

2018

Investigating the impact of the Cycling Proficiency Scheme in schools in Northern Ireland, 2017

This statistical brief was commissioned by Safe and Sustainable Transport Division, Promotion and Outreach Branch, DfI. This paper considers any changes in the attitudes of children towards road safety issues associated with cycling following the completion of the Cycling Proficiency Scheme at school.

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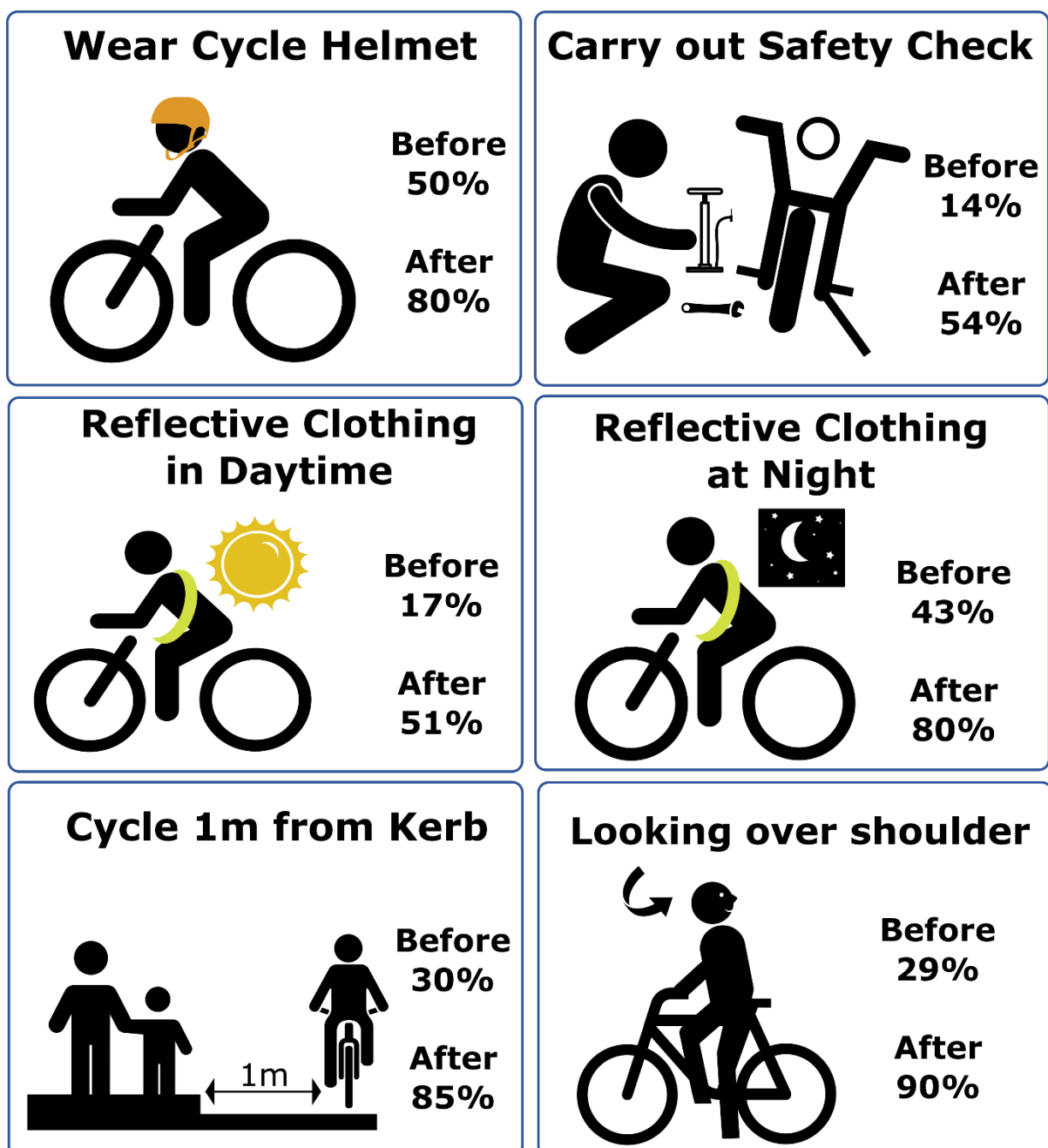


Infographics

Pupils were asked six questions about their behaviour whilst cycling before and after they completed the Cycling Proficiency Scheme (CPS). The questions were:

- Do you wear your cycle helmet every time you ride your bicycle?
- Do you carry out a safety check on your bicycle each time before you ride it?
- Do you wear something reflective and bright when riding your bike in the daytime?
- Do you wear something reflective and bright when riding your bike at night?
- When cycling do you keep about a metre away from the kerb / road side verge?
- When cycling do you look over your shoulder before signalling or moving?

The proportion who said 'yes' before and after CPS is presented in the Infographics below:

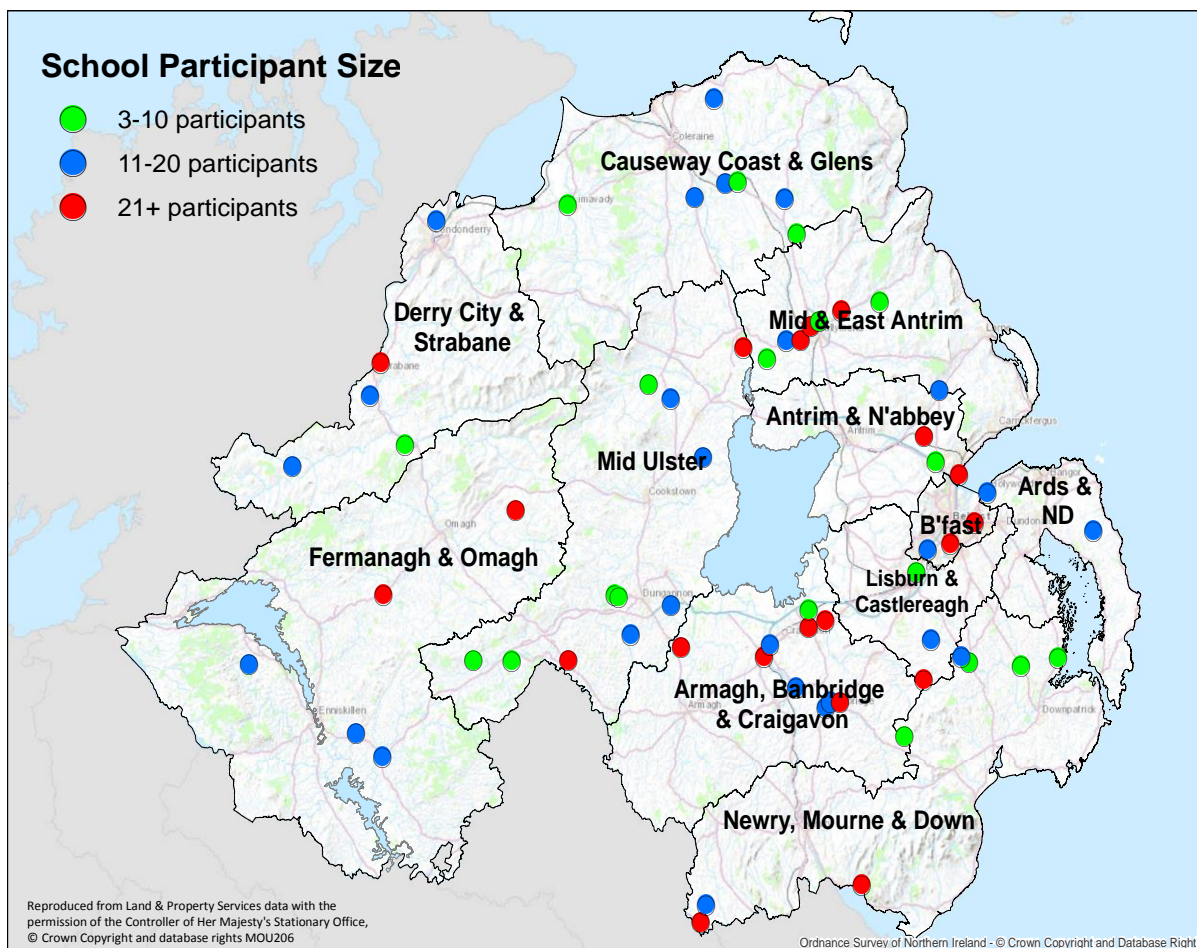


For the third consecutive year a survey of school children who took part in CPS in Northern Ireland was carried out to consider the attitudes of the children towards various aspects of road safety before and after completion of the scheme.

Participating schools

In 2017, 415 schools in Northern Ireland carried out the Cycling Proficiency Scheme; however, due to delays, only 368 participating schools were available for this analysis. Just under one-third (112) of participating schools were sampled for this survey, and of these, 65 schools responded. See Survey Methodology on page 14 for more information. Figure 1 maps the location of the schools that completed and returned the cycling proficiency survey. It is clear there is a good geographic spread throughout Northern Ireland with no areas particularly under or over represented.

Figure 1: Map of Northern Ireland plotting the participating Cycle Proficiency schools



The majority of schools who participated in the survey were located in a rural area (69%), while the remaining 31% were in urban areas (45 and 20 schools, respectively). The greatest proportion of schools (40% or 26 schools) had 11-20 participants in the scheme while 20 schools had 21 or more participants (31%) and the remaining 19 had 3-10 participants (29%). See Figure 2 overleaf.

Figure 2: Cycling Proficiency Scheme breakdown of school correspondents

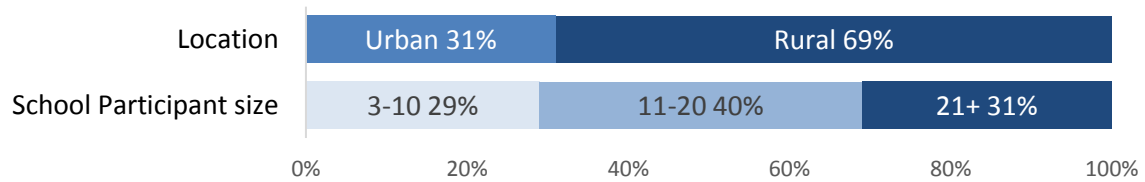
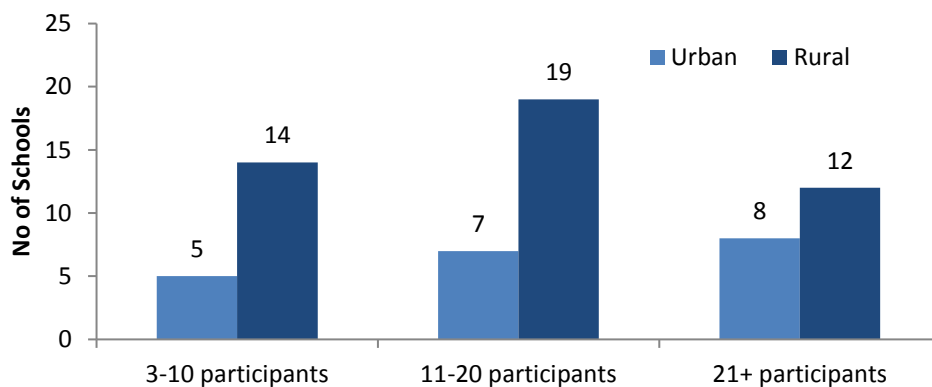


Figure 3 shows the breakdown by participant size across urban and rural schools. Rural schools had a greater representation than urban schools in all three participant group sizes with just under three-quarters of schools in both the '3-10' and '11-20' participant groups being located in rural areas. The fewest rural schools were from the '21+' participants' group; however, they still made up 60% of their total. Urban areas were more likely to have larger participant groups – of the 20 urban schools which completed the CPS Survey in 2017, eight had 21 or more participants while seven had 11-20 participants.

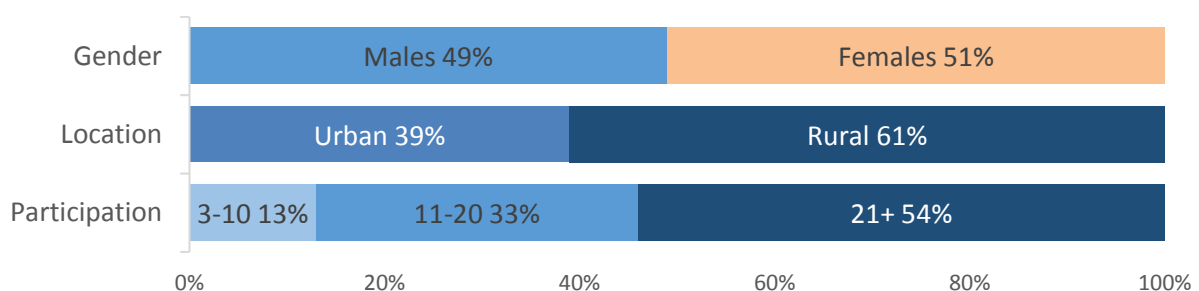
Figure 3: Schools who completed the CPS survey by participant size and urban/rural, 2017



Participating pupils

A total of 1,166 pupils from these 65 schools completed the survey (up by 476 pupils from 2016; an increase of 69%) and those responding were almost evenly split across gender with 49% male and 51% female. Furthermore 61% of these pupils were from a school in a rural area and 39% from an urban area school. Schools with 21 or more participants accounted for 54% of the total, those with 11-20 participants for a further 33% while schools with 3-10 participants made up the final 13%. See breakdown below:

Figure 4: Breakdown of pupils who responded to the survey

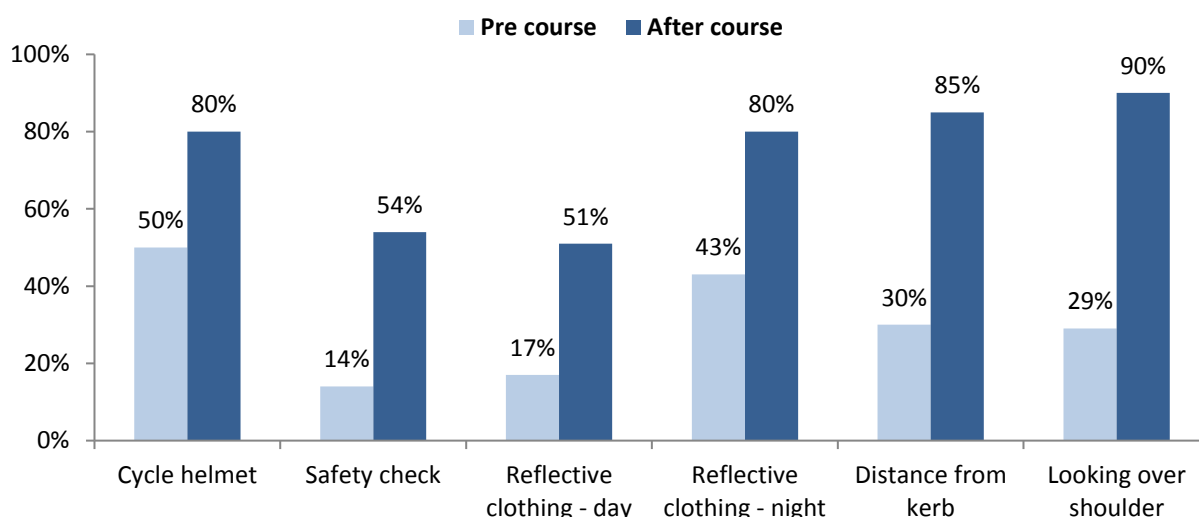


Findings

The Cycling Proficiency Scheme aims to promote cycling and safe cycling behaviours among children. The training seems to have been very effective - 97% of pupils said their knowledge of cycling safety had increased as a result of completing the cycling proficiency training. Further to this, the children reported a positive shift in all six safe cycling behaviours on completion of the course. Figure 5 below illustrates a clear increase in the proportions of pupils who answered 'yes' to each of the questions after completing the CPS.



Figure 5: Proportion of pupils who answered 'yes' to each question before and after the CPS, 2017



Key Points

- Only half the pupils responding reported wearing a cycle helmet before the course, this increased on completion of the scheme to 80%.
- The safety procedures of pupils riding their bicycle a metre away from the kerb and looking over their shoulder before signalling or moving showed the highest increases post course rising by 55% and 61% respectively.
- At the other end of the scale, those who carried out a safety check before riding a bicycle was lowest pre course with 14%.
- The lowest post course scores were for those who wore something reflective and bright during daylight hours with 51% and those who carried out a safety check with 54%.
- Girls and children from rural schools were more likely to practise some of these behaviours than boys and urban schools both prior and after completion of the CPS.
- Schools with 11-20 participants also reported that they were more likely to use some of the procedures taught in the course particularly when compared to schools with 21 or more participants.



Question 1: Cycle Helmet – Do you wear your cycle helmet every time you ride your bicycle?

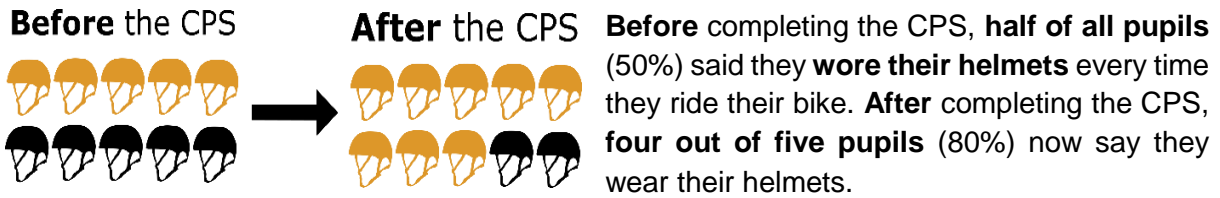


Figure 6 : Proportion of pupils who said they wore a cycle helmet by gender

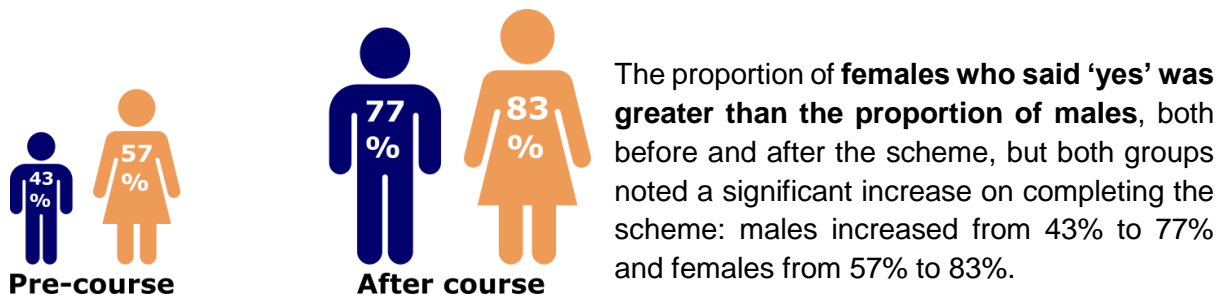


Figure 7: Proportion of pupils who said they wore a cycle helmet by location

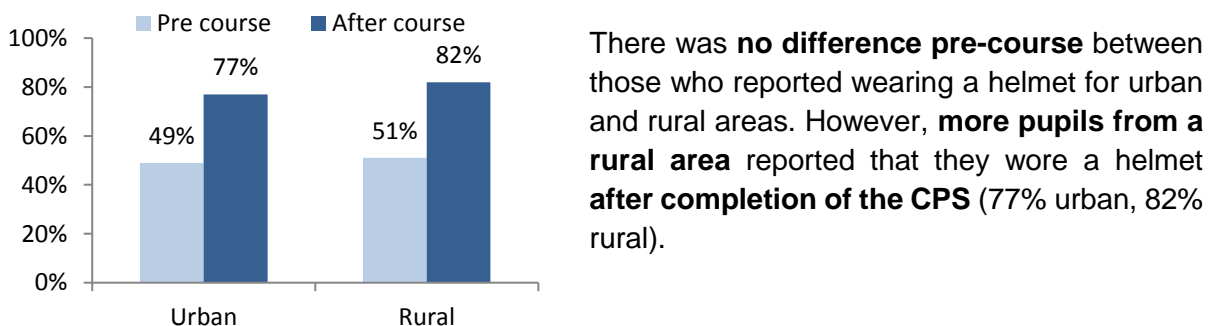
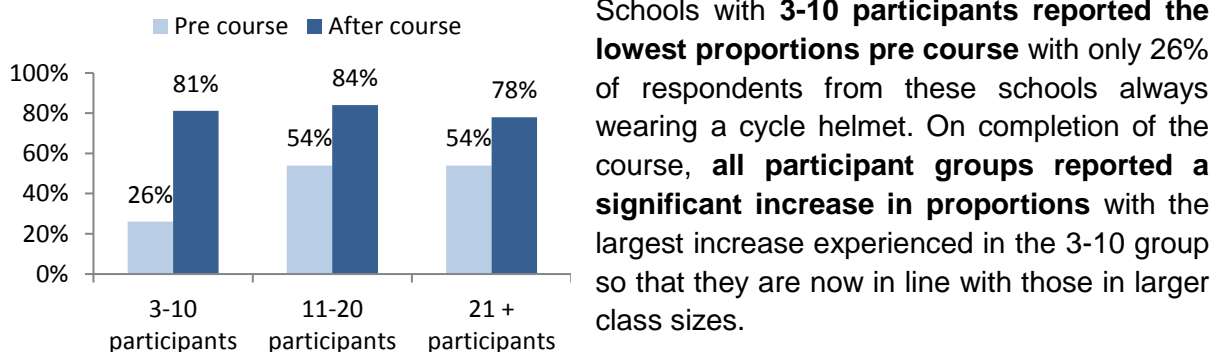


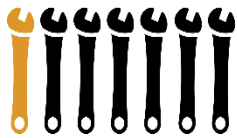
Figure 8: Proportion of pupils who said they wore a cycle helmet by the number of CPS participants in the school





Question 2: Safety Check – Do you carry out a safety check on your bicycle each time before you use it?

Before the CPS

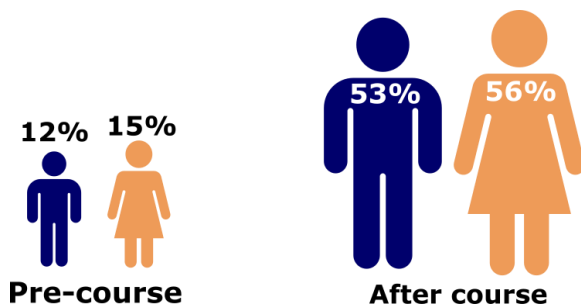


After the CPS



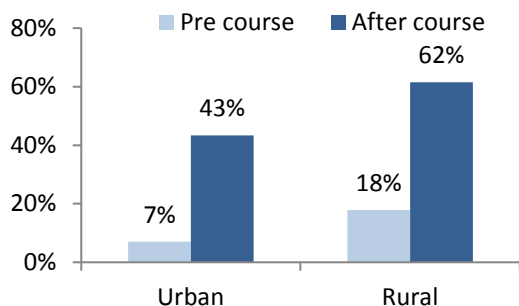
Prior to completing the CPS, only **one in seven** (14%) responded 'yes' to carrying out a safety check on their bicycle before using it; this **increased to just over half** (54%) on completion of the scheme.

Figure 9: Proportion of pupils who said they carried out a safety check by gender



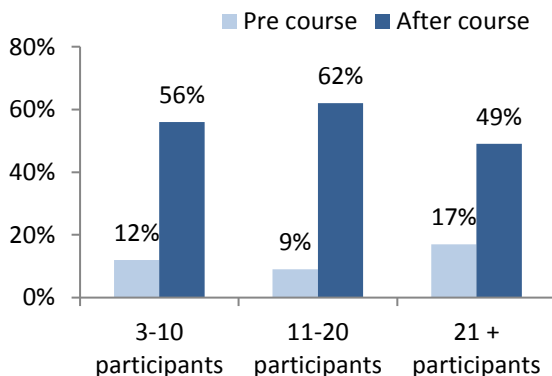
There was **no difference between the two sexes in this question**. The proportion who responded 'yes' was relatively low for both males (12%) and females (15%) before completing the CPS; these increased to 53% and 56% respectively.

Figure 10: Proportion of pupils who said they carried out a safety check by location



The proportion who responded 'yes' to this question both before (7% urban; 18% rural) and after completing the CPS (43% urban; 62% rural) was **significantly greater for those attending a school in a rural area** compared to an urban area.

Figure 11: Proportion of pupils who said they carried out a safety check by the number of CPS participants in the school

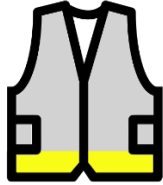


Before CPS, proportions were low across all schools (3-10 participants – 12%; 11-20 participants – 9%; and 21+ participants – 17%). Following completion of the course, those **schools with 11-20 participants reported a higher** number of pupils who answered 'yes' than those schools with 21 or more participants.



Question 3: Reflective Clothing – Do you wear something reflective and bright when riding your bike in the daytime?

Before the CPS



17%

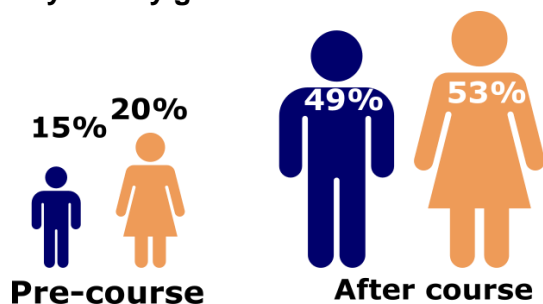
After the CPS



51%

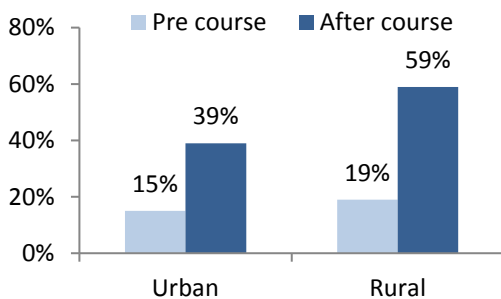
Before completing the CPS, **only 17% of pupils responded 'yes'** to wearing something reflective while riding their bike in the daytime. **This increased on completion of the scheme to 51%.**

Figure 12: Proportion of pupils who said they wore reflective clothing during the daytime by gender



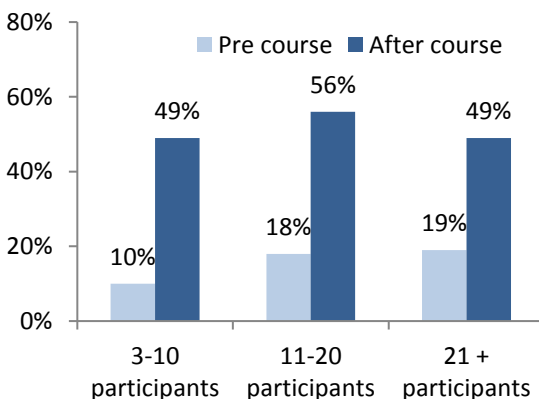
A higher proportion of females (20%) than males (15%) reported wearing reflective clothing during the day prior to CPS training. **After training there was no difference between the genders.**

Figure 13: Proportion of pupils who said they wore reflective clothing during the daytime by location



Urban and rural schools reported similar findings before completion of the scheme. However, following completion of CPS, **pupils at rural schools reported a higher rate** of wearing bright and reflective clothing during the daytime compared to urban schools.

Figure 14: Proportion of pupils who said they wore reflective clothing during the daytime by the number of CPS participants in the school



Schools with **3-10 participants reported fewer pupils pre course** who wore reflective clothing during the day than schools with a larger number of participants. **Following CPS schools with 11-20 participants reported a significantly higher number of respondents (56%)** for this question, than the 49% reported by schools with 21 or more respondents.



Question 4: Reflective Clothing – Do you wear something reflective and bright when riding your bike at night?

Before the CPS

After the CPS



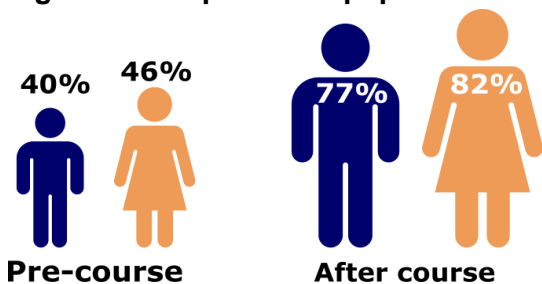
43%



80%

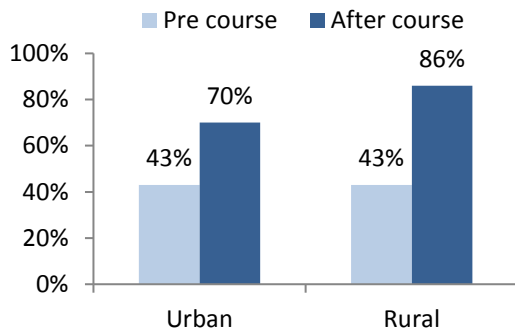
More pupils wore bright and reflective gear at night time compared to during the day. **Before training, 43% of pupils** reported they always wore something bright when cycling at night. This proportion increased **after CPS to 80%**.

Figure 15: Proportion of pupils who said they wore reflective clothing at night by gender



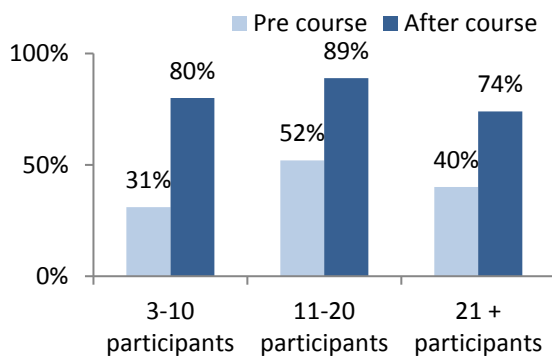
A higher proportion of females (46%) than males (40%) reported wearing reflective clothing at night prior to CPS training. This trend continued post training with more females (82%) following this road safety discipline than males (77%).

Figure 16: Proportion of pupils who said they wore reflective clothing at night by location

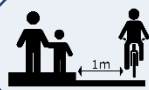


There was **no difference** in the results between urban and rural schools prior to CPS. However, following completion of the training, **pupils at rural schools reported a higher rate** of wearing bright and reflective clothing at night compared to urban schools.

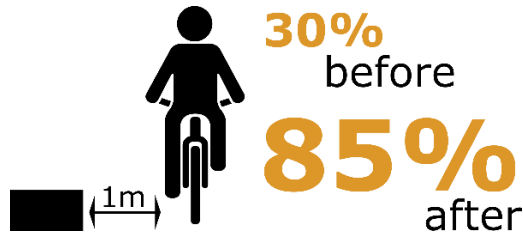
Figure 17: Proportion of pupils who said they wore reflective clothing at night by the number of CPS participants in the school



Schools with **3-10 participants reported a significantly lower pre course score** than schools with a larger number of participants. Post training, however, schools with **11-20 participants had a higher post score** than other school participant groups.

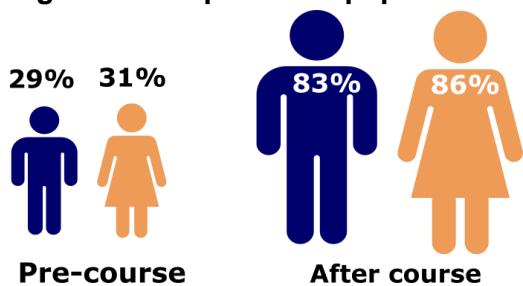


Question 5: Distance from Kerb – when cycling do you keep about a metre away from the kerb/road side verge?



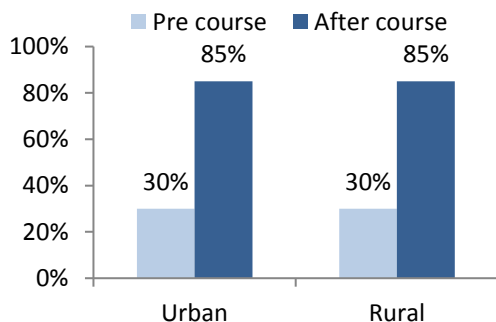
There was a significant increase in the proportion of children who responded 'yes' to this question after the CPS training. **Before training, 30% of pupils** reported always keeping away from the kerb when cycling which **increased to 85%** following the CPS.

Figure 18: Proportion of pupils who said they kept a metre away from the kerb by gender



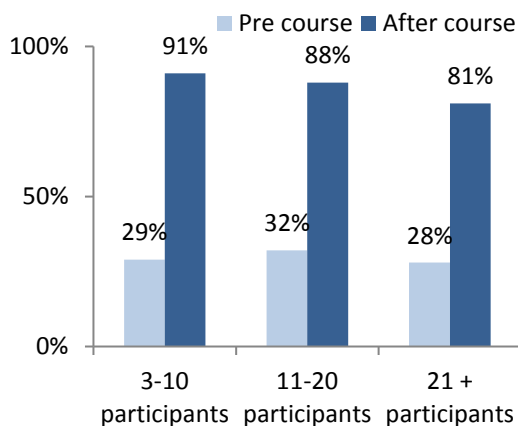
There were **no significant differences** to report between genders both pre and post CPS training regarding cycling a metre away from the kerb.

Figure 19: Proportion of pupils who said they kept a metre away from the kerb by location



The proportion of pupils who responded 'yes' to cycling a metre away from the kerb was **identical pre and post CPS** for urban and rural areas with 30% and 85% for both respectively.

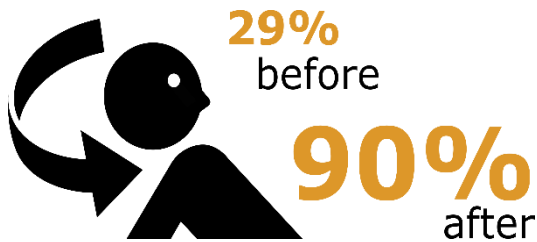
Figure 20: Proportion of pupils who said they kept a metre away from the kerb by the number of CPS participants in the school



There were **no differences prior to CPS training** on the proportion of pupils who responded 'yes' to cycling a metre away from the verge/kerb by participant size of school. **Post training**, however, those pupils from a school with **21 or more participants (81%)** reported a lower proportion of pupils who indicated that they observed this discipline than schools with 3-10 participants (91%) and 11-20 participants (88%).

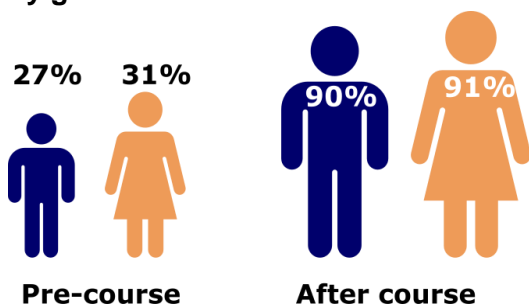


Question 6: Looking over shoulder – When cycling do you look over your shoulder before signalling or moving?



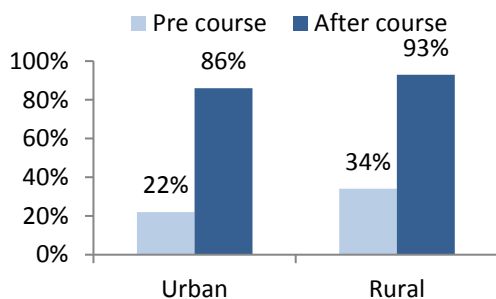
The CPS appears to have had a very positive impact on this particular procedure with the proportion **increasing from 29% to 90%** following the CPS, the biggest increase after training of all the six procedures.

Figure 21: Proportion of pupils who said they looked over their shoulder before moving by gender



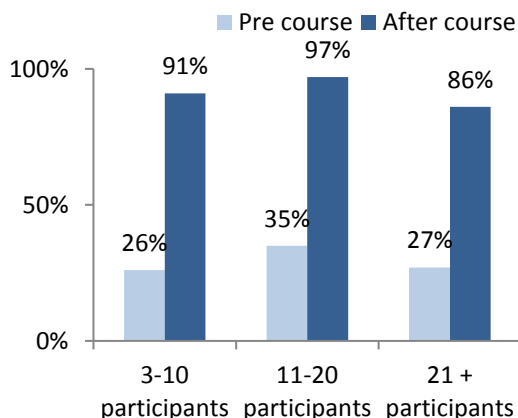
There were **no significant differences** to report between genders both pre and post CPS training regarding looking over their shoulder before moving.

Figure 22: Proportion of pupils who said they who said they looked over their shoulder before moving by location



There was a **greater proportion of pupils from rural schools** who responded 'yes' (a difference of 12 percentage points) that they looked over their shoulder when cycling **before training**. **This trend also continued following CPS** with 86% of pupils from urban schools stating that they observed this procedure in comparison with 93% for rural schools.





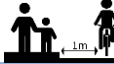

Figure 23: Proportion of who said they looked over their shoulder before moving by the number of CPS participants in the school



The proportion of pupils who said 'yes' they looked over their shoulder before signalling or moving was **significantly higher for the 11-20 participant group** than the other groups, both before and after completing the CPS training.





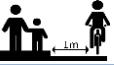

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Tables: Pupil responses for each Cycling Proficiency Scheme question before and after training by school participant size, gender and urban/rural school area

	Q1 Helmet Usage 				Q2 Safety Equipment 				Q3 Reflective Clothing – day time 				Q4 Reflective Clothing – night time 				Q5 Distance from kerb 				Q6 Looking over shoulder 			
	Total				Total				Total				Total				Total							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	584	50	935	80	159	14	635	54	203	17	599	51	497	43	927	80	347	30	987	85	341	29	1055	90
No	280	24	77	7	715	61	192	16	626	54	237	20	452	39	113	10	506	43	63	5	507	43	44	4
Sometimes	292	25	148	13	265	23	327	28	316	27	305	26	200	17	102	9	288	25	106	9	303	26	60	5
Missing	10	1	6	1	27	2	12	1	21	2	25	2	17	1	24	2	25	2	10	1	15	1	7	1
Total	1166	100	1166	100	1166	100	1166	100	1166	100	1166	100	1166	100	1166	100	1166	100	1166	100	1166	100	1166	100
	3-10 participants				3-10 participants				3-10 participants				3-10 participants				3-10 participants							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	39	26	121	81	18	12	84	56	15	10	73	49	46	31	120	80	43	29	136	91	39	26	137	91
No	40	27	10	7	100	67	12	8	85	57	21	14	60	40	10	7	66	44	1	1	84	56	0	0
Sometimes	70	47	17	11	30	20	52	35	46	31	54	36	43	29	9	6	40	27	11	7	26	17	11	7
Missing	1	1	2	1	2	1	2	1	4	3	2	1	1	1	11	7	1	1	2	1	1	1	2	1
Total	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100
	11-20 participants				11-20 participants				11-20 participants				11-20 participants				11-20 participants							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	207	54	323	84	33	9	240	62	69	18	216	56	200	52	342	89	125	32	340	88	134	35	373	97
No	80	21	25	6	252	65	43	11	192	50	55	14	129	34	8	2	161	42	8	2	157	41	1	0
Sometimes	97	25	34	9	94	24	98	25	121	31	104	27	56	15	31	8	98	25	34	9	93	24	8	2
Missing	1	0	3	1	6	2	4	1	3	1	10	3	0	0	4	1	1	0	3	1	1	0	3	1
Total	385	100	385	100	385	100	385	100	385	100	385	100	385	100	385	100	385	100	385	100	385	100	385	100
	21+ participants				21+ participants				21+ participants				21+ participants				21+ participants							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	338	54	491	78	108	17	311	49	119	19	310	49	251	40	465	74	179	28	511	81	168	27	545	86
No	160	25	42	7	363	58	137	22	349	55	161	26	263	42	95	15	279	44	54	9	266	42	43	7
Sometimes	125	20	97	15	141	22	177	28	149	24	147	23	101	16	62	10	150	24	61	10	184	29	41	6
Missing	8	1	1	0	19	3	6	1	14	2	13	2	16	3	9	1	23	4	5	1	13	2	2	1
Total	631	100	631	100	631	100	631	100	631	100	631	100	631	100	631	100	631	100	631	100	631	100	631	100

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Tables continued: Pupil responses for each Cycling Proficiency Scheme question before and after training by school participant size, gender and urban/rural school area

	Q1 Helmet Usage 				Q2 Safety Equipment 				Q3 Reflective Clothing – day time 				Q4 Reflective Clothing – night time 				Q5 Distance from kerb 				Q6 Looking over shoulder 			
	Males				Males				Males				Males				Males							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	245	43	442	77	71	12	304	53	87	15	284	49	228	40	445	77	165	29	479	83	157	27	516	90
No	169	29	39	7	368	64	101	18	336	58	134	23	243	42	57	10	262	46	28	5	270	47	22	4
Sometimes	155	27	90	16	120	21	162	28	141	25	146	25	94	16	57	10	136	24	60	10	139	24	32	6
Missing	6	1	4	1	16	3	8	1	11	2	11	2	10	2	16	3	12	2	8	1	9	2	5	1
Total	575	100	575	100	575	100	575	100	575	100	575	100	575	100	575	100	575	100	575	100	575	100	575	100
	Females				Females				Females				Females				Females							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	339	57	493	83	88	15	331	56	116	20	315	53	269	46	482	82	182	31	508	86	184	31	539	91
No	111	19	38	6	347	59	91	15	290	49	103	17	209	35	56	9	244	41	35	6	237	40	22	4
Sometimes	137	23	58	10	145	25	165	28	175	30	159	27	106	18	45	8	152	26	46	8	164	28	28	5
Missing	4	1	2	0	11	2	4	1	10	2	14	2	7	1	8	1	13	2	2	0	6	1	2	0
Total	591	100	591	100	591	100	591	100	591	100	591	100	591	100	591	100	591	100	591	100	591	100	591	100
	Urban				Urban				Urban				Urban				Urban							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	221	49	348	77	32	7	197	43	70	15	177	39	193	43	318	70	135	30	384	85	102	22	392	86
No	130	29	43	9	312	69	107	24	252	56	122	27	171	38	89	20	223	49	25	6	220	48	27	6
Sometimes	95	21	61	13	95	21	146	32	116	26	138	30	78	17	41	9	84	19	40	9	121	27	32	7
Missing	8	2	2	0	15	3	4	1	16	4	17	4	12	3	6	1	12	3	5	1	11	2	3	1
Total	454	100	454	100	454	100	454	100	454	100	454	100	454	100	454	100	454	100	454	100	454	100	454	100
	Rural				Rural				Rural				Rural				Rural							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	363	51	587	82	127	18	438	62	133	19	422	59	304	43	609	86	212	30	603	85	239	34	663	93
No	150	21	34	5	403	57	85	12	374	53	115	16	281	39	24	3	283	40	38	5	287	40	17	2
Sometimes	197	28	87	12	170	24	181	25	200	28	167	23	122	17	61	9	204	29	66	9	182	26	28	4
Missing	2	0	4	1	12	2	8	1	5	1	8	1	5	1	18	3	13	2	5	1	4	1	4	1
Total	712	100	712	100	712	100	712	100	712	100	712	100	712	100	712	100	712	100	712	100	712	100	712	100

Survey Methodology

The Cycling Proficiency Scheme (CPS) has operated in Northern Ireland schools for over 40 years, training more than 400,000 pupils. Early road safety education is crucial in keeping children safe on the roads. The purpose of the scheme is to help children develop their skills, increase their confidence as cyclists and identify risks they may come across on the roads. The CPS is delivered by school staff and instructors who are approved by, and registered with, DfI Safe & Sustainable Travel Division, Promotion and Outreach Branch. For the third consecutive year a survey of school children who took part in CPS in Northern Ireland was carried out to consider the attitudes of the children towards various aspects of road safety before and after completion of the scheme. The questions were designed to assess how much the scheme had changed the attitudes and actions of participants in respect of various safety aspects of cycling such as wearing a helmet and reflective clothing, carrying out safety checks on bicycles and specifics of manoeuvring on the roads. This analysis monitors the effectiveness of the Scheme, allowing the Department to identify positive changes in participants' behaviour as well as areas requiring improved support and guidance. As with 2016, the cycling survey responses in 2017 were obtained through a show of hands in the classroom. When this new methodology was introduced in 2016, there were concerns that results could potentially suffer from bias as responses were not anonymous and participants may be hesitant responding in front of their classmates. However, the method was one that teachers could easily facilitate in order to get timely feedback and ensure a high response rate. Results in 2016 were not significantly different to 2015, and Analysis, Statistics and Research Branch therefore concluded that the revised methodology could be continued in 2017.

In 2017, 415 schools in Northern Ireland carried out the Cycling Proficiency Scheme; however, due to delays, only 368 participating schools were available for this analysis. Just under one-third (112) of participating schools were sampled to take part in the survey, using a stratified random sampling methodology (stratified based on gender, urban v rural and course participant size). Responses were received from 65 of the schools who agreed to participate in the survey, giving a response rate of 58%. This is 20 more schools than took part in 2016 and increased the number of pupils responding from 690 to 1,166 (a rise of 69%).

The table below shows the percentage of respondent schools by gender, urban/rural classification and number of CPS participants in each school.

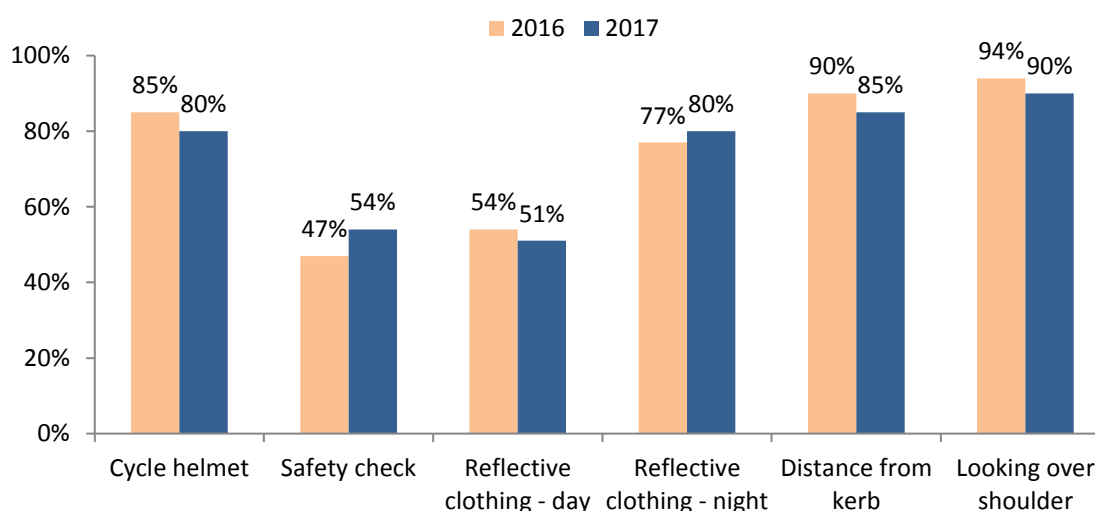
	CPS School Profile	Sample School Profile
Female	51%	Not Known
Male	49%	Not Known
Urban	39%	36%
Rural	61%	64%
3-10 participants	13%	17%
11-20 participants	33%	43%
21+ participants	54%	40%

The figures show that the respondent profile is broadly representative of all 368 participating schools, with no groups particularly over or under-represented in terms of their gender or urban/rural classification¹. Also, whilst a proportionate stratification by former Education and Library Board (ELB) area was not a key survey aim, nevertheless a good geographical spread of schools was achieved in the final sample. See the map of schools provided in Figure 1 of this report (Page 3). There was no need, therefore, to weight the results prior to undertaking the analysis.

Note that as the findings are derived from a sample survey and hence subject to sampling error, all differences reported in the commentary were tested to ensure that they were statistically significant (i.e., there was a less than one in twenty chance that they occurred through random factors alone). This means that, when comparing differences between subgroups with small numbers of respondents, some apparently large differences may not actually be statistically significant.

A comparison of the 2016 and 2017 results for pupils who have completed the scheme is illustrated in Figure 24. It can be seen that a higher proportion of pupils always wore a cycle helmet, rode a safe distance from the kerb and looked over their shoulder in 2016, while a higher proportion always carried out a safety check in 2017. There was no difference to report between the years in those who wore reflective clothing. Note that as 20 more schools responded in 2017 resulting in an increase of almost 500 respondents, comparisons between the years should be viewed with caution.

Figure 24: Proportion of pupils who answered ‘yes’ to each question after the CPS, 2016 & 2017



2016 base=690, 2017 base=1,166

¹ Location defined using NISRA Central Postcode Directory urban/rural classification. Boundaries are available for Northern Ireland as defined by the Planning Service. These areas are defined from Settlement Development Limits (SDLs) which are a statistical classification and delineation of settlements. See http://www.nisra.gov.uk/archive/geography/digital_products/urban_rual_classifications/ur_report.pdf for more information.