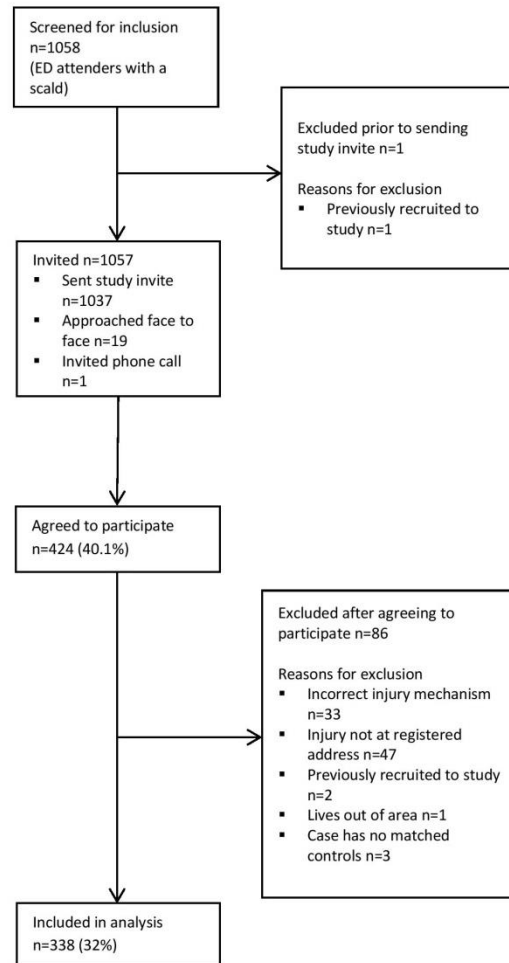


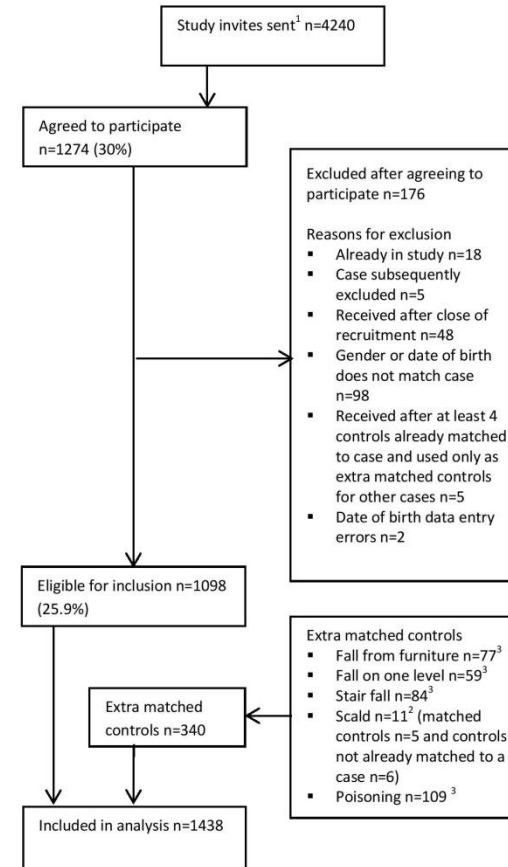
Figure 1: Selection of cases and controls and flow of participants through study

a) Recruitment of cases



ED = emergency department

b) Recruitment of controls



¹ assumed to be 10x number of cases as practices were asked to invite 10 controls for each case

² controls for cases from scald study that had more than four controls and controls for scald cases that were not matched to the case, e.g. because case was excluded

³ controls for cases from the other four ongoing case control studies

Table 1. Characteristics of cases and controls

Characteristics	Cases n= 338 (%)	Controls n=1,438(%)
Study centre		
Nottingham	123 (36.4)	521 (36.2)
Bristol	112 (33.1)	490 (34.1)
Norwich	54 (16.0)	235 (16.3)
Newcastle	49 (14.5)	192 (13.4)
Median age in years (IQR)*	1.47 (1.03, 1.96)	1.56 (1.15, 2.07)
Age group:		
0-12 months	91 (26.9)	316 (22.0)
13-36 months	216 (63.9)	984 (68.4)
37-62 months	31 (9.2)	138 (9.6)
Male	183 (54.1)	808 (56.2)
Ethnic Origin: White	269 (81.8)[9]	1,295 (91.3)[19]
Children aged 0-4 years in family	[6]	[21]
1	224 (67.5)	883 (62.3)
2	95 (28.6)	476 (33.6)
≥3	13 (3.9)	58 (4.1)
First child	140 (44.4) [23]	581 (43.8) [111]
Maternal age ≤ 19 at birth of first child**	43 (14.6) [3]	156 (11.8) [9]
Single adult household	52 (15.9) [10]	171 (12.2) [34]
Median weekly hours out of home child care (IQR)	5.5 (0, 18) [32]	12 (0, 24) [77]
Adults in paid work	[6]	[19]
≥ 2	150 (45.2)	802 (56.5)
1	129 (38.9)	433 (30.5)
0	53 (16.0)	184 (13.0)
Receives state benefits	151 (46.0) [10]	491 (35.0) [35]
Overcrowding >1 person per room	47 (15.2) [28]	116 (8.6) [83]
Non owner occupier	164 (49.6) [7]	521 (37.1) [33]
Household has no car	55 (16.5) [5]	174 (12.3) [18]
Median IMD score (IQR)	20.6 (10.1, 35.6)	15.7 (9.5, 28.8) [18]
Median distance (km) from hospital (IQR)	3.9 (2.1, 8.1)	4.6 (2.6, 10.3) [16]
Mean CBQ score (SD)	4.7 (4.0, 5.3) [18]	4.6 (4.1, 5.2) [155]
Long term health condition	22 (6.6) [7]	77 (5.4) [13]
Child health visual analogue scale (range 0-10) (median (IQR))	9.9 (9.2, 10) [4]	9.6 (8.3, 10) [4]
Median Health related quality of life (PEDSQL) (IQR)***	n=79 [3] 94.8 (88.2, 98.8)	n=401 [3] 89.3(88.1, 94.1)
Parental assessment of child's ability to reach hot liquids	[6]	[12]
All scenarios 'not likely'	24 (7.2)	80 (5.6)
≥ 1 scenario 'quite likely' and none 'very likely'	47 (14.2)	165 (11.6)
≥ 1 scenario 'very likely'	261 (78.6)	1,181 (82.8)
Median parenting daily hassles tasks subscale (IQR)****	13 (10.0, 16.0) [34]	14 (11.0, 18.0) [99]
Mean hospital anxiety and depression scale (SD)****	9 (6.0, 13.0) [11]	10 (6.0, 14.0) [20]

(percentage, unless stated otherwise) [missing values]. Percentages may add up to more than 100 due to rounding. * age when questionnaire completed. **only applicable where mothers completed questionnaire. . *** missing values refer to those with ≥ 50% items on any scale missing. **** missing values refer to those with more than one item missing. IMD: higher score indicates greater deprivation. CBQ: higher score indicates more active and more intense behaviour. PDH: higher score indicates more hassle. HADS: higher score indicates greater symptoms of anxiety/depression. Child health visual analogue scale: higher score indicates better health. PedsQL: higher score indicates better quality of life

Table 2. Sensitivity, specificity and predictive values for self-reported exposures compared to observed exposures for cases and controls

Exposure		Reported and observed	Reported not observed	Not reported but observed	Not reported or observed	Sensitivity (95%CI)	Specificity (95%CI)	PPV (95%CI)	NPV (95%CI)	Kappa value (95%CI)	χ ² (p)
Has cordless kettle or curly flex	Cases [2]	66	0	11	2	85.7 (75.9, 92.6)	100 (15.8, 100)	100 (94.6, 100)	15.4 (1.9, 45.4)	0.23 (-0.04, 0.50)	1.59 (0.21)
	Controls [0]	62	1	17	1	78.5 (67.8, 86.9)	50.0 (1.3, 98.7)	98.4 (91.5, 100)	5.6 (0.1, 27.3)	0.06 (-0.10, 0.22)	
Kettle kept at back of kitchen surface	Cases [0]	62	11	5	3	92.5 (83.4, 97.5)	21.4 (4.7, 50.8)	84.9 (74.6, 92.2)	37.5 (8.5, 75.5)	0.17 (-0.09, 0.43)	3.54 (0.06)
	Controls [1]	52	12	2	14	96.3 (87.3, 99.5)	53.8 (33.4, 73.4)	81.3 (69.5, 89.9)	87.5 (61.7, 98.4)	0.56 (0.36, 0.75)	
Safety gate across kitchen doorway*	Cases [0]	11	11	4	55	73.3 (44.9, 92.2)	83.3 (72.1, 91.4)	50.0 (28.2, 71.8)	93.2 (83.5, 98.1)	0.48 (0.26, 0.70)	0.62 (0.43)
	Controls [0]	16	8	3	54	84.2 (60.4, 96.6)	87.1 (76.1, 94.3)	66.7 (44.7, 84.4)	94.7 (85.4, 98.9)	0.65 (0.47, 0.84)	
Has stair gate at top of stairs*	cases [1]	34	9	5	28	87.2 (72.6, 95.7)	75.7 (58.8, 88.2)	79.1 (64.0, 90.0)	84.8 (68.1, 94.9)	0.63 (0.46, 0.80)	0.14 (0.71)
	controls [2]	41	8	3	20	93.2 (81.3, 98.6)	71.4 (51.3, 86.8)	83.7 (70.3, 92.7)	87.0 (66.4, 97.2)	0.67 (0.49, 0.85)	
Has stair gate at bottom of stairs*	cases [1]	25	7	3	41	89.3 (71.8, 97.7)	85.4 (72.2, 93.9)	78.1 (60.0, 90.7)	93.2 (81.3, 98.6)	0.73 (0.57, 0.88)	0.00 (0.95)
	controls [5]	29	8	2	30	93.5 (78.6, 99.2)	78.9 (62.7, 90.4)	78.4 (61.8, 90.2)	93.8 (79.2, 99.2)	0.71 (0.55, 0.88)	
Has other safety gates in the house*	cases [0]	9	1	11	56	45.0 (23.1, 68.5)	98.2 (90.6, 100)	90.0 (55.5, 99.7)	83.6 (72.5, 91.5)	0.52 (0.29, 0.74)	1.49 (0.22)
	controls [0]	15	3	22	34	40.5 (24.8, 57.9)	91.9 (78.1, 98.3)	83.3 (58.6, 96.4)	60.7 (46.8, 73.5)	0.32 (0.14, 0.51)	

[missing values] * Responses for these questions were combined in the case-control study analysis into 'has any safety gates'.

χ² test for homogeneity. PPV = positive predictive value, NPV= negative predictive value.

Sensitivity = exposure reported and observed /total observed to have exposure. Specificity = exposure not reported and not observed /total not observed to have exposure

PPV = exposure reported and observed /total who reported exposure. NPV = exposure not reported and not observed /total not reporting exposure.

Table 3. Frequency of exposures in cases and controls and unadjusted and adjusted odds ratios

Exposures	Category	Cases (n=338)	Controls (n=1,438)	Complete case analysis† Adjusted OR (95% CI)	Multiple imputation analysis Adjusted OR (95% CI)	Confounders adjusted for^f
Used safety gates*	Yes No	230 (73.7) 82 (26.3) [26]	1131 (82.4) 242 (17.6) [65]	1.00 1.46 (0.98 to 2.16)	1.00 1.69 (1.21 to 2.34)	HADS, PDH, ability to climb, first child, hours out of home care
Had things child could climb on to reach high surfaces*	No Yes	216 (65.3) 115 (34.7) [7]	957 (66.8) 475 (33.2) [6]	1.00 1.24 (0.89 to 1.72)	1.00 1.24 (0.93 to 1.66)	HADS, PDH, ability to climb, safety gate
Had curly flex or cordless kettle*	Yes No	232 (70.7) 96 (29.3) [10]	996 (70.5) 417 (29.5) [25]	1.00 0.93 (0.65 to 1.33)	1.00 0.89 (0.67 to 1.18)	HADS, PDH, ability to climb, first child, hours out of home care, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Kettle was at back of work top/table or back ring of cooker*	Yes No	285 (87.4) 41 (12.6) [12]	1,286 (90.5) 135 (9.50) [17]	1.00 1.20 (0.67 to 2.15)	1.00 1.28 (0.86 to 1.92)	HADS, PDH, ability to climb, first child, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Hot tap water was too hot*	No Yes	56 (17.2) 270 (82.8) [12]	171 (12.0) 1249 (88.0) [18]	1.00 0.96 (0.57 to 1.64)	1.00 0.76 (0.54 to 1.08)	HADS, PDH, ability to climb, first child, bath access
Temperature of hot tap water was over 54°C*	No Yes or not known	37 (11.4) 289 (88.6) [12]	205 (14.5) 1212 (85.5) [21]	1.00 0.99 (0.57 to 1.70)	1.00 1.39 (0.95 to 2.05)	HADS, PDH, ability to climb, first child, bath access
Child climbed or played on furniture**	No Yes	80 (25.6) 233 (74.4) [7] {18}	264 (19.4) 1098 (80.6) [6] {70}	1.00 0.62 (0.40 to 0.96)	1.00 0.73 (0.50 to 1.05)	HADS, PDH, ability to climb, safety gate
Child had been held by someone holding a hot drink**	No Yes	227 (71.8) 89 (28.2) [7] {15}	987 (71.4) 395 (28.6) [6] {50}	1.00 0.83 (0.57 to 1.21)	1.00 1.05 (0.78 to 1.42)	HADS, PDH, ability to climb, first child, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Child had been held by	No	243 (75.9)	1,031 (74.3)	1.00	1.00	HADS, PDH, ability to climb, first child, safety

someone whilst using the cooker**	Yes	77 (24.1) [7] {11}	357 (25.7) [6]{44}	0.97 (0.67 to 1.41)	1.03 (0.76 to 1.40)	gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Hot drinks had been passed over child's head**	No Yes	283 (87.1) 42 (12.9) [6] {7}	1,254 (89.5) 147 (10.5) [9] {28}	1.00 1.18 (0.71 to 1.98)	1.00 1.40 (0.95 to 2.07)	HADS, PDH, ability to climb, first child, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Hot drinks had been left within reach of child**	No Yes	146 (46.1) 171 (53.9) [12] {9}	871 (62.0) 534 (38.0) [12] {21}	1.00 2.33 (1.63 to 3.31)	1.00 2.42 (1.83 to 3.21)	HADS, PDH, ability to climb, first child, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Hot drinks or liquids had been put on a table with a table cloth**	No Yes	263 (82.2) 57 (17.8) [8] {10}	1,204 (87.1) 178 (12.9) [9] {47}	1.00 1.33 (0.85 to 2.08)	1.00 1.48 (1.05 to 2.10)	HADS, PDH, ability to climb, first child, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Front rings of cooker had been used**	No Yes	78 (24.8) 236 (75.2) [13] {11}	249 (17.8) 1152 (82.2) [18] {19}	1.00 0.70 (0.46 to 1.05)	1.00 0.68 (0.50 to 0.94)	HADS, PDH, ability to climb, first child, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Pan handles had been turned towards the back of the cooker whilst cooking**	Yes No	219 (67.8) 104 (32.2) [9] {6}	1,019 (72.8) 380 (27.2) [16] {23}	1.00 0.91 (0.63 to 1.32)	1.00 1.10 (0.83 to 1.46)	HADS, PDH, ability to climb, first child, safety gate, climbable objects, playing/climbing on furniture, safety rules about climbing in kitchen
Child had been left in bathroom, without adult, even for a moment**	No Yes	269 (83.0) 55 (17.0) [6]{8}	1,026 (72.8) 384 (27.2) [11]{17}	1.00 0.70 (0.48 to 1.01)	1.00 0.61 (0.44 to 0.86)	HADS, PDH, ability to climb, first child, number of adults living with child, overcrowding
Child had been left in bath, without adult, even for a moment**	No Yes	281 (87.5) 40 (12.5) [9] {8}	1,099 (77.8) 314 (22.2) [12] {13}	1.00 0.47 (0.30 to 0.75)	1.00 0.55 (0.38 to 0.80)	HADS, PDH, ability to climb, first child, number of adults living with child, overcrowding
Bath had been run for child by an older child**	No Yes	252 (94.4) 15 (5.6) [11]{60}	1,102 (94.4) 65 (5.6) [19]{252}	1.00 0.74 (0.31 to 1.82)	1.00 0.92 (0.5 to 1.68)	HADS, PDH, ability to climb, first child, number of adults living with child, overcrowding
Older child had looked after child in the bath**	No Yes	235 (89.0) 29 (11.0) [10] {64}	991 (85.8) 164 (14.2) [10] {273}	1.00 1.10 (0.63 to 1.93)	1.00 0.75 (0.48 to 1.18)	HADS, PDH, ability to climb, first child, number of adults living with child, overcrowding
Bath was run using cold water first**	Yes No	66 (21.2) 246 (78.8) [8]{18}	235 (17.3) 1125 (82.7) [22]{56}	1.00 0.85 (0.60 to 1.22)	1.00 0.88 (0.65 to 1.21)	HADS, PDH, ability to climb, first child, hot water temperature

Temperature of bathwater was checked using thermometer or other gadget**	Yes No	78 (25.5) 228 (74.5) [10]{22}	339 (24.5) 1045 (75.5) [9]{45}	1.00 1.00 (0.70 to 1.43)	1.00 1.01 (0.74 to 1.38)	HADS, PDH, ability to climb, first child, hot water temperature
Temperature of bathwater was checked using hand or elbow**	Yes No	236 (72.4) 90 (27.6) [7] {5}	1,071 (76.6) 327 (23.4) [10] {30}	1.00 1.19 (0.86 to 1.64)	1.00 1.21 (0.91 to 1.60)	HADS, PDH, ability to climb, first child, hot water temperature
Had taught child rules about things not to climb on in kitchen	Yes No	161 (50.2) 160 (49.8) [17]	797 (56.7) 609 (43.3) [32]	1.00 1.66 (1.12 to 2.47)	1.00 1.41 (1.02 to 1.93)	HADS, PDH, ability to climb, first child, safety gate
Had taught child rules about what to do or not do when parents are cooking using the top of the cooker	Yes No	154 (46.8) 175 (53.2) [9]	775 (54.9) 636 (45.1) [27]	1.00 1.95 (1.33 to 2.85)	1.00 1.68 (1.21 to 2.32)	, HADS, PDH, ability to climb, first child, safety gate
Had taught child rules about hot things in the kitchen	Yes No	143 (44.1) 181 (55.9) [14]	751 (53.4) 655 (46.6) [32]	1.00 1.89 (1.30 to 2.75)	1.00 1.61 (1.18 to 2.19)	HADS, PDH, ability to climb, first child, safety gate
Had taught child rules about what to do or not do when in the bathtub	Yes No	178 (55.8) 141 (44.2) [19]	928 (66.3) 471 (33.7) [39]	1.00 1.42 (0.85 to 2.37)	1.00 1.84 (1.32 to 2.58)	HADS, PDH, ability to climb, first child, safety gate, bath access, hot water temperature, bath run with cold first, bath temperature checked
Safety practices measured only in children aged 0-36 months		Cases (n=307)	Controls (n=1300)	Complete case analysis Adjusted OR (95% CI)	Multiple imputation analysis Adjusted OR (95% CI)	
Used a baby walker*	No Yes	219 (73) 81 (27.0) [7]	839 (65.3) 446 (34.7) [15]	1.00 0.74 (0.52 to 1.03)	1.00 0.69 (0.52 to 0.93)	HADS, PDH, ability to climb, first child, hours out of home care
Used a playpen or travel cot*	Yes No	47 (15.7) 252 (84.3) [8]	224 (17.5) 1060 (82.5) [16]	1.00 1.33 (0.86 to 2.06)	1.00 1.22 (0.84 to 1.75)	HADS, PDH, ability to climb, first child, hours out of home care, baby walker
Used a stationary activity centre*	Yes No	54 (18.0) 246 (82.0) [7]	334 (26.0) 951 (74.0) [15]	1.00 1.22 (0.83 to 1.79)	1.00 1.45 (1.03 to 2.04)	HADS, PDH, ability to climb, first child, hours out of home care, baby walker

[missing values] {not applicable responses} Percentages may not add up to 100% due to rounding. * in the last 24 hours ** at least some days in the last week. †Complete case analysis includes single imputed values for PedsQL, Hospital anxiety and depression scale, Parenting daily hassles scale as described in methods. All adjusted models adjusted for index of Multiple

Deprivation and distance from hospital in addition to listed confounders which comprised the minimal adjustment set identified from directed acyclic graphs.. CBQ = Child behaviour questionnaire, PDH = Parenting daily hassles scale. HADS= Hospital anxiety and depression scale.

Table 4. Comparison between complete case analysis and analysis using multiple imputation where significant interactions were found in the complete case analysis

Exposure	Complete case analysis [†]			Multiple imputation analysis			Test for interaction
	Adjusted odds ratios (95% CI) by number of adults in paid work			Adjusted odds ratios (95% CI) by number of adults in paid work			
	Two or more	One	None	Two or more	One	None	
Child not taught rules about what to do or not do when in the bathtub	2.81 (1.43 to 5.53)	0.61 (0.28 to 1.32)	1.12 (0.37 to 3.39)	2.94 (1.90 to 4.54)	1.12 (0.68 to 1.85)	1.35 (0.67 to 2.70)	P _{CC} =0.0006 P _{MI} =0.004
	Adjusted odds ratios (95% CI) by number of adults living with child		Adjusted odds ratios (95% CI) by number of adults living with child				
	One adult	More than one adult	One adult	More than one adult			
Temperature of hot tap water not known or known to be over 54°C*	0.42 (0.07 to 2.72)	1.47 (0.85 to 2.56)	0.81 (0.28 to 2.33)	1.50 (0.99 to 2.27)			P _{CC} =0.009 P _{MI} =0.29
	Adjusted odds ratios (95% CI) by housing tenure		Adjusted odds ratios (95% CI) by housing tenure				
	Rented	Private	Rented	Private			
Temperature of bathwater never checked using thermometer or other gadget**	1.84 (1.03 to 3.28)	0.65 (0.42 to 1.03)	1.45 (0.90 to 2.34)	0.75 (0.50 to 1.11)			P _{CC} =0.005 P _{MI} =0.031

Adjusted for confounders as in table 3. * in the last 24 hours ** at least some days in the last week. † Complete case analysis includes single imputed values for PedsQL, Hospital anxiety and depression scale, Parenting daily hassles scale as described in methods. P_{CC}= P value from complete case analysis. P_{MI}=P value from multiple imputation analysis