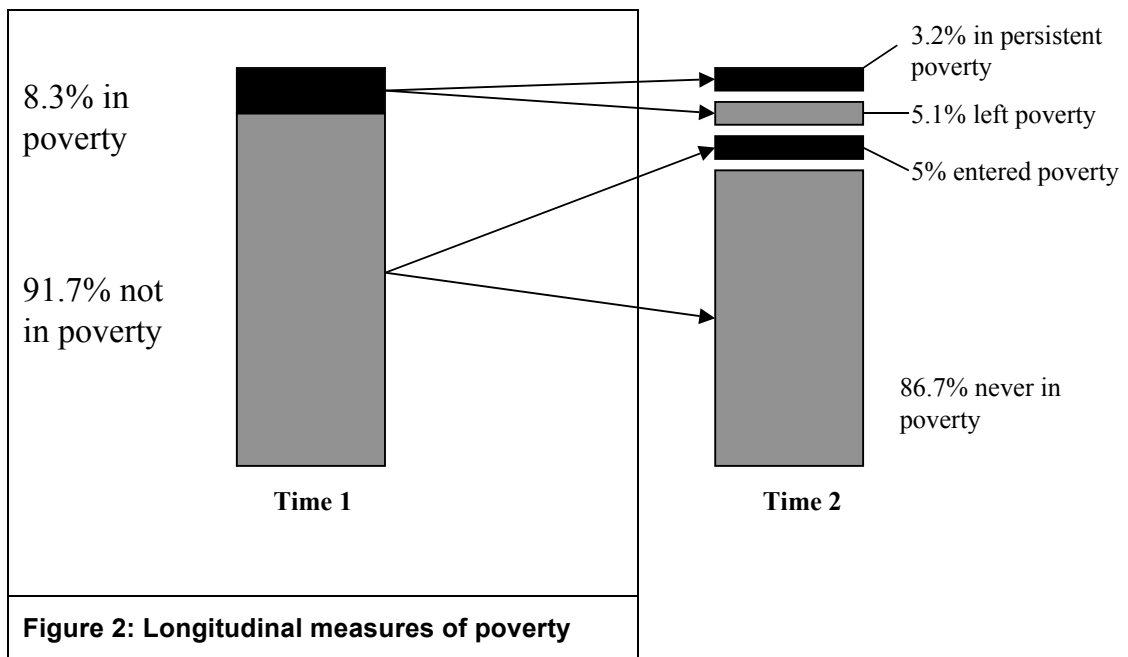
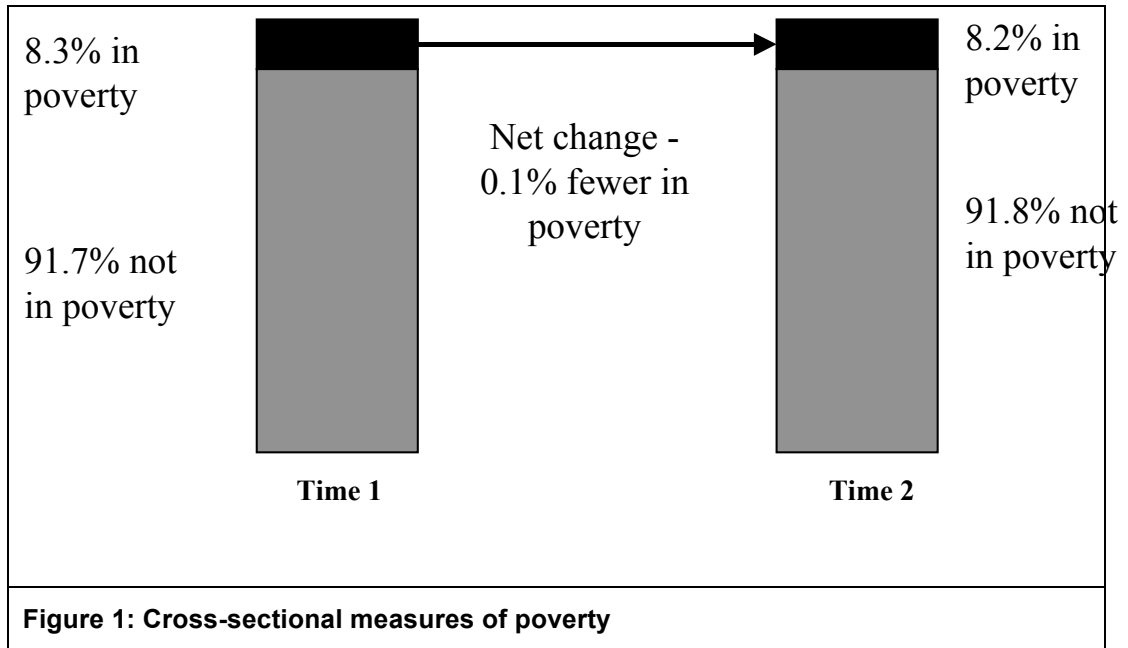
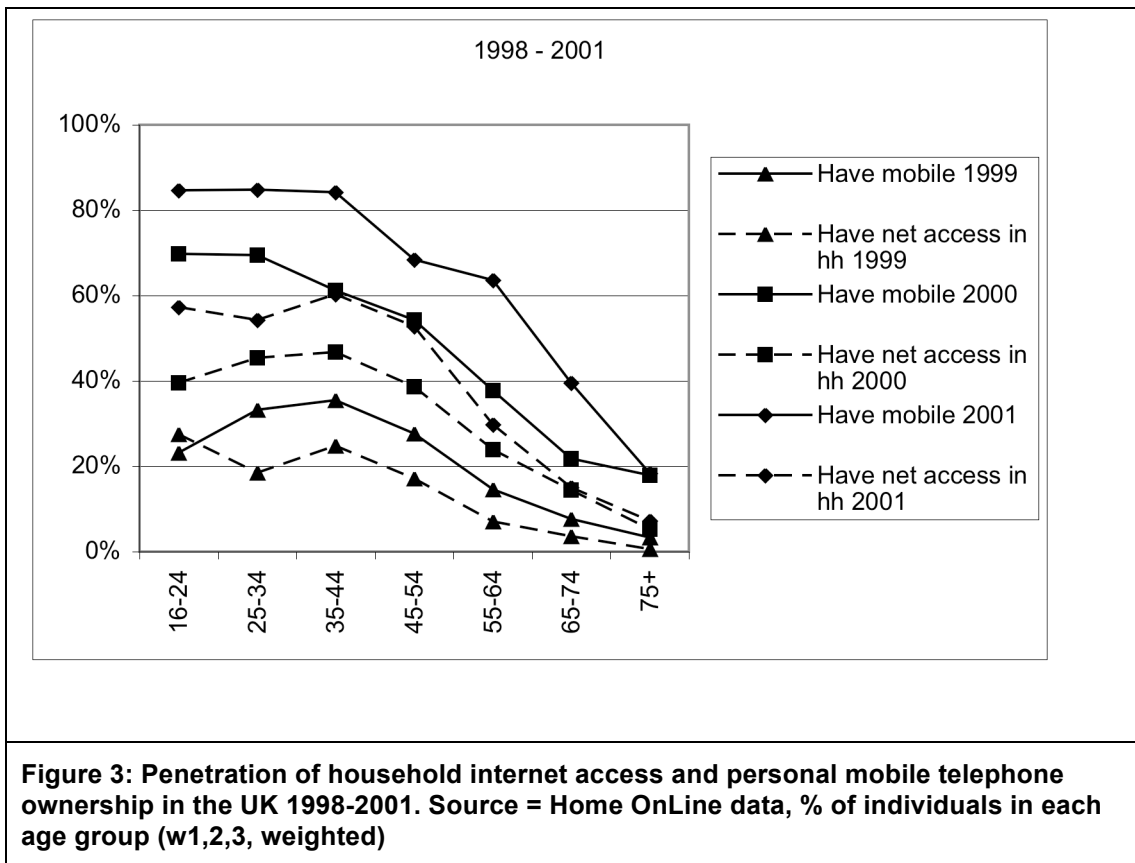


Table 1: Home On-Line - Final sample size of individuals, including children

	Wave 1 - 1998	Wave 2 - 2000	Wave 3 - 2001
Undefined		6	10
Survey plus diary	1093	649	723
Survey only	668	918	840
<u>16+ survey total</u>	<u>1761</u>	<u>1567</u>	<u>1563</u>
Non-response	273	391	321
Children's diary	163	82	73
No children's diary	125	220	208
Child under 9	286	289	231
Total sample size	2608	2555	2406

Table 2: Home On-Line - Number of waves interviewed and number of waves for which a diary was completed

	Interviews	Diaries
(Always a child)	(697)	(697)
Never	462	1415
Wave 1 only	511	480
Wave 2 only	136	106
Wave 3 only	197	214
Waves 1 and 2	224	172
Waves 2 and 3	365	68
Waves 1 and 3	159	138
Waves 1, 2 and 3	842	303
Total sample	3593	3593



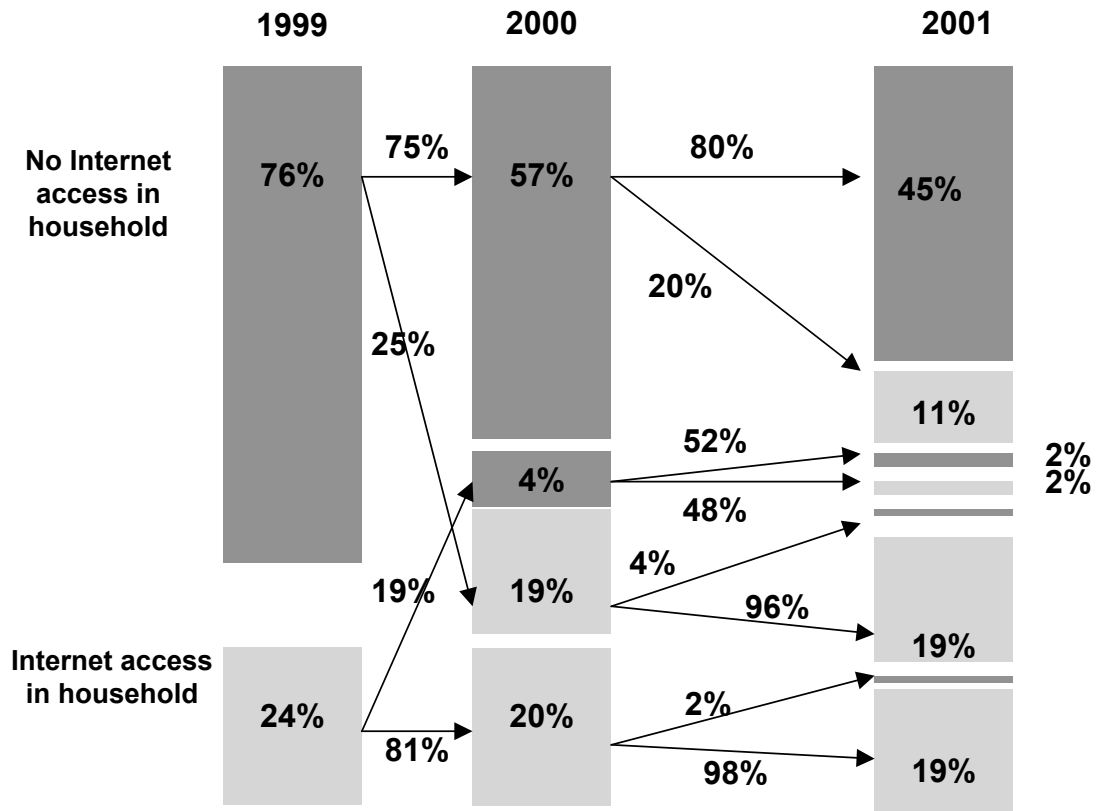


Figure 4: Transitions in household Internet access in the UK 1998-2001. Source = Home OnLine waves 1-3, longitudinal sample only, unweighted.

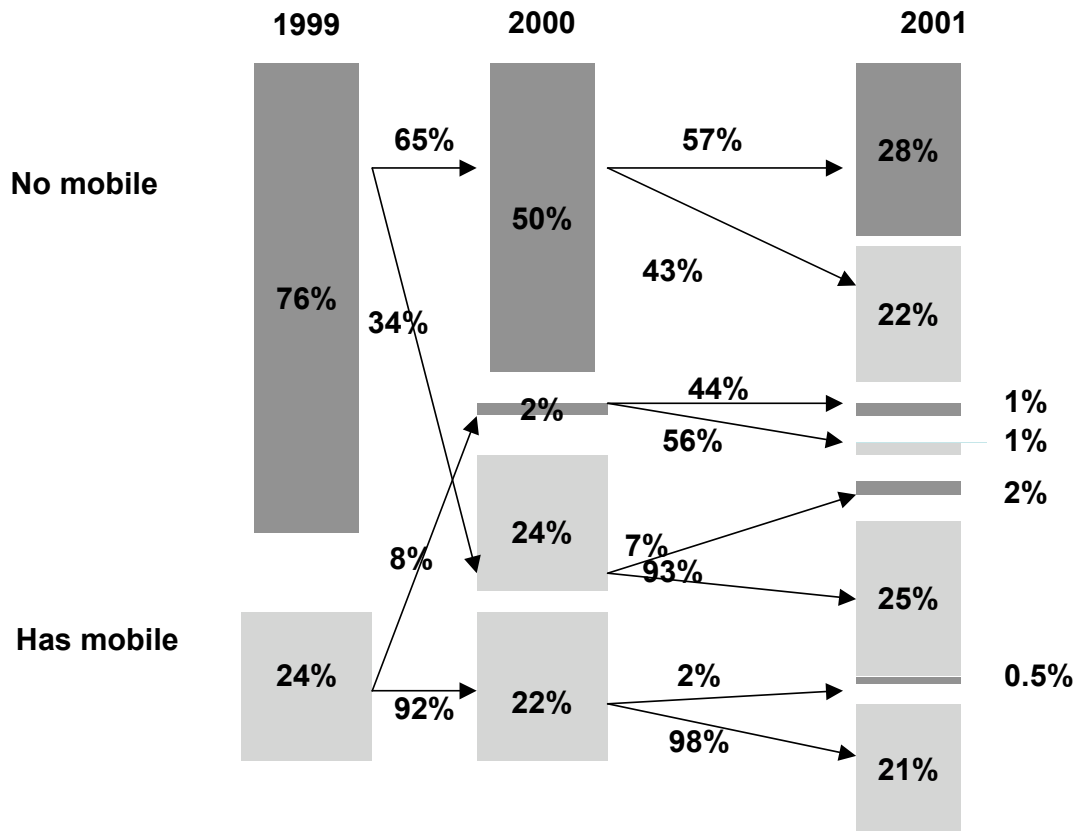


Figure 5: Transitions in the personal ownership of mobiles in the UK 1998-2001. Source = Home OnLine waves 1-3, longitudinal sample only, unweighted.

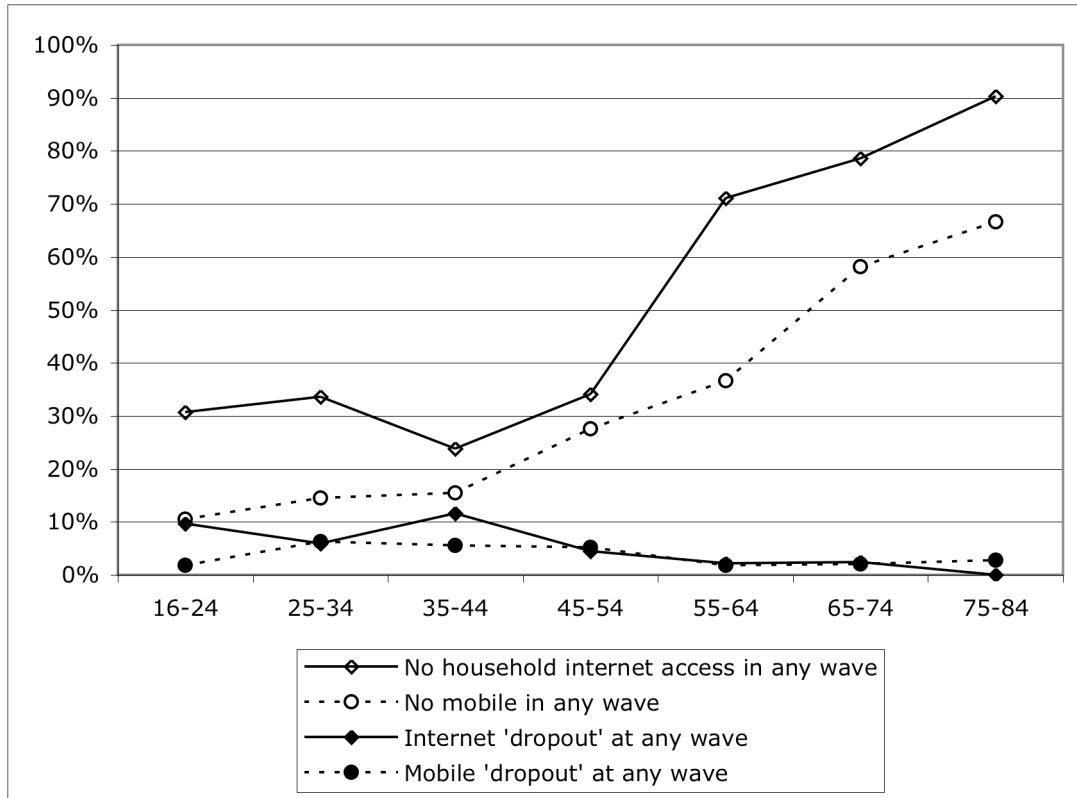


Figure 6: Proportion of age groups who were persistently ICT poor and who were ICT dropouts over three waves of the Home On-Line panel survey. Unweighted, age at wave one (1999).

Table 3: Persistent 'ICT poverty' results – models 1.1 and 1.2

Variable (contrast)	Model 1		1.2 Persistent Mobile Poverty	
	1.1 Persistent Internet Poverty		B	Exp (B)
	B	Exp (B)	B	Exp (B)
Household level variables at wave one				
<u>Household type (alone under 56)</u>				
Alone over 55	2.124*	8.364*	1.494	4.455
Unrelated others	-3.812	0.022	-1.522	0.218
Lone parent, children < 16	2.155*	8.625*	0.671	1.957
Lone parent, child >15	2.563**	12.973**	0.903	2.467
Couple, household 'head' < 36, no child	-0.221	0.802	1.967*	7.146*
Couple, household 'head' < 56, no child	0.995	2.705	0.556	1.744
Couple, respondent > 55, no child	1.989*	7.310*	1.759*	5.805*
Couple, all children < 12	1.186	3.273	1.596	4.934
Couple, at least one child > 11	0.312	1.366	1.683	5.380
Couple, at least one child > 15	2.685**	14.659**	1.603	4.970
<u>Number of cars in home</u>	-	0.432***	-	0.479***
<u>Number of people in home</u>	-0.175	0.840	-0.112	0.894
<u>Household phone bill</u>	-0.003*	0.997*	0.002	1.002
Individual level variables at wave one				
<u>Gender (female)</u>	0.698*	2.011*	0.557	1.746
<u>Age (16-24)</u>				
25-34	0.463	1.589	0.440	1.552
35-44	0.146	1.157	0.678	1.971
45-54	-0.649	0.523	1.954*	7.058*
55-64	0.748	2.112	0.910	2.485
65-74	0.069	1.071	0.900	2.461
75+	1.242	3.463	1.945	6.993
<u>Education (Degree)</u>				
A level or equiv	0.628	1.874	0.433	1.541
GCSE or equiv	0.836*	2.306*	0.559	1.749
Failed GCSE	1.710*	5.531*	0.660	1.935
None	1.490**	4.436***	0.902*	2.464*
<u>Working status (working)</u>				
unemployed	0.586	1.797	-0.786	0.456
retired	-0.240	0.787	0.778	2.178
maternity leave	-6.179	0.002	1.604	4.971
looking after family/home	-0.449	0.638	0.098	1.103
full time student/school	-1.833*	0.160*	0.823	2.278
long term sick/disabled	0.895	2.446	0.927	2.527
other	-1.425	0.241	-0.244	0.783
<u>Negative PC attitudes score</u>	0.168***	1.184***		
<u>Size of local social network</u>	0.002	1.002	0.002	1.002
<u>Size of non-local social network</u>	-0.002	0.998	-0.004	0.996
<u>Freq. calling local social net</u>			-0.103	0.902
<u>Freq. Calling non-local social net</u>			0.006	1.006
<u>'Enjoy speaking on phone' (1-5)</u>			0.180	1.198
<u>Phone is essential for keeping in touch' (1-5)</u>			0.086	1.089
<u>Careful of cost' (1-5)</u>			0.088	1.092
<u>Could spend hours using phone' (1-5)</u>			-0.070	0.932
<u>Only use phone when I need to' (1-5)</u>			-0.316*	0.729*
<u>Constant</u>	-0.030	.971	-1.102	0.332
n	482		503	
Nag. R sq	0.533		0.300	

Notes: * = p < 0.05, ** = p < 0.01, *** = p < 0.001

Table 4: 'Dropout results – models 2.1 and 2.2

	Variable (contrast)	Model 2				
		2.1 Internet Dropout		2.2 Mobile Dropout		
		B	Exp (B)	B	Exp (B)	
Household level variables at t1 (before dropping out)	<u>Household type (alone under 56)</u>					
	Alone over 55	-10.201	0.000	-1.527	0.217	
	Unrelated others	-9.007	0.000	-2.205	0.110	
	Lone parent, children < 16	0.472	1.603	-2.663	0.070	
	Lone parent, child >15	-1.099	0.333	8.632	5609.321	
	Couple, household 'head' < 36, no child	-1.194	0.303	-1.960	0.141	
	Couple, household 'head' < 56, no child	-1.722	0.179	6.526	682.733	
	Couple, respondent > 55, no child	-4.939	0.007	6.704	815.504	
	Couple, all children < 12	0.230	1.258	7.224	1372.409	
	Couple, at least one child > 11	1.757	5.792	7.556	1912.299	
	Couple, at least one child > 15	-2.867	0.057			
	<u>Number of cars in home</u>	1.066	2.904	-.595	.552	
	<u>Number of people in home</u>	-0.484	0.616	.786	2.195	
	<u>Household phone bill</u>	-0.028	0.972			
Individual level variables at t1	<u>Gender (female)</u>	0.481	1.617	1.467*	4.337*	
	<u>Age (16-24)</u>					
	25-34	-5.452**	0.004**	-.487	.614	
	35-44	-3.630**	0.027**	-2.048	.129	
	45-54	-5.454**	0.004**	-.720	.487	
	55-64	-3.563	0.028	-1.453	.234	
	65-74	-3.370	0.034	7.924	2763.094	
	75+	-9.999	0.000	-1.902	.149	
		<u>Education (Degree)</u>				
	A level or equiv	0.021	1.022	-1.644	.193	
	GCSE or equiv	-0.696	0.498	-.603	.547	
	Failed GCSE	-13.898	0.000	-.190	.827	
	None	-2.500	0.082	.557	1.745	
		<u>Working status (working)</u>				
	unemployed	-0.113	0.893	-7.219	.001	
	retired	2.522	12.447	-7.230	.001	
	maternity leave	-4.342	0.013			
	looking after family/home	-0.011	0.989	.399	1.491	
	full time student/school	-1.333	0.264	-9.715	.000	
	long term sick/disabled	-7.137	0.001	-6.395	.002	
	Government training scheme	10.193	26708.357			
	Other	-0.113	0.050			
		<u>Personal internet experience (2+ years)</u>				
	Not a user	7.215***	1359.343***			
	Under 6 months	2.407*	11.104*			
	6 months to 2 years	0.695	2.003			
		<u>PC attitudes score</u>	0.019	1.019		
		<u>Number mobile calls made</u>			-.226	.798
		<u>Size of local social network</u>			-.002	.998
		<u>Size of non-local social network</u>			-.005	.995
	<u>Freq. calling local social net</u>			-.177	.838	
	<u>Freq. Calling non-local social net</u>			.515	1.674	
	<u>'Enjoy speaking on phone' (1-5)</u>			-.384	.681	
	<u>Phone is essential for keeping in touch' (1-5)</u>			-.366	.694	
	<u>Careful of cost' (1-5)</u>			.532	1.702	
	<u>Could spend hours using phone' (1-5)</u>			.531	1.701	
	<u>Only use phone when I need to' (1-5)</u>			-.439	.645	
Transition variables t1-t2	<u>Employment transition (all others include none)</u>					
	Retired from paid work	-4.272	0.014	-12.040	.000	
	Returned to work	-0.694	0.500	-8.110	.000	
	Started work after education	1.706	5.509	-.181	.834	
	Lost job	-11.146	0.000	-7.188	.001	
	Began maternity leave	-2.650	0.071	-7.133	.001	
	<u>Family transition (all others including none)</u>					

Household member went to University	-11.620	0.000		
Was alone, now in couple	-4.745	0.009	.423	1.526
Was couple, now alone	-6.172	0.002	-6.711	.001
<u>Lost access to a PC (1)</u>	15.224	4088333.279		
<u>Constant</u>	-.030	43.989	-5.154	.006
n	317		461	
Nag. R sq	0.741		0.381	

Notes: * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$