## Supplemental Table 1. Complete list of Bivariate Associations for Water, Sanitation, and Hygiene-related Risk Factors with Any Soil-Transmitted Helminth Infection among PSAC and SAC Children

Characteristic	Observations	Frequency (%)/ Mean (SD)	Unadjusted PR	95% CI	P value
Household demographics		(3)			
Female head of household education level (years)	676	8.20 (2.4)	0.97	0.94-1.01	0.09
Ethnicity	676				
Kisii – Reference		40 (5.9%)	-	- 0.02.2.01	- 0.17
Luhya Luo		123 (18.2%) 469 (69.4%)	1.55 1.95	0.83-2.91 1.08-3.51	0.17
Other		44 (6.5%)	1.57	0.78-3.19	0.03**
Household Crowding (individuals/bedroom)	676	5.09 (2.0)	1.01	0.96-1.06	0.69
Wealth		(=10)			0.07
Factor 1 – Animals	676	N/A	0.96	0.87-1.06	0.44
Factor 2 – Cooking	676	N/A	0.95	0.85-1.05	0.30
Factor 3 – Household possessions	676	N/A	0.94	0.83-1.06	0.32
Child characteristics					
Age (years)	676	8.96 (4.43)	0.99	0.97-1.01	0.46
Female sex	676	360 (53.3%)	0.97	0.80-1.16	0.72
Dewormed in the last year	676	380 (56.2%)	0.80	0.66-0.96	0.02*
Always wears shoes Attends nursery or school	676 676	189 (28.0%) 555 (82.1%)	0.80 1.30	0.64-1.01 1.05-1.62	0.06
Water indicators	070	333 (84.1%)	1.50	1.03-1.02	0.02**
Main water source	676		1	1	1
Piped water into dwelling, plot, or yard -	10,0	10 (1.5%)	-	_	_
Reference		10 (1.570)			
Other improved		666 (98.5%)	3.32	0.54-20.39	0.20
Unimproved		0 (0%)	-	-	-
Water collection time > 60 min	669	12 (1.79%)	1.36	0.78-2.39	0.28
Weekly household water expenditures (USD)	676	\$2.15 (\$1.92)	0.91	0.69-1.21	0.52
Weekly household water expenditures per person (USD)	676	\$0.38 (\$0.32)	0.96	0.91-1.01	0.16
Constant water availability	665	96 (14.4%)	1.14	0.89-1.45	0.31
Difficulty meeting water needs	676	480 (71.0%)	1.20	0.96-1.49	0.10
Water stored in household	675	599 (88.7%)	0.90	0.68-1.18	0.43
Narrow mouthed storage container (3 cm or less)	595	381 (64.0%)	1.02	0.83-1.25	0.86
Storage container covered	593	518 (87.4%)	0.75	0.58-0.96	0.02*
Storage container on floor	592	445 (75.2%)	1.18	0.92-1.52	0.19
Ever treats water Always treats water	676 676	411 (60.8%) 256 (37.9%)	0.87 0.81	0.72-1.05 0.66-0.99	0.14
Treats water frequency	676	411 (60.8%)	0.81	0.00-0.99	0.04**
Always - Reference	070	256 (37.9%)	0.67	0.72-1.03	-
Usually		84 (12.4%)	1.58	1.23-2.04	<0.001
Sometimes		67 (9.9%)	0.80	0.52-1.21	0.29
Never		269 (39.8%)	1.24	1.00-1.54	0.05
Sanitation		( , , , , ,			
Main sanitation facility	676				
Improved		9 (1.33%)	0.31	0.05-1.93	0.21
Shared - Reference		578 (85.0%)	-	_	-
Unimproved		68 (10.1%)	1.15	0.87-1.51	0.32
Open Defecation		21 (3.2%)	1.01	0.59-1.73	0.97
Improved or shared sanitation facility (Day)	675	590 (87.4%)	0.90	0.70-1.17	0.43
Improved or shared sanitation facility (Night)	673	428 (63.6%)	0.90	0.70-1.17	0.43
<u> </u>					
Shares toilet facility	673	642 (95.4%)	1.25	0.74-2.10	0.40
Toilet used by at least 5 other households	673	468 (69.5%)	0.93	0.77-1.12	0.43
Toilet used by at least 10 other households	673	424 (63.0%)	0.90	0.74-1.09	0.27
Improved infant stool disposal	658	307 (46.7%)	0.95	0.78-1.14	0.57
Toilet located outside household premises	675	557 (82.5%)	1.33	1.00-1.77	0.047*
Feces observed in toilet facility	641	439 (68.5%)	1.09	0.88-1.35	0.42
Sewage observed pooling from latrine	642	93 (14.5%)	1.00	0.76-1.31	0.99
Toilet component in good condition					
Roof	642	527 (82.0%)	0.83	0.66-1.04	0.11
Slab <sup>¥</sup>	590	543 (92.0%)	0.88	0.62-1.23	0.45

Hygiene   C75   C75   C77   C73   C73   C74   C75   C75   C77   C73   C75   C75	Door	642	563 (89.2%)	0.89	0.68-1.16	0.38
Owns soap         676         620 (91.7%)         0.84         0.63-1.13         0.26           Used soap today or yesterday         675         606 (89.8%)         0.91         0.68-1.21         0.50           "When do you wash your hands?"         675         606 (89.8%)         0.91         0.68-1.21         0.50           After defecating/using the toilet         608 (90.1%)         1.01         0.74-1.37         0.97           Before preparing food or cooking         628 (93.0%)         1.23         0.81-1.89         0.33           Before feeding children         60 (8.9%)         0.83         0.58-1.20         0.33           Handwashing station characteristics         ***         ***         ***           Water dispensed into basin         369         353 (95.6%)         2.60         0.72-9.33         0.14           Water available         436         355 (96.4%)         1.39         0.60-3.24         0.44           Cleanser available         436         326 (87.6%)         0.92         0.62-1.36         0.59           Towel available near toilet         644         117 (17.7%)         1.19         0.95-1.50         0.14           Handwashing station available near toilet         644         117 (17.7%)         1.19         0	Hygiene					
Used soap today or yesterday   675   606 (89.8%)   0.91   0.68-1.21   0.50	Washed hands today or yesterday	675	657 (97.3%)	0.88	0.53-1.47	0.63
"When do you wash your hands?"         675           After defecating/using the toilet         608 (90.1%)         1.01         0.74-1.37         0.97           Before preparing food or cooking         628 (93.0%)         1.23         0.81-1.89         0.33           Before feeding children         60 (8.9%)         0.83         0.58-1.20         0.33           Handwashing station characteristics         0.83         0.58-1.20         0.33           Water dispensed into basin         369         353 (95.6%)         2.60         0.72-9.33         0.14           Water available         436         355 (96.4%)         1.39         0.60-3.24         0.44           Cleanser available         436         326 (87.6%)         0.92         0.62-1.36         0.59           Towel available         371         71 (19.1%)         0.69         0.45-1.04         0.08           Handwashing station available near toilet         644         117 (17.7%)         1.19         0.95-1.50         0.14           Handwashing demonstration         486         223 (45.9%)         0.96         0.83-1.11         0.57           Washed bands 30 seconds         486         478 (98.4%)         0.66         0.37-1.19         0.17           Rubbed hands 10 segther at	Owns soap	676	620 (91.7%)	0.84	0.63-1.13	0.26
After defecating/using the toilet         608 (90.1%)         1.01         0.74-1.37         0.97           Before preparing food or cooking         628 (93.0%)         1.23         0.81-1.89         0.33           Before feeding children         60 (8.9%)         0.83         0.58-1.20         0.33           Handwashing station characteristics         ***         ***         ***           Water dispensed into basin         369         353 (95.6%)         2.60         0.72-9.33         0.14           Water available         436         355 (96.4%)         1.39         0.60-3.24         0.44           Cleanser available         436         326 (87.6%)         0.92         0.62-1.36         0.59           Towel available         371         71 (19.1%)         0.69         0.45-1.04         0.08           Handwashing station available near toilet         644         117 (17.7%)         1.19         0.95-1.50         0.14           Handwashing demonstration         **         **         117 (17.7%)         1.19         0.95-1.50         0.14           Handwashing demonstration         **         486         478 (98.4%)         0.66         0.37-1.19         0.17           Rubbed hands of soether at least 3 times         486         478	Used soap today or yesterday	675	606 (89.8%)	0.91	0.68-1.21	0.50
Before preparing food or cooking   628 (93.0%)   1.23   0.81-1.89   0.33     Before feeding children   60 (8.9%)   0.83   0.58-1.20   0.33     Handwashing station characteristics   Water dispensed into basin   369   353 (95.6%)   2.60   0.72-9.33   0.14     Water available   436   355 (96.4%)   1.39   0.60-3.24   0.44     Cleanser available   436   326 (87.6%)   0.92   0.62-1.36   0.59     Towel available   371   71 (19.1%)   0.69   0.45-1.04   0.08     Handwashing station available near toilet   644   117 (17.7%)   1.19   0.95-1.50   0.14     Handwashing demonstration   Washed hands 30 seconds   486   223 (45.9%)   0.96   0.83-1.11   0.57     Washed both hands   446   478 (98.4%)   0.66   0.37-1.19   0.17     Rubbed hands together at least 3 times   486   466 (95.9%)   0.82   0.51-1.32   0.42     Washed with water   486   484 (99.6%)   1.39   0.60-3.24   0.44     Used cleanser   486   408 (84.0%)   0.84   0.64-1.10   0.19     Used soap   486   405 (83.3%)   0.81   0.63-1.06   0.12     Dried hands on garment   486   157 (32.3%)   1.08   0.86-1.37   0.49     Dried hands with towel   486   96 (19.8%)   0.75   0.55-1.04   0.09     Dried hands with towel   484   78 (16.1%)   0.58   0.38-0.87   <0.01*     Environment   Elevation (10 meter increments)   676   566 (83.7%)   0.76   0.62-0.94   0.01*     Electricity in the home   676   602 (89.1%)   0.70   0.55-0.87   <0.01*	"When do you wash your hands?"	675				
Before feeding children	After defecating/using the toilet		608 (90.1%)	1.01	0.74-1.37	0.97
Handwashing station characteristics   Water dispensed into basin   369   353 (95.6%)   2.60   0.72-9.33   0.14			628 (93.0%)	1.23	0.81-1.89	0.33
Water dispensed into basin         369         353 (95.6%)         2.60         0.72-9.33         0.14           Water available         436         355 (96.4%)         1.39         0.60-3.24         0.44           Cleanser available         436         326 (87.6%)         0.92         0.62-1.36         0.59           Towel available         371         71 (19.1%)         0.69         0.45-1.04         0.08           Handwashing station available near toilet         644         117 (17.7%)         1.19         0.95-1.50         0.14           Handwashing demonstration         486         223 (45.9%)         0.96         0.83-1.11         0.57           Washed bands 30 seconds         486         223 (45.9%)         0.96         0.83-1.11         0.57           Washed both hands         486         478 (98.4%)         0.66         0.37-1.19         0.17           Rubbed hands together at least 3 times         486         466 (95.9%)         0.82         0.51-1.32         0.42           Washed with water         486         484 (99.6%)         1.39         0.60-3.24         0.44           Used cleanser         486         486 (95.9%)         0.84         0.64-1.10         0.19           Used soap         486	Before feeding children		60 (8.9%)	0.83	0.58-1.20	0.33
Water available         436         355 (96.4%)         1.39         0.60-3.24         0.44           Cleanser available         436         326 (87.6%)         0.92         0.62-1.36         0.59           Towel available         371         71 (19.1%)         0.69         0.45-1.04         0.08           Handwashing station available near toilet         644         117 (17.7%)         1.19         0.95-1.50         0.14           Handwashing demonstration             0.96         0.83-1.11         0.57           Washed both hands         486         223 (45.9%)         0.96         0.83-1.11         0.57           Rubbed hands together at least 3 times         486         478 (98.4%)         0.66         0.37-1.19         0.17           Rubbed hands together at least 3 times         486         484 (99.6%)         1.39         0.60-3.24         0.42           Washed with water         486         484 (99.6%)         1.39         0.60-3.24         0.44           Used cleanser         486         488 (99.6%)         1.39         0.60-3.24         0.44           Used soap         486         486 (84.0%)         0.84         0.64-1.10         0.19           Used s						
Cleanser available	Water dispensed into basin	369	353 (95.6%)	2.60	0.72-9.33	0.14
Towel available	Water available	436	355 (96.4%)	1.39	0.60-3.24	0.44
Handwashing station available near toilet	Cleanser available	436	326 (87.6%)	0.92	0.62-1.36	0.59
Handwashing demonstration	Towel available	371	71 (19.1%)	0.69	0.45-1.04	0.08
Washed hands 30 seconds         486         223 (45.9%)         0.96         0.83-1.11         0.57           Washed both hands         486         478 (98.4%)         0.66         0.37-1.19         0.17           Rubbed hands together at least 3 times         486         466 (95.9%)         0.82         0.51-1.32         0.42           Washed with water         486         484 (99.6%)         1.39         0.60-3.24         0.44           Used cleanser         486         408 (84.0%)         0.84         0.64-1.10         0.19           Used soap         486         405 (83.3%)         0.81         0.63-1.06         0.12           Dried hands         486         298 (61.3%)         0.98         0.78-1.23         0.87           Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*		644	117 (17.7%)	1.19	0.95-1.50	0.14
Washed both hands         486         478 (98.4%)         0.66         0.37-1.19         0.17           Rubbed hands together at least 3 times         486         466 (95.9%)         0.82         0.51-1.32         0.42           Washed with water         486         484 (99.6%)         1.39         0.60-3.24         0.44           Used cleanser         486         408 (84.0%)         0.84         0.64-1.10         0.19           Used soap         486         405 (83.3%)         0.81         0.63-1.06         0.12           Dried hands         486         298 (61.3%)         0.98         0.78-1.23         0.87           Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Handwashing demonstration					
Rubbed hands together at least 3 times         486         466 (95.9%)         0.82         0.51-1.32         0.42           Washed with water         486         484 (99.6%)         1.39         0.60-3.24         0.44           Used cleanser         486         408 (84.0%)         0.84         0.64-1.10         0.19           Used soap         486         405 (83.3%)         0.81         0.63-1.06         0.12           Dried hands         486         298 (61.3%)         0.98         0.78-1.23         0.87           Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Washed hands 30 seconds	486	223 (45.9%)	0.96	0.83-1.11	0.57
Washed with water         486         484 (99.6%)         1.39         0.60-3.24         0.44           Used cleanser         486         408 (84.0%)         0.84         0.64-1.10         0.19           Used soap         486         405 (83.3%)         0.81         0.63-1.06         0.12           Dried hands         486         298 (61.3%)         0.98         0.78-1.23         0.87           Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Washed both hands	486		0.66	0.37-1.19	0.17
Used cleanser         486         408 (84.0%)         0.84         0.64-1.10         0.19           Used soap         486         405 (83.3%)         0.81         0.63-1.06         0.12           Dried hands         486         298 (61.3%)         0.98         0.78-1.23         0.87           Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Rubbed hands together at least 3 times	486	466 (95.9%)	0.82	0.51-1.32	0.42
Used soap         486         405 (83.3%)         0.81         0.63-1.06         0.12           Dried hands         486         298 (61.3%)         0.98         0.78-1.23         0.87           Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Washed with water	486	484 (99.6%)	1.39	0.60-3.24	0.44
Dried hands         486         298 (61.3%)         0.98         0.78-1.23         0.87           Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Used cleanser	486	408 (84.0%)	0.84	0.64-1.10	0.19
Dried hands on garment         486         157 (32.3%)         1.08         0.86-1.37         0.49           Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Used soap	486	405 (83.3%)	0.81	0.63-1.06	0.12
Dried hands in air         486         45 (9.3%)         1.22         0.88-1.70         0.24           Dried hands with towel         486         96 (19.8%)         0.75         0.55-1.04         0.09           Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*	Dried hands	486	298 (61.3%)	0.98	0.78-1.23	0.87
Dried hands with towel   486   96 (19.8%)   0.75   0.55-1.04   0.09		486	157 (32.3%)	1.08	0.86-1.37	0.49
Dried hands with clean towel         484         78 (16.1%)         0.58         0.38-0.87         <0.01*           Environment         Elevation (10 meter increments)         676         1,740 (12.0)         0.89         0.83-0.96         <0.01*	Dried hands in air	486	45 (9.3%)	1.22	0.88-1.70	0.24
Environment         Elevation (10 meter increments)         676         1,740 (12.0)         0.89         0.83-0.96         <0.01*           Finished household flooring material†         676         566 (83.7%)         0.76         0.62-0.94         0.01*           Electricity in the home         676         602 (89.1%)         0.70         0.55-0.87         <0.01*	Dried hands with towel	486	96 (19.8%)	0.75	0.55-1.04	0.09
Elevation (10 meter increments)         676         1,740 (12.0)         0.89         0.83-0.96         <0.01*           Finished household flooring material†         676         566 (83.7%)         0.76         0.62-0.94         0.01*           Electricity in the home         676         602 (89.1%)         0.70         0.55-0.87         <0.01*	Dried hands with clean towel	484	78 (16.1%)	0.58	0.38-0.87	<0.01*
Finished household flooring material†         676         566 (83.7%)         0.76         0.62-0.94         0.01*           Electricity in the home         676         602 (89.1%)         0.70         0.55-0.87         <0.01*	<b>Environment</b>					
Electricity in the home 676 602 (89.1%) 0.70 0.55-0.87 <0.01*	Elevation (10 meter increments)	676	1,740 (12.0)	0.89	0.83-0.96	<0.01*
Electricity in the home 676 602 (89.1%) 0.70 0.55-0.87 <0.01*	Finished household flooring material†	676	566 (83.7%)	0.76	0.62-0.94	0.01*
	Electricity in the home	676	602 (89.1%)	0.70	0.55-0.87	<0.01*
Household floods during rain   676   248 (36.7%)   1.00   0.82-1.21   0.98	Household floods during rain	676	248 (36.7%)	1.00	0.82-1.21	0.98
Feces observed in yard 675 159 (23.6%) 1.14 0.93-1.41 0.20		675		1.14	0.93-1.41	0.20
Sewage observed in yard 676 49 (7.3%) 1.09 0.78-1.52 0.63	<u> </u>	676	49 (7.3%)	1.09	0.78-1.52	0.63
Sewage observed in neighbour's yard 676 122 (18.1%) 0.94 0.73-1.20 0.63	Sewage observed in neighbour's yard	676	122 (18.1%)	0.94	0.73-1.20	0.63

<sup>\*</sup> p-value <0.05

\*\* p-value ≤0.01

† - Finished flooring material includes vinyl/asphalt strips, cement, or carpet

<sup>¥ -</sup> The quality of slab was not assessed on facilities that were not designed to include a slab (i.e., pit latrine without a slab)