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Investigating the impact of the Cycling Proficiency Scheme in schools in Northern Ireland, 2021



Analysis, Statistics and Research Branch

December 2021

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um Staitisticí agus Taighde

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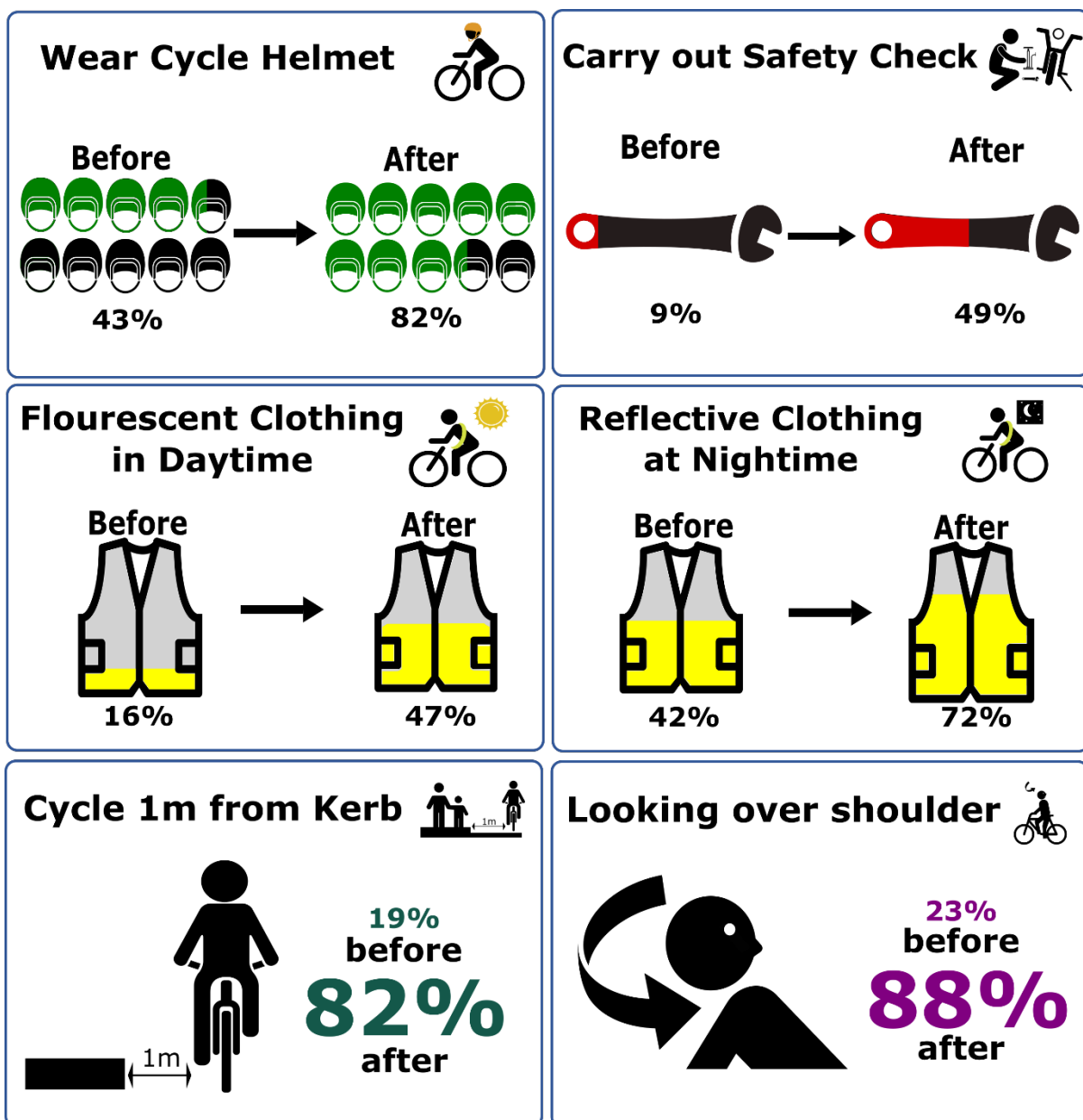
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Infographics

Pupils were asked six questions about their cycling behaviours 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 fluorescent 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 proportions who said 'yes' before and after CPS are presented in the Infographics below:

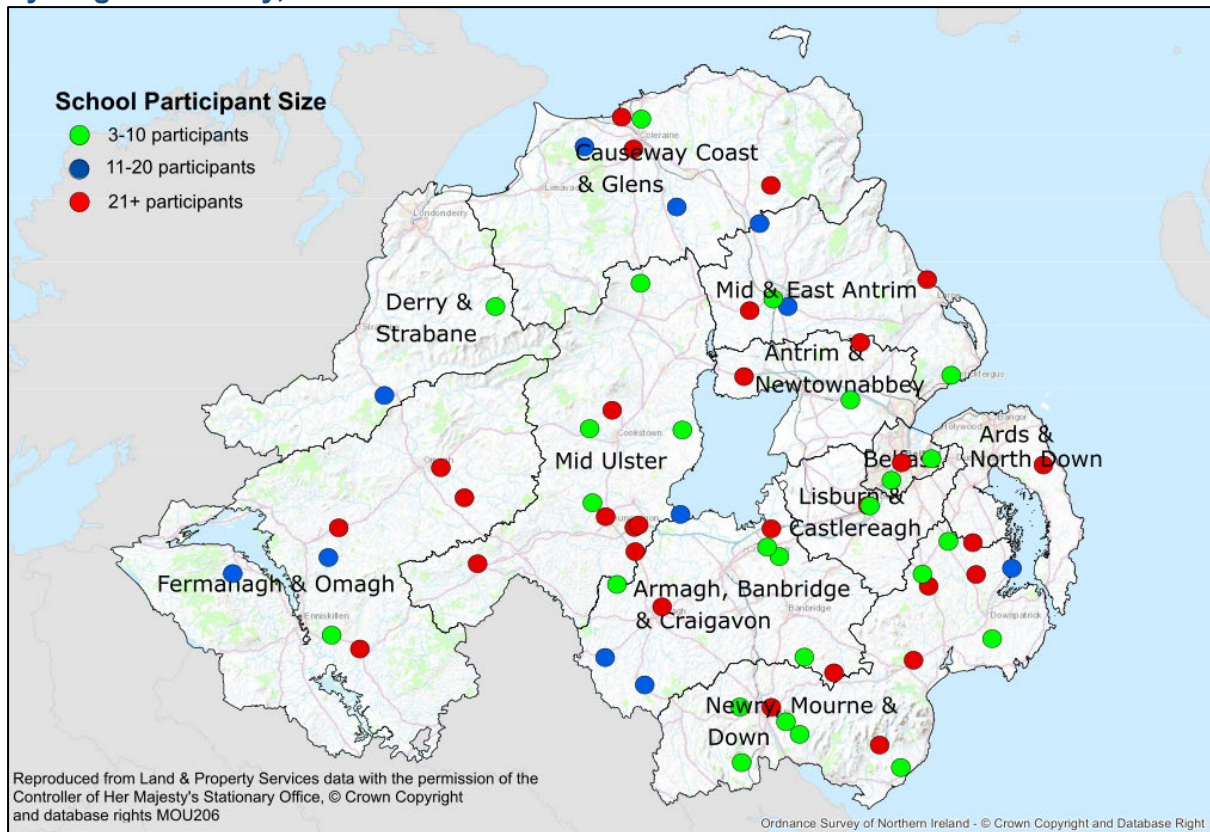


Following a hiatus last year due to the Covid pandemic, the Cycling Proficiency Scheme returned in 2021 with this being the sixth year of production of this report. A survey of school children who took part in the CPS in Northern Ireland was carried out to consider the attitudes of the children towards various aspects of road safety before and after completion of the scheme.

Participating schools

In 2021, 252 schools in Northern Ireland carried out the Cycling Proficiency Scheme and out of the 123 schools sampled for this survey, 65 schools responded. See Survey Methodology on page 16 for more information. Figure 1 maps the location of the schools that completed and returned the cycling proficiency survey.

Figure 1: Map of Northern Ireland plotting the schools that completed the survey for Cycling Proficiency, 2021



Almost three quarters of schools who completed the survey were located in a rural area (74%), while the remaining 26% were in urban areas (48 and 17 schools, respectively). Newry, Mourne and Down had the most schools taking part by District with fifteen. Two fifths of schools (40% or 26 schools) had 11-20 participants in the scheme, while 24 schools (37%) had 21 or more participants and the remaining 15 had 3-10 participants (23%). See Figure 2 overleaf.

Figure 2: Breakdown of Schools that completed the CPS survey in 2021

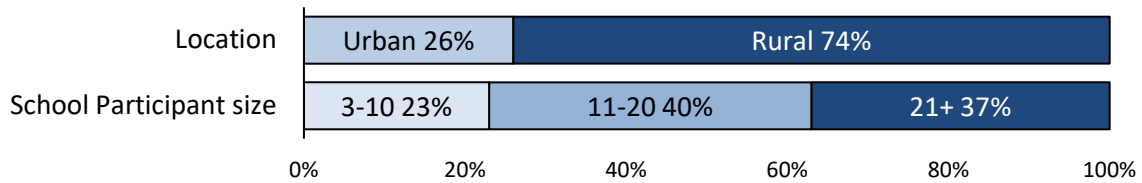
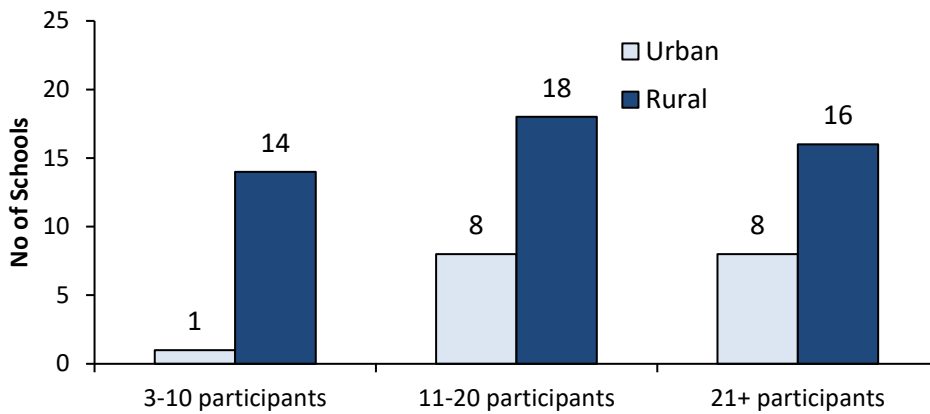


Figure 3 shows the breakdown by participant size in 2021 across urban and rural schools. Rural schools had almost three times the number of schools than those from an urban location with more rural schools for each participant size group. Most rural schools had 11-20 participants (38%) with 18 out of the 26 schools from this group size being from a rural area (69%). Urban schools were evenly split between groups of 11-20 and 21 or more pupils (both 47%) with just one urban school having 3 to 10 participants (6%).

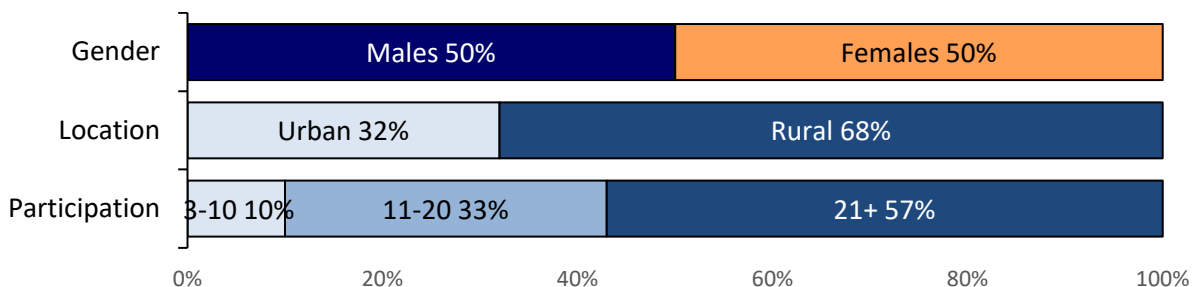
Figure 3: Schools who completed the CPS survey by participant size and urban/rural location, 2021



Participating pupils

There were 602 boys (50%) and 596 girls (50%) who completed the survey, comprising 1,198 pupils from the 65 schools (up by 448 pupils from 2019; an increase of 60%). Over two thirds (68%) of these pupils were from a school in a rural area and 32% from an urban area school. In terms of group size, 393 of those were in groups of 11 to 20 participants (33%), 680 were taught in groups of 21 or more (57%) and schools with 3-10 participants made up the final 125 (10%). See breakdown below:

Figure 4: Breakdown of pupils who completed the survey, 2021

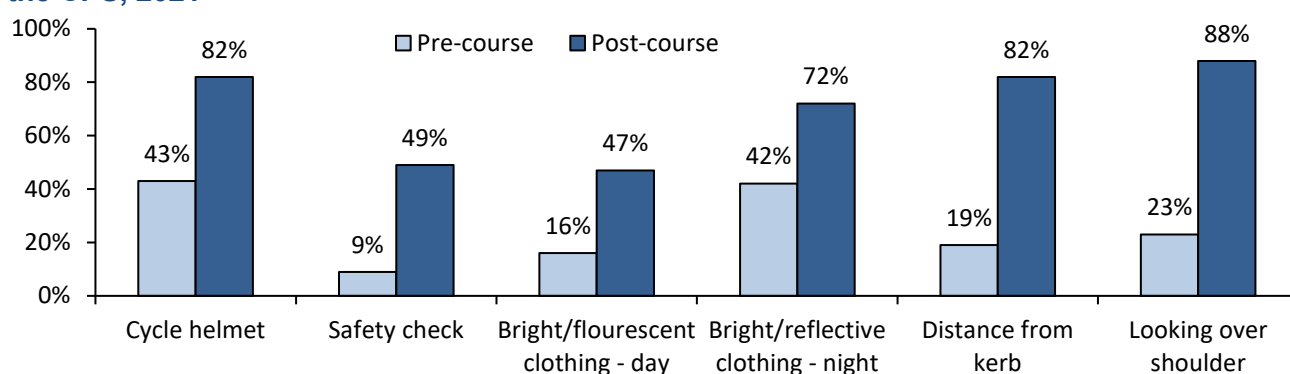


Findings

The Cycling Proficiency Scheme aims to promote 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 CPS training**, and this proportion remains similar to that as reported by participants in 2019 (96%). 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, 2021



Key Points

- The behaviours in all six disciplines all increased greatly following the Cycling Proficiency Scheme with wearing a cycle helmet, cycling at least one metre from the kerb and looking over the shoulder all increasing to over 80%.
- The highest pre-course score was for those pupils who wore a cycle helmet with 43%; this increased on completion of the scheme to 82%. The highest post-course score was looking over shoulder with 88% of pupils complying with this after CPS.
- Despite having the lowest pre-course score of 9%, the discipline of carrying out a safety check showed the greatest proportionate increase following CPS, with more than five times as many pupils than before training indicating that they now observed this procedure before cycling.
- There were no differences to report between the responses of boys and girls for any of the disciplines both prior and following CPS training.
- Although rural school children indicated they were more likely to wear fluorescent clothing during the day, children taught in urban schools were more likely:
 - to wear a cycle helmet (pre-training)
 - cycle a metre away from the kerb (both pre and post-training)
 - look over their shoulder (post CPS)
- Those children taught in groups of 21 or more participants indicated that they were less likely to use the majority of the procedures following CPS than pupils taught in smaller class sizes.

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

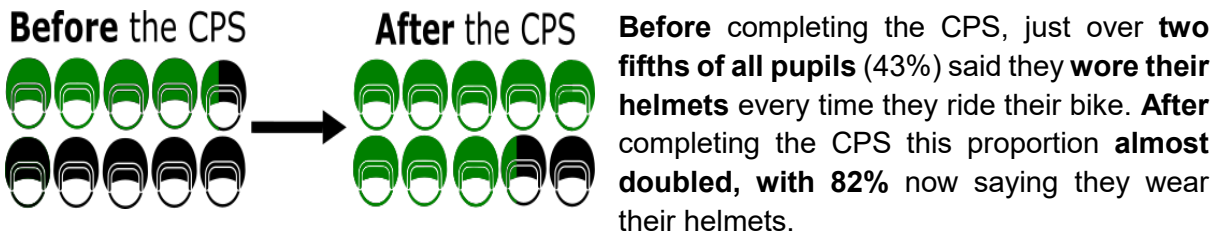


Figure 6 : Proportion of pupils who said they wore a cycle helmet, by gender, 2021

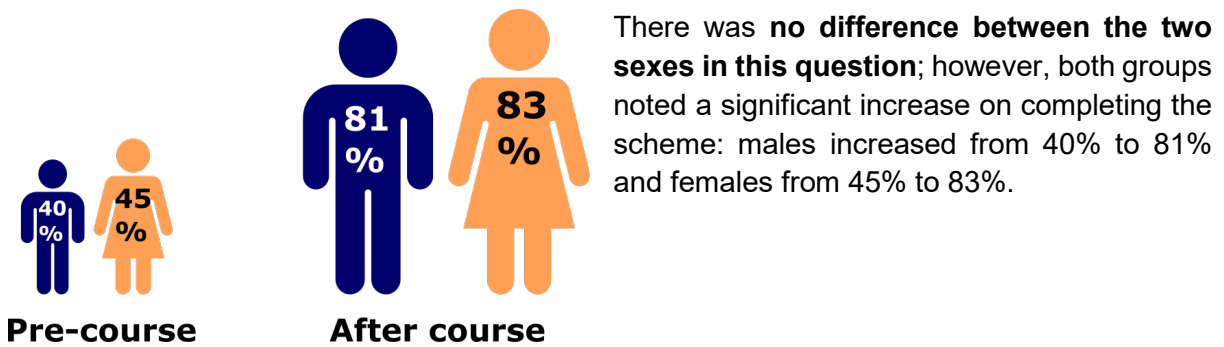


Figure 7: Proportion of pupils who said they wore a cycle helmet, by location, 2021

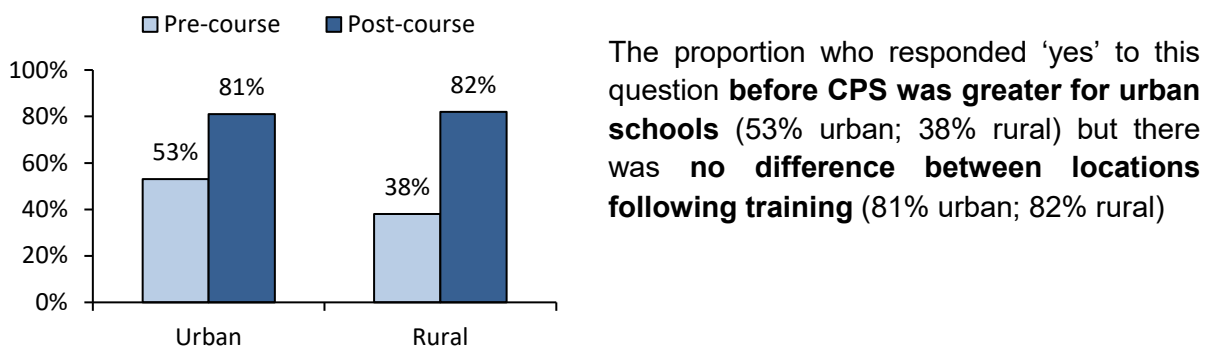
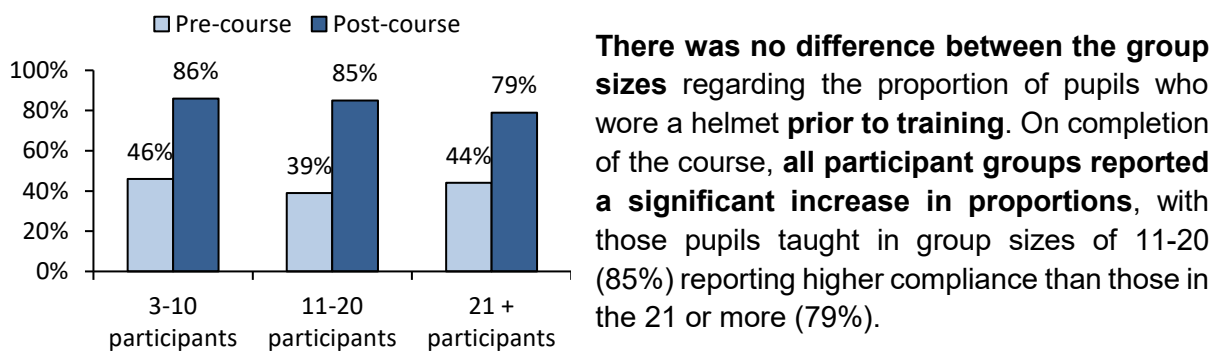


Figure 8: Proportion of pupils who said they wore a cycle helmet, by the number of CPS participants in the school, 2021



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

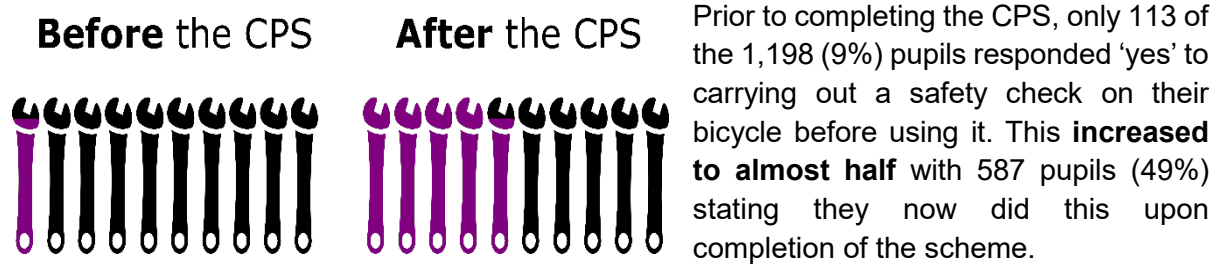


Figure 9: Proportion of pupils who said they carried out a safety check, by gender, 2021

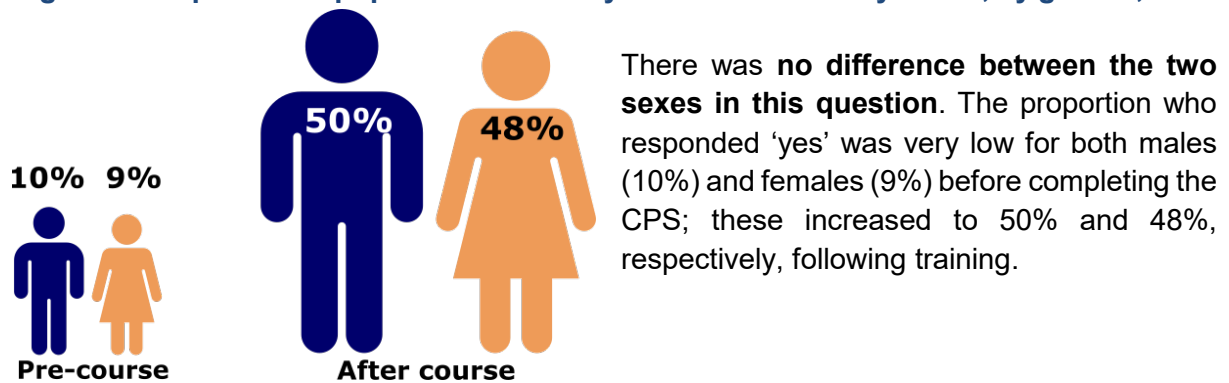
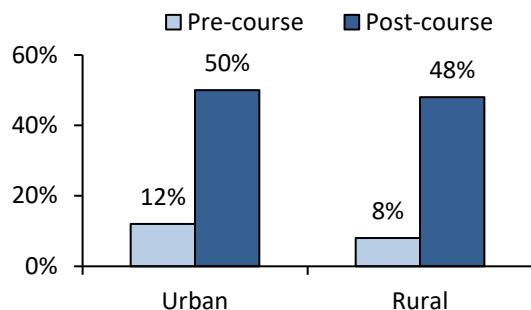
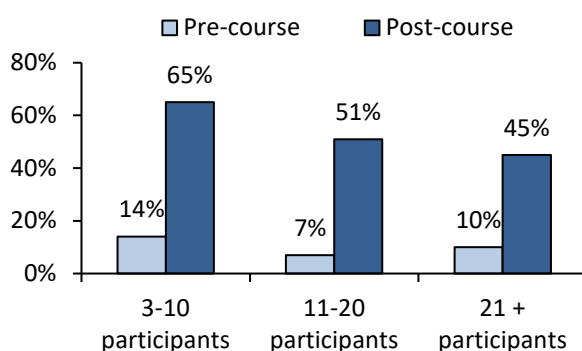


Figure 10: Proportion of pupils who said they carried out a safety check, by location, 2021



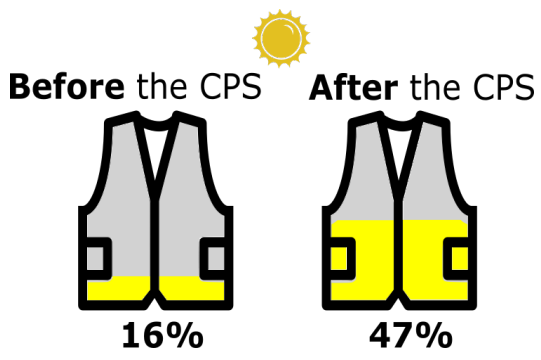
There was **no difference** in the proportion of pupils who responded 'yes' from urban or rural schools **pre or post training**. Prior to CPS training, 12% of pupils from an urban school and 8% from a rural school stated they performed a safety check on their bicycle and on completion of the course, these proportions increased to 50% (urban) and 48% (rural).

Figure 11: Proportion of pupils who said they carried out a safety check, by the number of CPS participants in the school, 2021



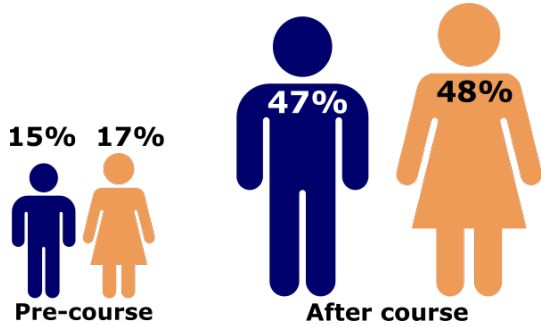
Prior to CPS, pupils in the 3-10 participant group size were more likely to carry out a safety check than those with 11-20 participants. Following the completion of the training, schools with 3-10 participants (65%) were more likely to perform a safety check while, conversely, those with 21 or more participants (45%) were less likely than the other school groups.

 **Question 3: Fluorescent Clothing- Do you wear something flourescent & bright when riding your bike in the daytime?**



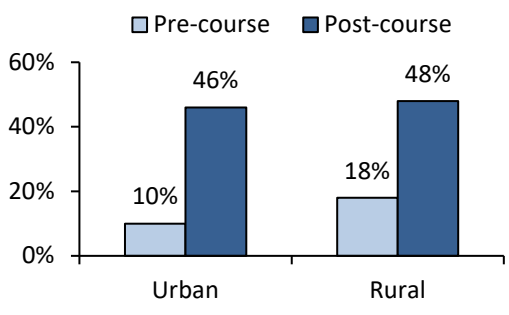
Before completing the CPS, **only 16% of pupils responded 'yes'** to wearing something fluorescent and bright while riding their bike in the daytime. This increased to **47% on completion of the scheme.**

Figure 12: Proportion of pupils who said they wore fluorescent and bright clothing during the daytime, by gender, 2021



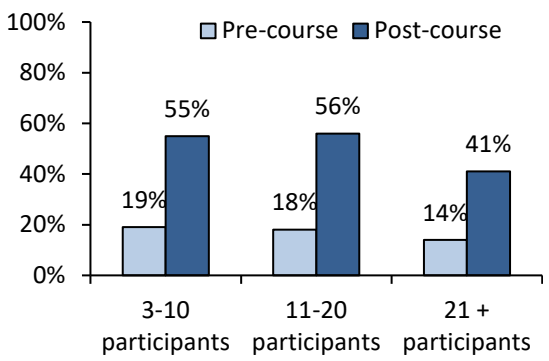
There was no difference to report between the responses of boys and girls both pre- and post-CPS training concerning the wearing fluorescent and bright clothing during daylight hours.

Figure 13: Proportion of pupils who said they wore fluorescent and bright clothing during the daytime, by location, 2021



Pupils from rural schools (18%) reported a higher rate of wearing fluorescent and bright clothing during the daytime compared with urban schools (10%) prior to instruction. However, following CPS, urban (46%) and rural schools (48%) both reported similar findings.

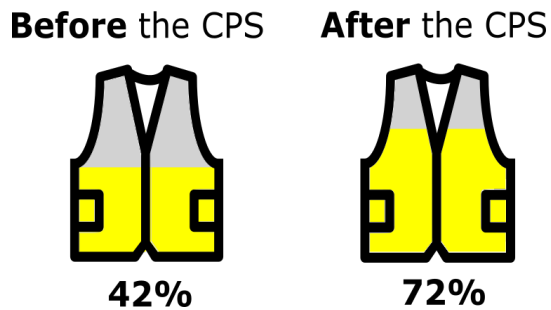
Figure 14: Proportion of pupils who said they wore fluorescent and bright clothing during the daytime, by the number of CPS participants in the school, 2021



There was no difference pre-course in any of the group sizes regarding wearing fluorescent and bright clothing. Following training, schools with 21 or more participants (41%) reported a significantly lower post-test score than those schools with 3-10 participants (55%) and 11 to 20 participants (56%).

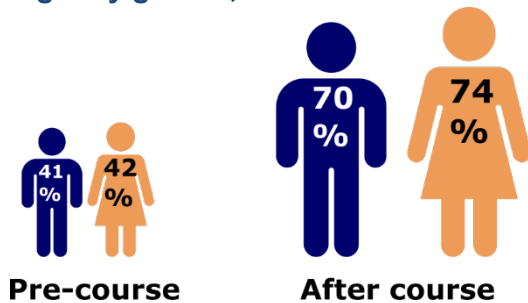


Question 4: Reflective Clothing- Do you wear something reflective & bright when riding your bike at night?



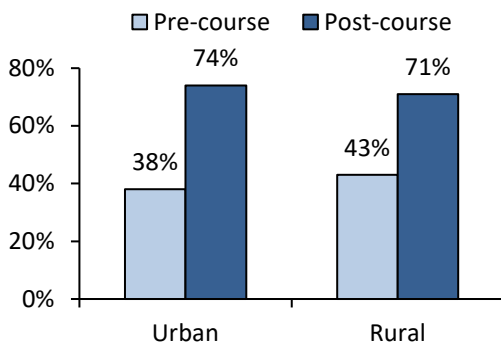
More pupils wore reflective and bright gear at night time compared to during the day. **Before training, 42% of pupils** reported they always wore something reflective and bright when cycling at night. This proportion increased **after CPS to 72%**.

Figure 15: Proportion of pupils who said they wore reflective and bright clothing at night by gender, 2021



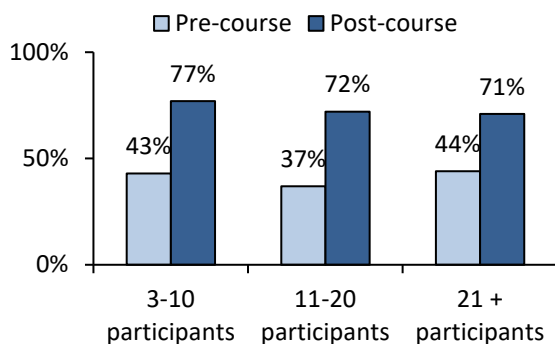
There was **no difference to report between the responses of boys and girls** both pre and post CPS training concerning the wearing of reflective and bright clothing during night-time hours.

Figure 16: Proportion of pupils who said they wore reflective and bright clothing at night, by location, 2021



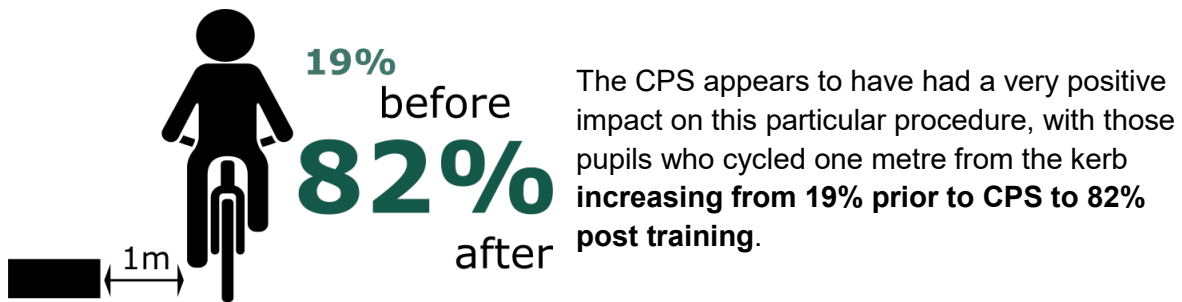
There were **no difference in the results between urban and rural schools** both prior and following completion of the Cycling Proficiency Scheme.

Figure 17: Proportion of pupils who said they wore reflective and bright clothing at night, by the number of CPS participants in the school, 2021



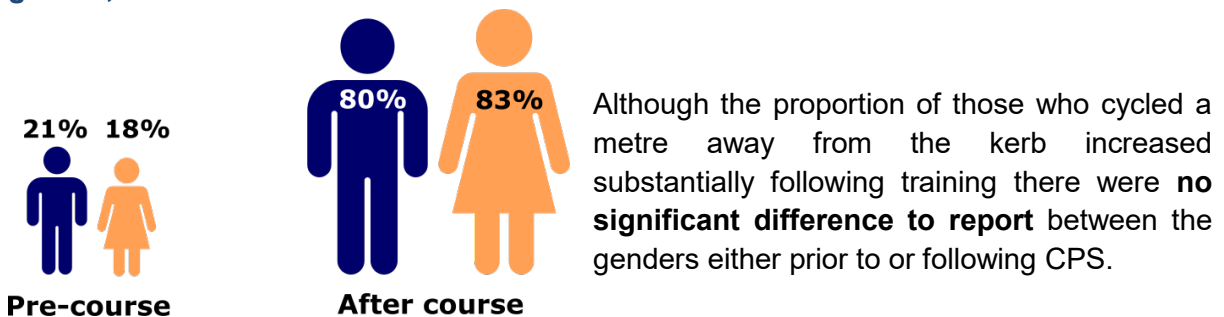
Before CPS, those in the 11-20 group (37%) reported lower numbers of those who wore reflective and bright clothing during night-time hours **than those in the 21+ group (44%)**. However following training, **there were no differences to report between the responses in schools by participant group size**.

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



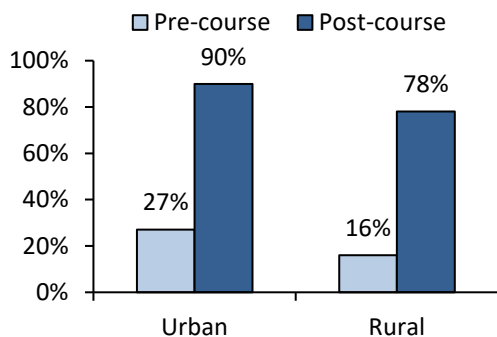
The CPS appears to have had a very positive impact on this particular procedure, with those pupils who cycled one metre from the kerb increasing from 19% prior to CPS to 82% post training.

Figure 18: Proportion of pupils who said they kept a metre away from the kerb by gender, 2021



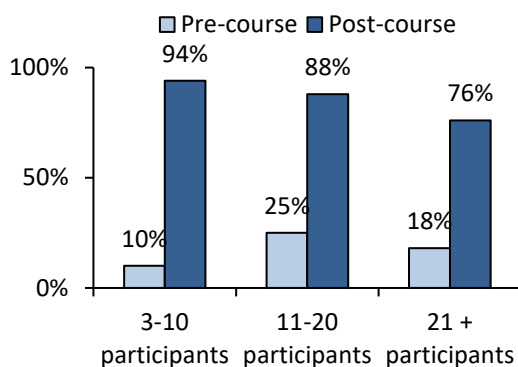
Although the proportion of those who cycled a metre away from the kerb increased substantially following training there were **no significant difference to report** between the genders either prior to or following CPS.

Figure 19: Proportion of pupils who said they kept a metre away from the kerb, by location, 2021



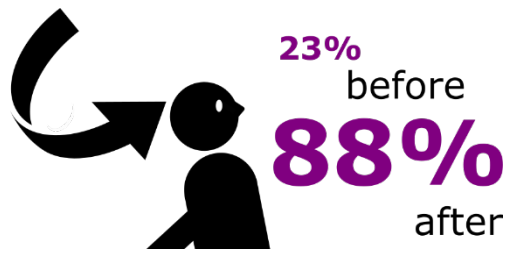
Pupils from an **urban school were more likely than those from rural schools** to cycle a metre away from the kerb both **before and after the CPS training**. Before CPS, 27% of pupils in urban schools compared with 16% in rural schools observed this discipline; after CPS, the respective proportions were 90% and 78%.

Figure 20: Proportion of pupils who said they kept a metre away from the kerb, by the number of CPS participants in the school, 2021



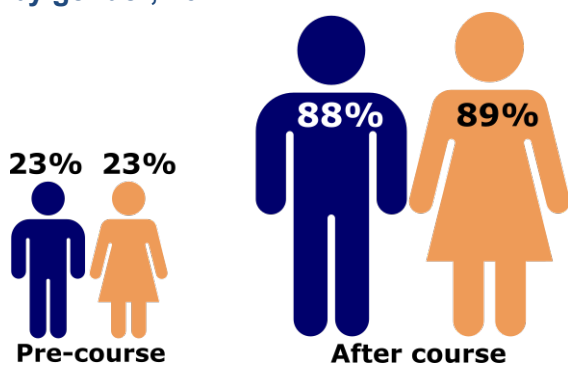
A quarter of pupils from schools with **11-20 participants (25%)** reported that they cycled a metre away from the kerb. **This was a higher pre-test score** than those schools with smaller participant group sizes. **Following training, pupils in class sizes of 3-10 reported a greater level** of those who now cycle a metre away from the kerb (94%) than those with larger participant groups.

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



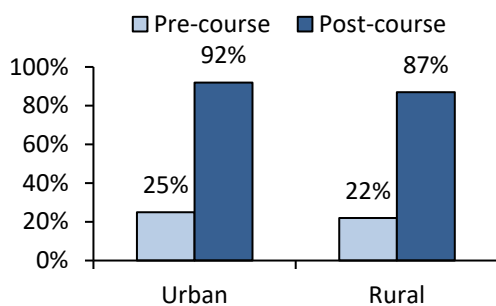
There was a significant increase in the proportion of children who responded 'yes' to this question after CPS training. **Before training, 23% of pupils** reported looking over their shoulder before moving or signalling which **increased to 88%** following the CPS.

Figure 21: Proportion of pupils who said they looked over their shoulder before moving, by gender, 2021



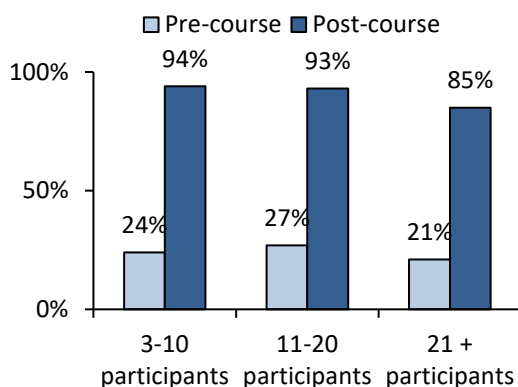
There were no differences to report between the genders regarding this discipline **both pre and post-training**. Fewer than a quarter of boys and girls (both 23%) reported looking over their shoulder prior to CPS. This increased to 88% for boys and 89% for girls following the delivery of the course.

Figure 22: Proportion of pupils who said they who said they looked over their shoulder before moving, by location, 2021



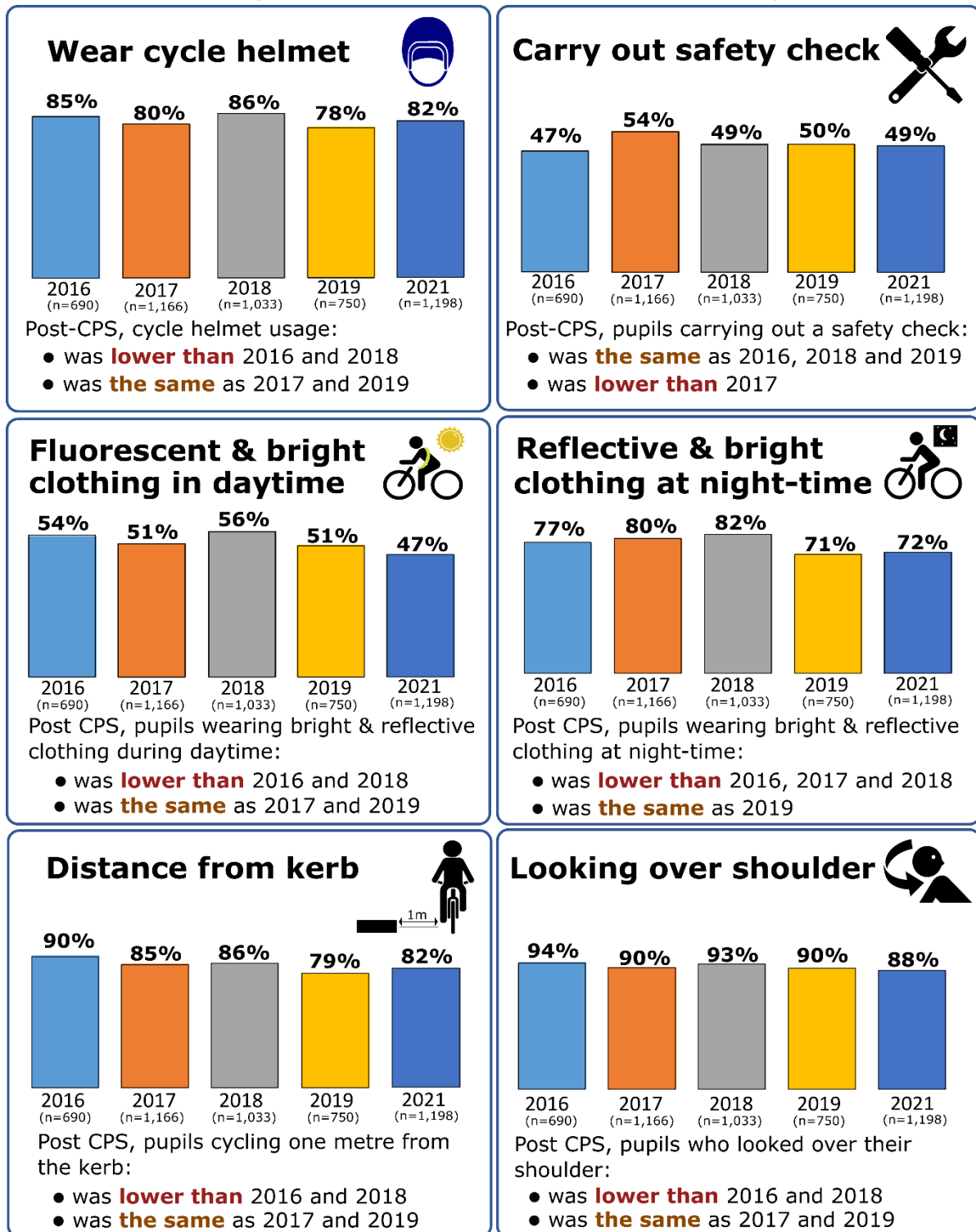
There was no difference between pupils from schools in urban (25%) or rural (22%) locations **prior to CPS** concerning looking over their shoulder before moving. **Following training, pupils from an urban school (92%) were more likely** to do so than those taught in rural schools (87%)

Figure 23: Proportion of pupils who said they looked over their shoulder before moving by the number of CPS participants in the school, 2021



Those school groups with **21 or more participants reported fewer** pupils (21%) looking over their shoulder **prior to CPS** than those with **11 to 20 participants (27%)**. This group also indicated they were **less likely to do so (85%)** than the other groups **following CPS training**.





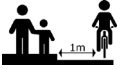

Post CPS Training – 2021 Comparison with previous years



A comparison of 2021 with previous years is illustrated in the infographic above. It can be seen that a lower proportion of pupils in 2021 observed each of the disciplines than in at least one of the previous years, with the proportions for each discipline observed being lower for 2016 and 2018, with the exception of performing a safety check. It should be noted though, that comparisons between the years should be viewed with caution as the study population is different and the number of schools and pupils involved this year in the study were higher than previous years.







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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 Fluorescent & bright clothing – day time 				Q4 Reflective & bright 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	510	43	978	82	113	9	587	49	191	16	569	47	498	42	862	72	231	19	978	82	277	23	1060	88
No	343	29	63	5	876	73	163	14	678	57	236	20	363	30	108	9	708	59	45	4	616	51	30	3
Sometimes	324	27	148	12	200	17	419	35	314	26	360	30	220	18	103	9	242	20	164	14	257	21	99	8
Missing	21	2	9	1	9	1	29	2	15	1	33	3	117	10	125	10	17	1	11	1	48	4	9	1
Total	1198	100	1198	100	1198	100	1198	100	1198	100	1198	100	1198	100	1198	100	1198	100	1198	100	1198	100	1198	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	58	46	107	86	18	14	81	65	24	19	69	55	54	43	96	77	12	10	118	94	30	24	117	94
No	40	32	7	6	87	70	16	13	69	55	23	18	43	34	13	10	71	57	1	1	66	53	1	1
Sometimes	26	21	10	8	19	15	27	22	31	25	32	26	18	14	7	6	33	26	5	4	28	22	6	5
Missing	1	1	1	1	1	1	1	1	1	1	1	1	10	8	9	7	9	7	1	1	1	1	1	1
Total	125	100	125	100	125	100	125	100	125	100	125	100	125	100	125	100	125	100	125	100	125	100	125	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	152	39	334	85	27	7	201	51	71	18	219	56	145	37	284	72	97	25	344	88	106	27	366	93
No	119	30	28	7	307	78	51	13	223	57	60	15	143	36	28	7	220	56	3	1	194	49	4	1
Sometimes	117	30	29	7	54	14	138	35	94	24	112	28	59	15	28	7	73	19	43	11	87	22	21	5
Missing	5	1	2	1	5	1	3	1	5	1	2	1	46	12	53	13	3	1	3	1	6	2	2	1
Total	393	100	393	100	393	100	393	100	393	100	393	100	393	100	393	100	393	100	393	100	393	100	393	100
	21+ participants				21+ participants				21+ participants				21+ participants				21+ participants							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	300	44	537	79	68	10	305	45	96	14	281	41	299	44	482	71	122	18	516	76	141	21	577	85
No	184	27	28	4	482	71	96	14	386	57	153	23	177	26	67	10	417	61	41	6	356	52	25	4
Sometimes	181	27	109	16	127	19	254	37	189	28	216	32	143	21	68	10	136	20	116	17	142	21	72	11
Missing	15	2	6	1	3	0	25	4	9	1	30	4	61	9	63	9	5	1	7	1	41	6	6	1
Total	680	100	680	100	680	100	680	100	680	100	680	100	680	100	680	100	680	100	680	100	680	100	680	100

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Tables cont'd: 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 Fluorescent & bright clothing – day time 				Q4 Reflective & bright clothing – night-time 				Q5 Distance from kerb 				Q6 Looking over shoulder 							
	Males				Males				Males				Males				Males				Males							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	243	40	486	81	61	10	301	50	88	15	281	47	249	41	423	70	124	21	483	80	137	23	527	88				
No	192	32	31	5	448	74	91	15	351	58	128	21	187	31	64	11	358	59	23	4	300	50	20	3				
Sometimes	155	26	81	13	92	15	194	32	157	26	171	28	104	17	45	7	113	19	91	15	135	22	51	8				
Missing	12	2	4	1	1	0	16	3	6	1	22	4	62	10	70	12	7	1	5	1	30	5	4	1				
Total	602	100	602	100	602	100	602	100	602	100	602	100	602	100	602	100	602	100	602	100	602	100	602	100				
	Females				Females				Females				Females				Females				Females							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	267	45	492	83	52	9	286	48	103	17	288	48	249	42	439	74	107	18	495	83	140	23	533	89				
No	151	25	32	5	428	72	72	12	327	55	108	18	176	30	44	7	350	59	22	4	316	53	10	2				
Sometimes	169	28	67	11	108	18	225	38	157	26	189	32	116	19	58	10	129	22	73	12	122	20	48	8				
Missing	9	2	5	1	8	1	13	2	9	2	11	2	55	9	55	9	10	2	6	1	18	3	5	1				
Total	596	100	596	100	596	100	596	100	596	100	596	100	596	100	596	100	596	100	596	100	596	100	596	100				
	Urban				Urban				Urban				Urban				Urban				Urban							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	201	53	308	81	45	12	191	50	40	10	176	46	145	38	281	74	102	27	341	90	97	25	351	92				
No	89	23	32	8	278	73	56	15	251	66	71	19	122	32	32	8	221	58	11	3	201	53	3	1				
Sometimes	89	23	39	10	56	15	131	34	88	23	124	33	83	22	28	7	55	14	26	7	73	19	25	7				
Missing	2	1	2	1	2	1	3	1	2	1	10	3	31	8	40	10	3	1	3	1	10	3	2	1				
Total	381	100	381	100	381	100	381	100	381	100	381	100	381	100	381	100	381	100	381	100	381	100	381	100				
	Rural				Rural				Rural				Rural				Rural				Rural							
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%
Yes	309	38	670	82	68	8	396	48	151	18	393	48	353	43	581	71	129	16	637	78	180	22	709	87				
No	254	31	31	4	598	73	107	13	427	52	165	20	241	29	76	9	487	60	34	4	415	51	27	3				
Sometimes	235	29	109	13	144	18	288	35	226	28	236	29	137	17	75	9	187	23	138	17	184	23	74	9				
Missing	19	2	7	1	7	1	26	3	13	2	23	3	86	11	85	10	14	2	8	1	38	5	7	1				
Total	817	100	817	100	817	100	817	100	817	100	817	100	817	100	817	100	817	100	817	100	817	100	817	100				

Survey Methodology

Pupil Survey

The Cycling Proficiency Scheme (CPS) has operated in Northern Ireland schools for almost 50 years, training approximately 450,000 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 trained and approved by, and registered with, DfI Safe & Accessible Travel Division, Promotion and Outreach Branch. For the sixth 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 previous years, the cycling survey responses in 2021 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 previous years were not significantly different, and Analysis, Statistics and Research Branch therefore concluded that the revised methodology could be continued.

Although 252 schools finally participated in the Cycling Proficiency Scheme, a stratified sample was taken of 295 schools in Northern Ireland who had announced their intention to take part as of May 2021. A stratified random sampling methodology on these 295 schools (stratified based on gender, urban v rural and course participant size) was used to choose the sample of 123 schools (42%). Responses were received from 65 of these, giving a response rate of 53%. This is 24 more schools than took part in the survey in 2019, and as a result, the number of pupils responding increased from 750 to 1,198 (an increase of 60%) representing the most pupils participating since the CPS was first reported on in 2015.

The table below shows the percentage of respondent schools by gender, urban/rural classification and number taking part compared with the 295 CPS sampled schools.

	CPS School Profile (n=65)	Sample School Profile (n=295)
Female	50%	49%
Male	50%	51%
Urban	26%	29%
Rural	74%	71%
3-10 participants	23%	15%
11-20 participants	40%	43%
21+ participants	37%	42%

The figures show that the respondent profile is broadly representative of all 295 sampled 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 4). 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.

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 <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/review-of-the-statistical-classification-and-delineation-of-settlements-march-2015.pdf> for more information.