



Article

Analysis of Gender-Dependent Personal Protective Behaviors in a National Sample: Polish Adolescents' COVID-19 Experience (PLACE-19) Study

Supplementary Table 1. The questions on hand hygiene and personal protective behaviors knowledge and beliefs that were asked.

Question	Answers to be chosen
Choice of method which in their opinion is better for proper hand hygiene and personal protection (ensuring better protection)	<input type="checkbox"/> Not leaving home <input type="checkbox"/> Using face mask <input type="checkbox"/> They are equally good <input type="checkbox"/> Do not know which one is better
	<input type="checkbox"/> Handwashing <input type="checkbox"/> Using gloves <input type="checkbox"/> They are equally good <input type="checkbox"/> Do not know
	<input type="checkbox"/> Using soap <input type="checkbox"/> Using alcohol-based hand rub <input type="checkbox"/> They are equally good <input type="checkbox"/> Do not know
	<input type="checkbox"/> Using liquid soap <input type="checkbox"/> Using soap bar <input type="checkbox"/> They are equally good <input type="checkbox"/> Do not know
	<input type="checkbox"/> Using paper towel <input type="checkbox"/> Using hand dryer <input type="checkbox"/> They are equally good <input type="checkbox"/> Do not know
Required time of handwashing in their opinion (close-ended question)	<input type="checkbox"/> Less than 5 seconds <input type="checkbox"/> 5–10 seconds <input type="checkbox"/> 11–20 seconds <input type="checkbox"/> 21–40 seconds <input type="checkbox"/> More than 40 seconds <input type="checkbox"/> Time does not matter <input type="checkbox"/> Do not know

Supplementary Table 2. The questions on actual hand hygiene and personal protective behaviors that were asked.

Question	Answers to be chosen
Personal protective behaviors (multiple-choice question)*	<input type="checkbox"/> Not leaving home <input type="checkbox"/> Using face mask <input type="checkbox"/> Not touching face <input type="checkbox"/> Using gloves <input type="checkbox"/> Handwashing <input type="checkbox"/> Using alcohol-based hand rub <input type="checkbox"/> Avoiding contact with those who may be sick <input type="checkbox"/> Avoiding public places <input type="checkbox"/> Taking medications or dietary supplements <input type="checkbox"/> Other
Frequency of washing hands (close-ended question) **	<input type="checkbox"/> Not washing at all <input type="checkbox"/> 1–2 times a day <input type="checkbox"/> 3–5 times a day <input type="checkbox"/> 6–10 times a day <input type="checkbox"/> 11–15 times a day <input type="checkbox"/> 16–20 times a day <input type="checkbox"/> 21–30 times a day <input type="checkbox"/> More than 30 times a day
Reasons for not washing hands (multiple-choice question) **	<input type="checkbox"/> In my opinion, there is no need to do it <input type="checkbox"/> I don't feel like doing it <input type="checkbox"/> I have no time to do it <input type="checkbox"/> I am forgetting about it <input type="checkbox"/> It is constricted (e.g., there is no soap, there is no bathroom nearby) <input type="checkbox"/> Due to side effects (e.g., skin problems due to frequent contact with soap) <input type="checkbox"/> Other <input type="checkbox"/> I always wash my hands
Circumstances of washing hands **	After coming back home <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	After handshaking <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	After using public transportation <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	After money exchange <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	Before touching sick people <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	After touching sick people <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	After blowing nose <input type="checkbox"/> Never <input type="checkbox"/> Sometimes

Question	Answers to be chosen	
Procedure applied for washing hands **	<input type="checkbox"/> Always <input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always	
	After sneezing	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	After coughing	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	Folding sleeves	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always <input type="checkbox"/> Not applicable
	Removing watch and bracelets	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always <input type="checkbox"/> Not applicable
	Removing rings before or during handwashing	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always <input type="checkbox"/> Not applicable
	Using soap	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	Using warm water	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	Soaking hands before using soap	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always <input type="checkbox"/> Not applicable (I do not use soap)
	Spreading soap lather throughout the hands	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always <input type="checkbox"/> Not applicable (I do not use soap)
	Turning the faucet off with hand	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always
	Drying hands with towel	<input type="checkbox"/> Never <input type="checkbox"/> Sometimes <input type="checkbox"/> Always

* respondents were asked about them and their vulnerable relatives (e.g., elderly ones in their families);** respondents were asked about period during the COVID-19 pandemic and before the COVID-19 pandemic.

Supplementary Table 3. Frequency of washing hands declared by the questioned sample of Polish secondary school students for the period before the COVID-19 issue and during the COVID-19 global pandemic.

Declared frequency	Boys (n = 814)		<i>p</i> *	Girls (n = 1,509)		<i>p</i> *
	Before the COVID-19	During the COVID-19		Before the COVID-19	During the COVID-19	
Not washing at all	5 (0.6%)	0 (0.0%)		4 (0.3%)	0 (0.0%)	
1–2 times	135 (16.6%)	26 (3.2%)		130 (8.6%)	19 (1.3%)	
3–5 times	345 (42.4%)	174 (21.4%)		593 (39.3%)	196 (13.0%)	
6–10 times	203 (24.9%)	308 (37.8%)	< 0.0001	435 (28.8%)	524 (34.7%)	< 0.0001
11–15 times	76 (9.3%)	163 (20.0%)		213 (14.1%)	362 (24.0%)	
16–20 times	25 (3.1%)	68 (8.4%)		84 (5.6%)	222 (14.7%)	
21–30 times	11 (1.4%)	44 (5.4%)		30 (2.0%)	119 (7.9%)	
> 30 times	14 (1.7%)	31 (3.8%)		20 (1.3%)	67 (4.4%)	

* chi² test.

Supplementary Table 4. Reasons for not washing hands declared by the questioned sample of Polish secondary school students for the period before the COVID-19 issue and during the COVID-19 global pandemic.

Declared reasons	Boys (n = 814)		<i>p</i> ***	Girls (n = 1,509)		<i>p</i> ***
	Before the COVID-19	During the COVID-19		Before the COVID-19	During the COVID-19	
In my opinion there is no need to do it	159 (19.5%)	113 (13.9%)		178 (11.8%)	87 (5.8%)	
I don't feel like doing it	132 (16.2%)	67 (8.2%)		166 (11.0%)	54 (3.6%)	
I have no time to do it	80 (9.8%)	37 (4.5%)	0.0001	86 (5.7%)	21 (1.4%)	< 0.0001
I am forgetting about it	281 (34.5%)	251 (30.8%)		480 (31.8%)	334 (22.1%)	
It is constricted	36 (4.4%)	21 (2.6%)		112 (7.4%)	44 (2.9%)	
Due to side effects	36 (4.4%)	42 (5.2%)		112 (7.4%)	114 (7.6%)	
Other *	3 (0.4%)	11 (1.4%)		12 (0.8)	18 (1.2%)	
Various reasons for not washing **	484 (40.5%)	374 (45.9%)	< 0.0001	802 (53.1%)	480 (31.8%)	< 0.0001
I always wash my hands	330 (40.5%)	440 (54.1%)		707 (46.9%)	1,029 (68.2%)	

* various not interpretable answers; ** number of respondents combined for various reasons declared;

*** χ^2 test.

Supplementary Table 5. Circumstances of washing hands, associated with socializing and being exposed to contact with other people, declared by the questioned sample of Polish secondary school students, based on Handwashing Habits Questionnaire [56] for the period before the COVID-19 issue and during the COVID-19 global pandemic.

Characteristics	Boys (n = 814)		<i>p</i> *	Girls (n = 1,509)		<i>p</i> *
	Before the COVID-19	During the COVID-19		Before the COVID-19	During the COVID-19	
After coming back home						
Never	48 (7.5%)	10 (1.2%)		38 (2.5%)	6 (0.4%)	
Sometimes	260 (31.0%)	113 (13.9%)	< 0.0001	429 (28.4%)	101 (6.7%)	< 0.0001
Always	506 (61.5%)	691 (84.9%)		1.042 (69.1%)	1.402 (92.9%)	
After handshaking						
Never	301 (37.0%)	152 (18.7%)		565 (37.4%)	212 (14.0%)	
Sometimes	366 (45.0%)	330 (40.5%)	< 0.0001	657 (43.5%)	598 (39.6%)	< 0.0001
Always	147 (18.1%)	332 (40.8%)		287 (19.0%)	699 (46.3%)	
After using public transportation						
Never	136 (16.7%)	67 (8.2%)		174 (11.5%)	57 (3.8%)	
Sometimes	336 (41.3%)	164 (20.1%)	< 0.0001	561 (37.2%)	173 (11.5%)	< 0.0001
Always	342 (42.0%)	583 (71.6%)		774 (51.3%)	1,279 (84.8%)	
After money exchange						
Never	311 (38.2%)	186 (22.9%)		484 (32.1%)	189 (12.5%)	
Sometimes	310 (38.1%)	257 (31.6%)	< 0.0001	566 (37.5%)	421 (27.9%)	< 0.0001
Always	193 (23.7%)	371 (45.6%)		459 (30.4%)	899 (59.6%)	

* chi² test.

Supplementary Table 6. Circumstances of washing hands, associated with health, declared by the questioned sample of Polish secondary school students, based on Handwashing Habits Questionnaire [56] for the period before the COVID-19 issue and during the COVID-19 global pandemic.

Characteristics	Boys (n = 814)		<i>p</i> *	Girls (n = 1,509)		<i>p</i> *
	Before the COVID-19	During the COVID-19		Before the COVID-19	During the COVID-19	
Before touching sick people						
Never	268 (32.9%)	222 (27.3%)		528 (35.0%)	356 (23.6%)	
Sometimes	288 (35.4%)	228 (28.0%)	< 0.0001	505 (33.5%)	464 (30.7%)	< 0.0001
Always	258 (31.7%)	364 (44.7%)		476 (31.5%)	689 (45.7%)	
After touching sick people						
Never	76 (9.3%)	43 (5.3%)		141 (9.3%)	49 (3.2%)	
Sometimes	228 (28.0%)	100 (12.3%)	< 0.0001	403 (26.7%)	157 (10.4%)	< 0.0001
Always	510 (62.7%)	671 (82.4%)		965 (63.9%)	1,303 (86.3%)	
After blowing nose						
Never	246 (30.2%)	168 (20.6%)		416 (27.6%)	244 (16.2%)	
Sometimes	364 (44.7%)	369 (45.3%)	< 0.0001	664 (44.0%)	634 (42.0%)	< 0.0001
Always	204 (25.1%)	277 (34.0%)		429 (28.4%)	631 (41.8%)	
After sneezing						
Never	200 (24.6%)	145 (17.8%)		394 (26.1%)	203 (13.5%)	
Sometimes	391 (48.0%)	348 (42.8%)	< 0.0001	657 (43.5%)	597 (39.5%)	< 0.0001
Always	223 (27.4%)	321 (39.4%)		458 (30.4%)	709 (47.0%)	
After coughing						
Never	235 (28.9%)	162 (19.9%)		458 (30.4%)	241 (16.0%)	
Sometimes	376 (46.2%)	354 (43.5%)	< 0.0001	633 (41.9%)	625 (41.4%)	< 0.0001
Always	203 (24.9%)	298 (36.6%)		418 (27.7%)	643 (42.6%)	

* chi² test.

Supplementary Table 7. Procedure of handwashing declared by the questioned sample of Polish secondary school students for the period before the COVID-19 issue and during the COVID-19 global pandemic.

Characteristics	Boys (n = 814)		<i>p</i> ***	Girls (n = 1,509)		<i>p</i> ***
	Before the COVID-19	During the COVID-19		Before the COVID-19	During the COVID-19	
Folding sleeves						
Never	62 (7.6%)	37 (4.5%)	0.0095	92 (6.1%)	39 (2.6%)	< 0.0001
Sometimes	194 (23.8%)	166 (20.4%)		403 (26.7%)	314 (20.8%)	
Always	366 (45.0%)	388 (47.7%)		799 (52.9%)	855 (56.7%)	
Not applicable	192 (23.6%)	223 (27.4%)		215 (14.2%)	301 (19.9%)	
Removing watch and bracelets						
Never	87 (10.7%)	81 (10.0%)	0.6733	208 (13.8%)	190 (12.6%)	< 0.0001
Sometimes	134 (16.5%)	128 (15.7%)		316 (20.9%)	132 (8.7%)	
Always	130 (16.0%)	118 (14.5%)		191 (12.5%)	197 (13.1%)	
Not applicable	463 (56.9%)	487 (59.8%)		794 (52.6%)	990 (65.6%)	
Removing rings before or during handwashing						
Never	31 (3.8%)	29 (3.6%)	0.2346	229 (15.2%)	190 (12.6%)	0.0411
Sometimes	45 (5.5%)	34 (4.2%)		157 (10.4%)	132 (8.7%)	
Always	81 (10.0%)	64 (7.9%)		201 (13.3%)	197 (13.1%)	
Not applicable	657 (80.7%)	687 (84.4%)		922 (61.1%)	990 (65.6%)	
Using soap						
Never	10 (1.2%)	5 (0.6%)	< 0.0001	7 (0.5%)	1 (0.1%)	< 0.0001
Sometimes	134 (16.5%)	48 (5.9%)		195 (12.9%)	70 (4.6%)	
Always	670 (82.3%)	761 (93.5%)		1,307 (86.6%)	1,438 (95.3%)	
Using warm water						
Never	33 (4.1%)	28 (3.4%)	0.1276	28 (1.9%)	15 (1.0%)	0.0001
Sometimes	314 (38.6%)	279 (34.3%)		596 (39.5%)	498 (33.0%)	
Always	467 (57.4%)	507 (62.3%)		885 (58.6%)	996 (66.0%)	
Soaking hands before using soap						
Never	79 (9.7%)	88 (10.8%)	0.0205	119 (7.9%)	113 (7.5%)	0.0030
Sometimes	204 (25.1%)	156 (19.2%)		338 (22.4%)	259 (17.2%)	
Always	526 (64.6%)	568 (69.8%)		1,051 (69.6%)	1,136 (75.3%)	
Not applicable	5 (0.6%)	2 (0.2%)		1 (0.1%)	1 (0.1%)	
Spreading soap lather throughout the hands						
Never	74 (9.1%)	47 (5.8%)	< 0.0001	142 (9.4%)	52 (3.4%)	< 0.0001
Sometimes	341 (41.9%)	286 (35.1%)		659 (43.7%)	510 (33.8%)	
Always	394 (48.4%)	480 (59.0%)		704 (46.7%)	947 (62.8%)	
Not applicable	5 (0.6%)	1 (0.1%)		4 (0.3%)	0 (0.0%)	
Turning the faucet off with hand *						
Never	89 (10.9%)	142 (17.4%)	0.0001	210 (13.9%)	363 (24.1%)	< 0.0001
Sometimes	198 (24.3%)	219 (26.9%)		388 (25.7%)	409 (27.1%)	
Always	527 (64.7%)	453 (55.7%)		911 (60.4%)	737 (48.8%)	
Drying hands with towel						
Never	21 (2.6%)	13 (1.6%)	0.0008	56 (3.7%)	44 (2.9%)	0.0012
Sometimes	166 (20.4%)	114 (14.0%)		335 (22.2%)	262 (17.4%)	
Always	627 (77.0%)	687 (84.4%)		1,118 (74.1%)	1,203 (79.7%)	

* including in the applied procedure was interpreted as incorrect, as the faucet should not be touched barehanded after washing hands; ** chi² test.