

Supplementary File

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Table 1: Sensitivity analysis comparing different options to calculate the total PaCKS score

	Total PaCKS score Restrictive¹	Total PaCKS score Lenient²	Total PaCKS score Inclusive³
N valid	1658	1852	1934
N Missing	350	156	74
Mean	7.92	7.87	7.71
Median	8.00	8.00	8.00
Standard deviation	3.460	3.411	3.478
Total score values valid %			
0	7.1	6.6	6.9
1	1.3	1.3	2.0
2	1.2	1.2	1.4
3	2.8	3.2	3.5
4	2.6	2.8	3.1
5	4.6	4.7	4.7
6	8.7	9.2	9.3
7	11.1	11.0	10.8
8	12.2	12.4	12.5
9	11.0	10.9	10.7
10	12.2	12.6	12.0
11	10.7	10.5	10.0
12	8.9	8.6	8.2

13	5.6	5.0	4.8
Total %	100.0	100.0	100.0

¹‘restrictive’ option: includes only respondents who filled in all 13 items

²‘lenient’ option: includes only respondents who completed at least 11 of the 13 items

³‘inclusive’ option: includes respondents as soon as one of the 13 items is answered

Figure 1: Division of total PaCKS scores among respondents who filled in all 13 items

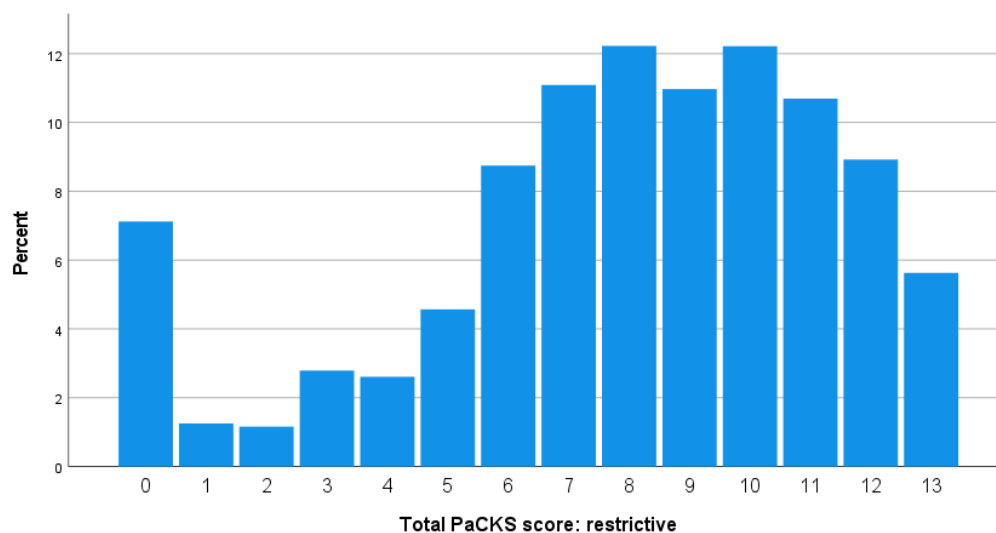


Figure 2: Division of total PaCKS scores among respondents who completed at least 11 of 13 items

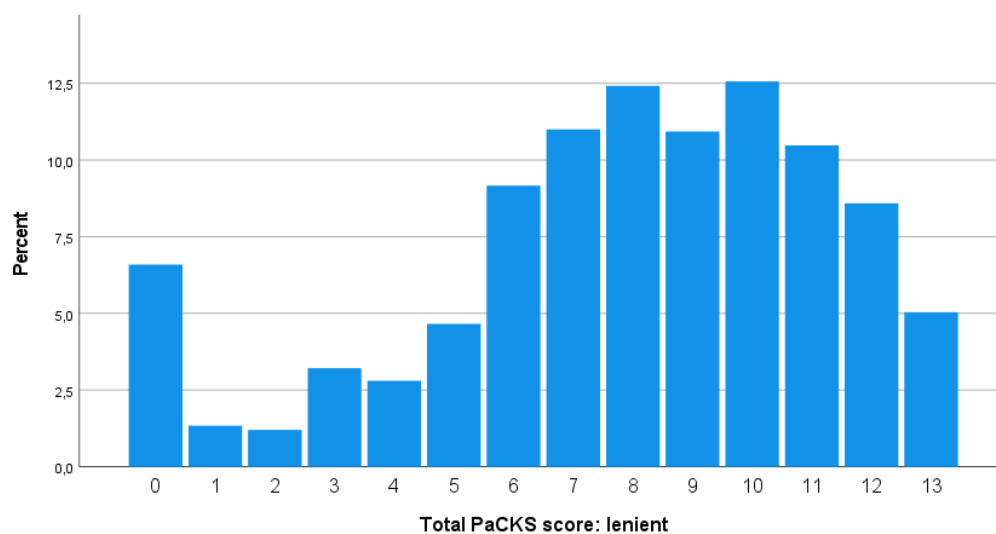


Figure 3: Division of total PaCKS scores among respondents who filled in at least one of 13 items

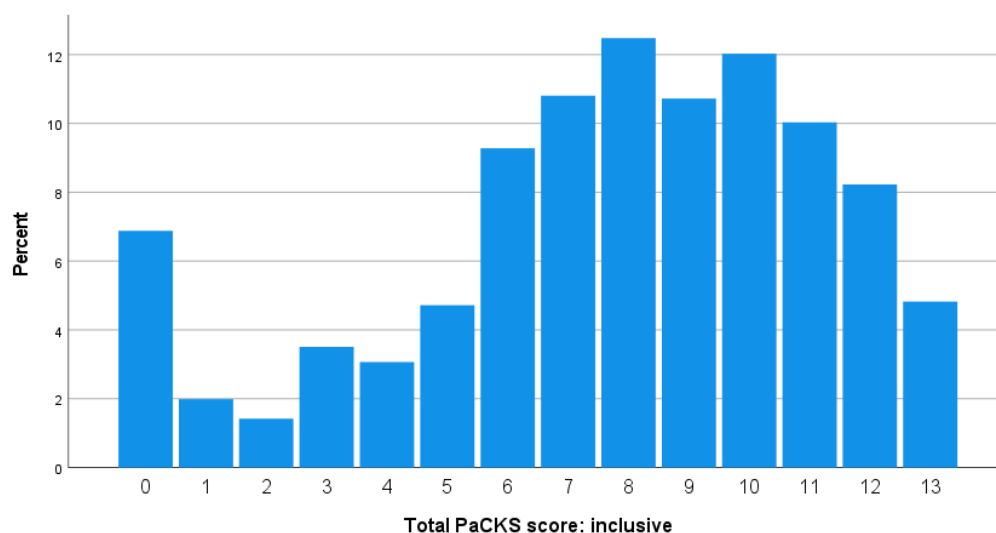


Table 2: Scheme to determine the congruence between self-perceived and actual knowledge of palliative care

CONGRUENCE														
Self-perceived knowledge	PaCKS scores													
1	0	1	2	3	4	5	6	7	8	9	10	11	12	13
2	0	1	2	3	4	5	6	7	8	9	10	11	12	13
3	0	1	2	3	4	5	6	7	8	9	10	11	12	13
4	0	1	2	3	4	5	6	7	8	9	10	11	12	13
5	0	1	2	3	4	5	6	7	8	9	10	11	12	13
6	0	1	2	3	4	5	6	7	8	9	10	11	12	13
7	0	1	2	3	4	5	6	7	8	9	10	11	12	13

Yellow = accurate estimation

Orange = underestimation

Green = overestimation

Blue = big underestimation

Purple = big overestimation

Table 3: Complete case analysis

Hurdle model (complete case analysis)									
PART 1: Binary logistic models for zero values					PART 2: linear regression model for non-zero values				
		95% CI for Exp (β)					95% Confidence Interval		
	Exp (β)	Lower	upper	Sign.		B	lower	upper	Sign.
Model 1:									
Constant	21.38			p<0.001	Constant	8.55	8.37	8.73	p<0.001
Sex^{a*}					Sex^a				
Male	0.51	0.35	0.76	p<0.001	Male	-0.20	-0.46	0.07	p=0.140
Model 2:									
Constant	9.50			p<0.001	Constant	8.06	7.69	8.44	p<0.001
Age^{b*}					Age^{b*}				
30-44	1.20	0.66	2.18	p=0.559	30-44	0.52	0.03	1.02	p=0.038
45-59	1.99	1.10	3.60	p=0.022	45-59	0.69	0.25	1.14	p=0.002
60-74	2.89	1.52	5.50	p=0.001	60-74	0.37	-0.08	0.82	p=0.106
75+	0.98	0.54	1.77	p=0.936	75+	0.09	-0.42	0.60	p=0.727
Model 3:									
Constant	4.46			p<0.001	Constant	7.08	6.61	7.55	p<0.001
Educational level^{c*}					Educational level^{c*}				
Medium	3.47	2.15	5.59	p<0.001	Medium	0.82	0.46	1.18	p<0.001
High	9.93	5.29	18.63	p<0.001	High	1.66	1.30	2.01	p<0.001
Other	0.69	0.29	1.63	p=0.395	Other	0.06	-0.93	1.05	p=0.909
Sex^{a*}					Sex^a				
Male	0.50	0.33	0.75	p<0.001	Male	-0.16	-0.42	0.10	p=0.224
Age^{b*}					Age^{b*}				
30-44	0.95	0.50	1.80	p=0.862	30-44	0.35	-0.13	0.84	p=0.152
45-59	2.08	1.11	3.88	p=0.022	45-59	0.66	0.23	1.10	p=0.003
60-74	4.25	2.15	8.39	p<0.001	60-74	0.54	0.10	0.99	p=0.015
75+	1.86	0.97	3.55	p=0.061	75+	0.57	0.05	1.08	p=0.031
Model 4:									
Constant	11.01			p<0.001	Constant	7.55	7.04	8.05	p<0.001
Religion^{d*}					Religion^{d*}				
Catholicism	0.74	0.43	1.26	p=0.266	Catholicism	-0.38	-0.66	-0.10	p=0.009
Islam	0.09	0.05	0.17	p<0.001	Islam	-2.22	-3.04	-1.41	p<0.001
Other	0.33	0.12	0.91	p=0.031	Other	-0.28	-1.07	0.52	p=0.497
Sex^{a*}					Sex^a				
Male	0.51	0.33	0.78	p=0.002	Male	-0.22	-0.48	0.04	p=0.096
Age^{b*}					Age^b				
30-44	0.88	0.44	1.78	p=0.728	30-44	0.35	-0.14	0.83	p=0.161
45-59	1.46	0.74	2.91	p=0.279	45-59	0.60	0.15	1.04	p=0.008
60-74	2.52	1.19	5.35	p=0.016	60-74	0.46	0.02	0.91	p=0.042
75+	1.04	0.50	2.18	p=0.910	75+	0.47	-0.06	1.00	p=0.079

Educational level^{c*}					Educational level^{c*}				
Medium	2.90	1.76	4.78	p<0.001	Medium	0.74	0.38	1.10	p<0.001
High	7.45	3.91	14.22	p<0.001	High	1.53	1.18	1.89	p<0.001
Other	0.61	0.25	1.48	p=0.270	Other	0.30	-0.70	1.30	p=0.556
Model 5:									
Constant	3.96			p<0.001	Constant	6.95	6.48	7.42	p<0.001
Professional experience in health care^{e*}					Professional experience in health care^{e*}				
yes	6.00	1.43	25.10	p=0.014	yes	1.09	0.72	1.46	p<0.001
Sex^{a*}					Sex^a				
Male	0.55	0.36	0.83	p=0.004	Male	-0.03	-0.29	0.23	p=0.835
Age^{b*}					Age^{b*}				
30-44	0.94	0.49	1.79	p=0.841	30-44	0.33	-0.15	0.81	p=0.176
45-59	2.13	1.14	4.00	p=0.018	45-59	0.66	0.22	1.09	p=0.003
60-74	4.37	2.21	8.65	p<0.001	60-74	0.57	0.13	1.00	p=0.011
75+	1.98	1.03	3.78	p=0.040	75+	0.65	0.14	1.16	p=0.013
Educational level^{c*}					Educational level^{c*}				
Medium	3.29	2.04	5.31	p<0.001	Medium	0.75	0.39	1.11	p<0.001
High	8.70	4.62	16.37	p<0.001	High	1.48	1.12	1.83	p<0.001
Other	0.60	0.25	1.44	p=0.253	Other	-0.15	-1.13	0.84	p=0.771
Model 6:									
Constant	9.96			p<0.001	Constant	7.82	7.42	8.21	p<0.001
Informal caregiving experience^f					Informal caregiving experience^f				
yes	1.43	0.91	2.25	p=0.116	yes	0.11	-0.17	0.39	p=0.438
Sex^{a*}					Sex^a				
Male	0.57	0.38	0.85	p=0.006	Male	-0.03	-0.29	0.24	p=0.846
Age^{b*}					Age^{b*}				
30-44	1.22	0.66	2.23	p=0.532	30-44	0.48	-0.01	0.97	p=0.054
45-59	2.05	1.12	3.75	p=0.020	45-59	0.68	0.23	1.13	p=0.003
60-74	2.91	1.50	5.67	p=0.002	60-74	0.39	-0.07	0.84	p=0.097
75+	1.03	0.55	1.92	p=0.939	75+	0.22	-0.30	0.74	p=0.403
Professional experience in health care^{e*}					Professional experience in health care^{e*}				
yes	8.53	2.08	35.02	p=0.003	yes	1.36	0.99	1.73	p<0.001
Model 7:									
Constant	7.47			p<0.001	Constant	7.60	7.19	8.00	p<0.001
Knowing PC through personal experience^{g*}					Knowing PC through personal experience^{g*}				
yes	14.21	6.52	30.93	p<0.001	yes	0.65	0.39	0.91	p<0.001
Sex^{a*}					Sex^a				
Male	0.56	0.37	0.85	p=0.007	Male	-0.02	-0.28	0.25	p=0.904
Age^{b*}					Age^b				
30-44	1.09	0.57	2.07	p=0.802	30-44	0.42	-0.07	0.90	p=0.091
45-59	1.59	0.85	2.98	p=0.149	45-59	0.61	0.16	1.05	p=0.007
60-74	2.24	1.12	4.48	p=0.023	60-74	0.30	-0.16	0.75	p=0.201
75+	0.91	0.47	1.76	p=0.772	75+	0.18	-0.34	0.70	p=0.495
Professional experience in health care^{e*}					Professional experience in health care^{e*}				
yes	8.93	2.17	36.84	p=0.002	yes	1.40	1.03	1.77	p<0.001
Informal caregiving experience^f					Informal caregiving experience^f				

yes	1.05	0.65	1.68	p=0.845	yes	-0.01	-0.29	0.28	p=0.954
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^a'Female' is reference category

^b'16-29' is reference category

^c'low educational level' is reference category

^d'not religious' is reference category

^e'no professional experience in health care' is reference category

^f'no informal caregiving experience' is reference category

^g'not knowing palliative care through personal experience' is reference category

*significant with P<0.05

Table 4: Full results (imputed data)

Hurdle model (imputed data)									
PART 1:					PART 2:				
Binary logistic models for zero values					linear regression model for non-zero values				
		95% CI for Exp (β)					95% Confidence Interval		
	Exp (β)	Lower	upper	Sign.		B	lower	upper	Sign.
Model 1:									
Constant	18.19	12.23	27.06	p<0.001	Constant	8.50	8.30	8.69	p<0.001
Sex^{a*}					Sex^a				
Male	0.59	0.37	0.95	p=0.032	Male	-0.17	-0.44	0.11	p=0.232
Model 2:									
Constant	8.93	5.78	13.79	p<0.001	Constant	8.02	7.63	8.40	p<0.001
Age^{b*}					Age^{b*}				
30-44	1.21	0.66	2.22	p=0.542	30-44	0.56	0.06	1.05	p=0.028
45-59	2.08	1.14	3.78	p=0.017	45-59	0.73	0.26	1.19	p=0.002
60-74	2.45	1.11	5.37	p=0.027	60-74	0.34	-0.14	0.82	p=0.166
75+	1.06	0.56	1.99	p=0.864	75+	0.07	-0.50	0.63	p=0.815
Model 3:									
Constant	3.83	2.06	7.11	p<0.001	Constant	7.02	6.53	7.51	p<0.001
Educational level^{c*}					Educational level^{c*}				
Medium	3.37	1.99	5.71	p<0.001	Medium	0.85	0.47	1.23	p<0.001
High	10.18	5.38	19.26	p<0.001	High	1.69	1.31	2.07	p<0.001
Other	0.71	0.30	1.70	p=0.442	Other	0.06	-0.94	1.07	p=0.900
Sex^{a**}					Sex^a				
Male	0.59	0.36	0.97	p=0.039	Male	-0.15	-0.42	0.12	p=0.269
Age^{b*}					Age^{b***}				
30-44	1.00	0.53	1.89	p=0.997	30-44	0.39	-0.10	0.88	p=0.119
45-59	2.17	1.17	4.05	p=0.015	45-59	0.69	0.23	1.15	p=0.003
60-74	3.73	1.65	8.39	p=0.002	60-74	0.57	0.09	1.04	p=0.019
75+	2.14	1.09	4.20	p=0.027	75+	0.59	0.04	1.15	P=0.036

Model 4:									
Constant	9.23	4.35	19.58	p<0.001	Constant	7.47	6.95	7.99	p<0.001
Religion^{d*}					Religion^{d*}				
Catholicism	0.72	0.42	1.22	p=0.221	Catholicism	-0.36	-0.65	-0.08	p=0.013
Islam	0.10	0.05	0.19	p<0.001	Islam	-2.24	-3.05	-1.42	p<0.001
Other	0.36	0.13	0.97	P=0.043	Other	-0.46	-1.24	0.33	p=0.252
Sex^{a***}					Sex^a				
Male	0.60	0.35	1.01	p=0.052	Male	-0.21	-0.48	0.06	p=0.126
Age^b					Age^b				
30-44	1.00	0.50	1.99	p=1.000	30-44	0.36	-0.13	0.84	p=0.146
45-59	1.61	0.82	3.17	p=0.164	45-59	0.63	0.17	1.08	p=0.007
60-74	2.27	0.97	5.33	p=0.059	60-74	0.47	-0.01	0.95	p=0.053
75+	1.26	0.59	2.72	p=0.552	75+	0.51	-0.04	1.06	p=0.070
Educational level^{c*}					Educational level^{c*}				
Medium	2.87	1.65	4.98	p<0.001	Medium	0.79	0.41	1.17	p<0.001
High	7.76	4.04	14.92	p<0.001	High	1.59	1.21	1.97	p<0.001
Other	0.69	0.28	1.72	p=0.429	Other	0.13	-0.86	1.12	p=0.799
Model 5:									
Constant	3.44	1.86	6.35	p<0.001	Constant	6.89	6.40	7.38	p<0.001
Professional experience in health care^{e*}					Professional experience in health care^{e*}				
Yes	5.83	1.35	25.19	p=0.018	Yes	1.08	0.71	1.46	p<0.001
Sex^{a****}					Sex^a				
Male	0.65	0.39	1.06	p=0.085	Male	-0.02	-0.29	0.25	p=0.878
Age^{b*}					Age^{b***}				
30-44	0.98	0.52	1.86	p=0.950	30-44	0.36	-,122	,847	p=0.019
45-59	2.21	1.18	4.13	p=0.014	45-59	0.68	,224	1,132	p=0.003
60-74	3.80	1.68	8.62	p=0.002	60-74	0.58	0.11	1.05	p=0.015
75+	2.24	1.14	4.40	p=0.020	75+	0.66	0.11	1.21	p=0.143
Educational level^{c*}					Educational level^{c*}				
Medium	3.20	1.88	5.43	p<0.001	Medium	0.78	0.40	1.16	p<0.001
High	8.88	4.68	16.85	p<0.001	High	1.51	1.13	1.90	p<0.001
Other	0.62	0.25	1.50	p=0.289	Other	-0.15	-1.15	0.85	p=0.775
Model 6:									
Constant	8.92	5.30	15.01	p<0.001	Constant	7.77	7.36	8.17	p<0.001
Informal caregiving experience^f					Informal caregiving experience^f				
yes	1.35	0.82	2.20	p=0.233	yes	0.13	-0.18	0.44	p=0.426
Sex^a					Sex^a				
Male	0.66	0.40	1.08	p=0.094	Male	0.00	-0.28	0.28	p=0.999
Age^{b**}					Age^{b§}				
30-44	1.20	0.65	2.22	p=0.552	30-44	0.51	0.01	1.00	p=0.044
45-59	2.08	1.14	3,82	p=0.018	45-59	0.69	0.22	1.17	p=0.004
60-74	2.44	1.04	5.72	p=0.041	60-74	0.36	-0.15	0.86	p=0.166
75+	1.11	0.57	2.13	p=0.765	75+	0.19	-0.40	0.77	p=0.526
Professional experience in health care^{e*}					Professional experience in health care^{e*}				
yes	8.28	1.98	34.68	p=0.004	yes	1.37	0.99	1.74	p<0.001
Model 7:									
Constant	6.48	3.82	11.01	p<0.001	Constant	7.55	7.14	7.96	p<0.001
Knowing PC through personal experience^{g*}					Knowing PC through personal experience^{g*}				
yes	9.15	4.00	20.95	p<0.001	yes	0.66	0.38	0.95	p<0.001

Sex^a					Sex^a				
Male	0.66	0.40	1.09	p=0.104	Male	0.00	-0.28	0.28	p=0.985
Age^b					Age^{b**}				
30-44	1.04	0.56	1.96	p=0.892	30-44	0.44	-0.05	0.93	p=0.080
45-59	1.67	0.90	3.09	p=0.106	45-59	0.61	0.14	1.08	p=0.012
60-74	1.88	0.80	4.41	p=0.145	60-74	0.25	-0.25	0.76	p=0.326
75+	0.92	0.47	1.79	p=0.798	75+	0.11	-0.48	0.69	p=0.714
Professional experience in health care^{e*}					Professional experience in health care^{e*}				
yes	9.16	2.18	38.48	p=0.003	yes	1.41	1.04	1.78	p<0.001
Informal caregiving experience^f					Informal caregiving experience^f				
yes	1.03	0.63	1.69	P=0.917	yes	0.02	-0.29	0.32	p=0.920

^a'Female' is reference category

^b'16-29' is reference category

^c'low educational level' is reference category

^d'not religious' is reference category

^e'no professional experience in health care' is reference category

^f'no informal caregiving experience' is reference category

^g'not knowing palliative care through personal experience' is reference category

*significant with P<0.05 in all 15 imputed datasets

§significant with P<0.05 in all but one of 15 imputed datasets

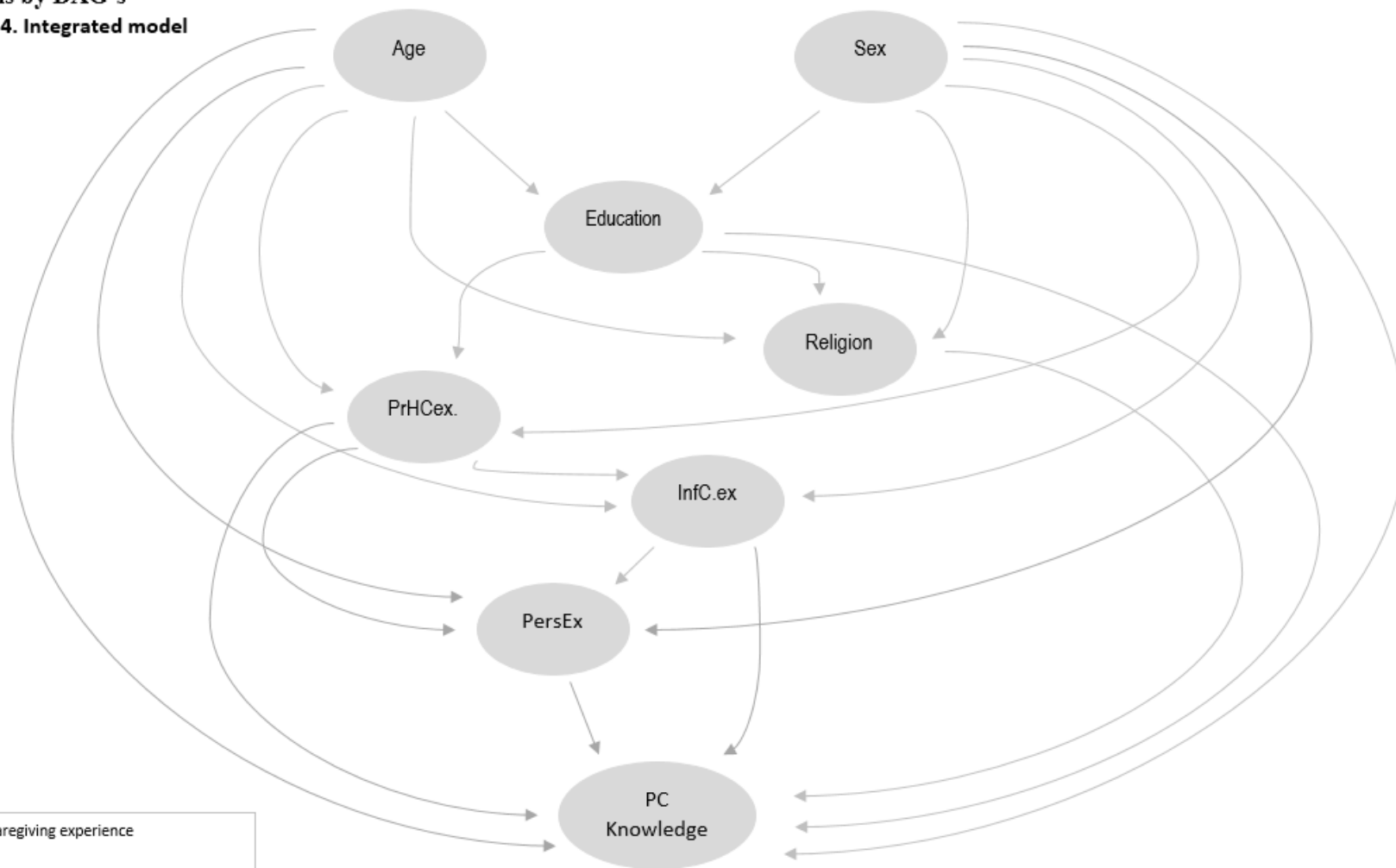
**significant with P<0.05 in all but two of 15 imputed datasets

***significant with P<0.05 in all but three of 15 imputed datasets

****significant with P<0.05 in all but four of 15 imputed datasets

variables that had non-significant coefficients in five or more than five of 15 imputed datasets are reported as non-significant.

Models by DAG's
Figure 4. Integrated model



InfC.ex=informal caregiving experience
 PC=palliative care
 PersEx=knowing palliative care through personal experience
 PrHCex=professional experience in health care
 yellow=predictor
 green=outcome
 blue=confounders

Figure 5. Model 1

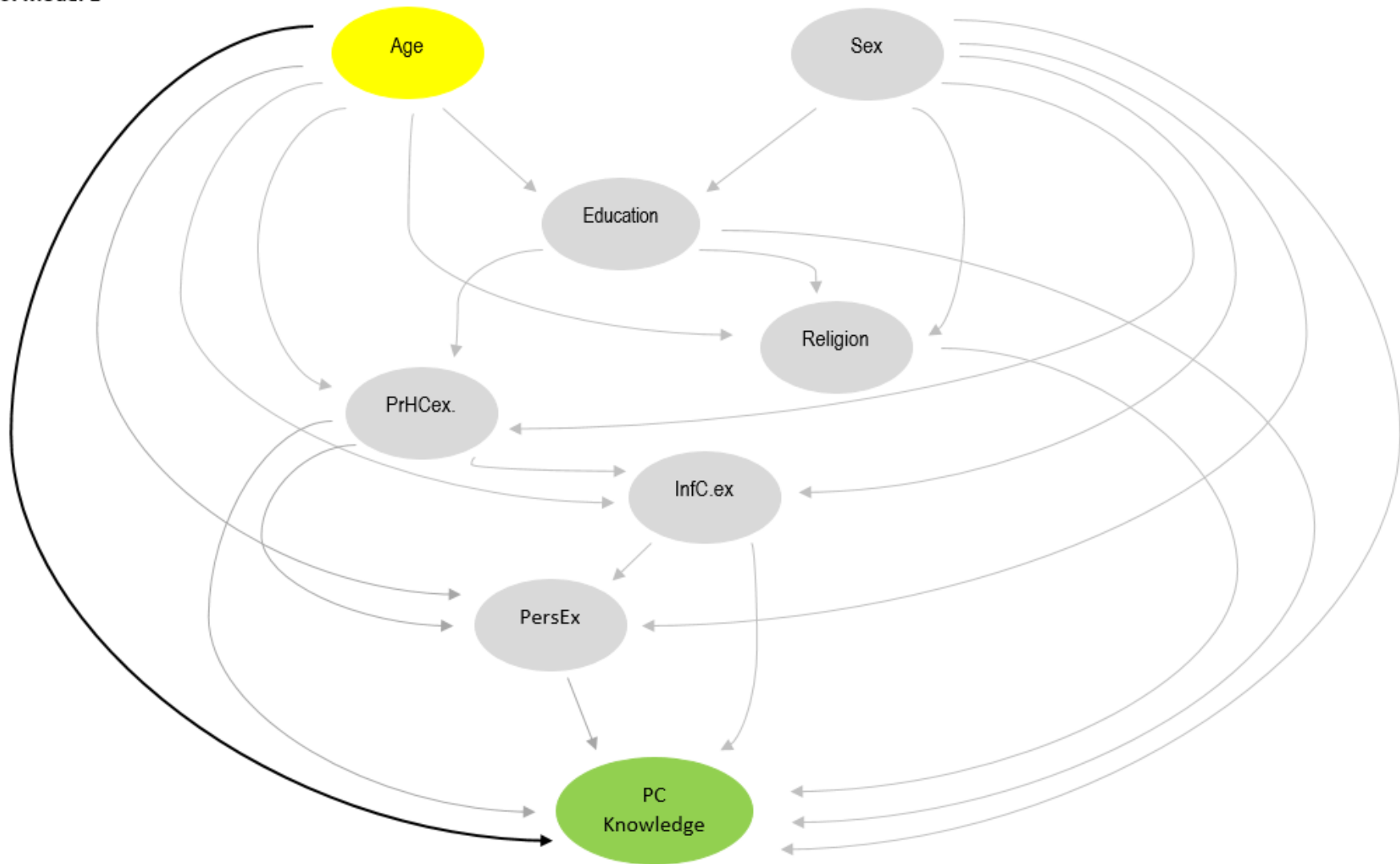


Figure 6. Model 2

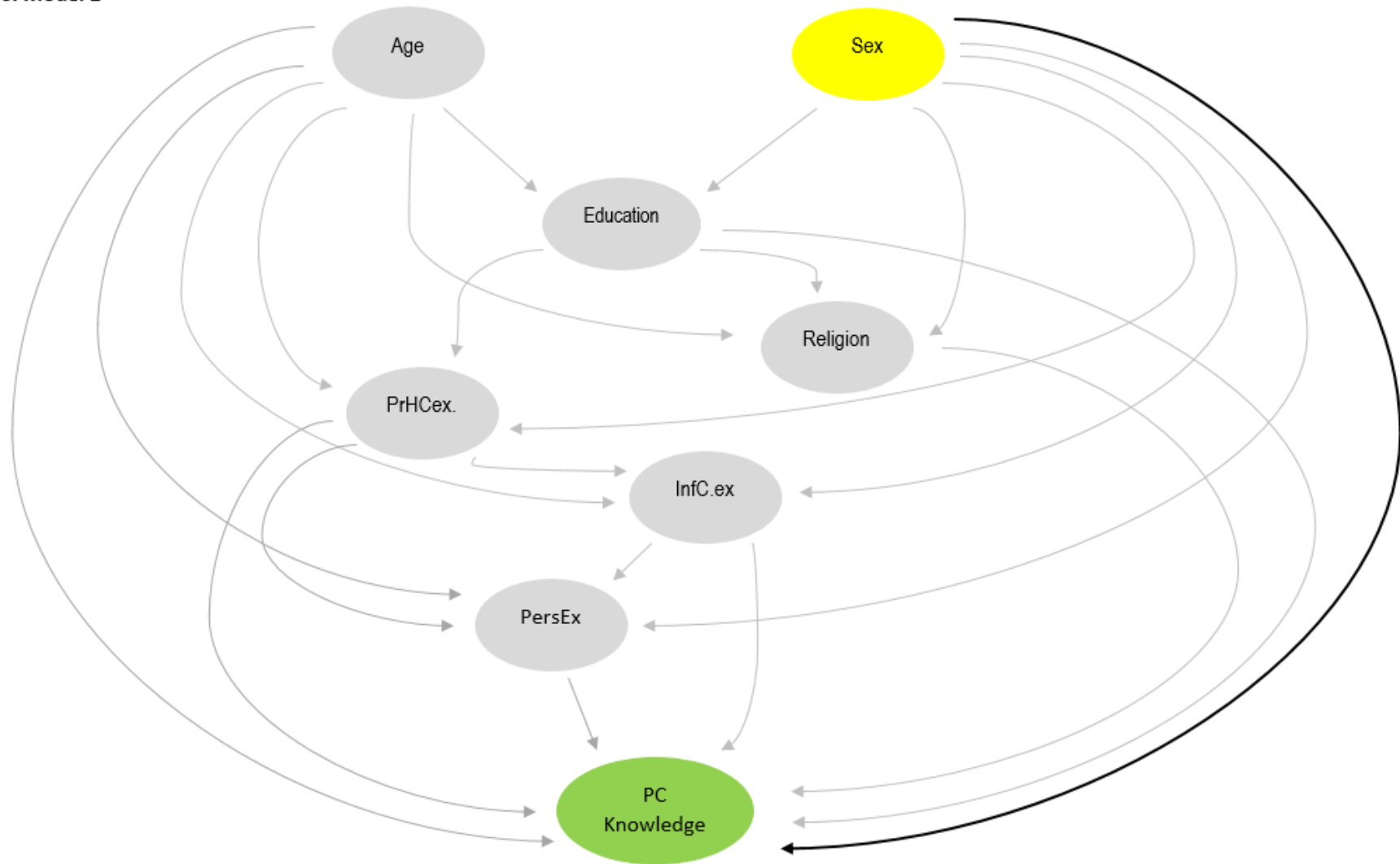


Figure 7. Model 3

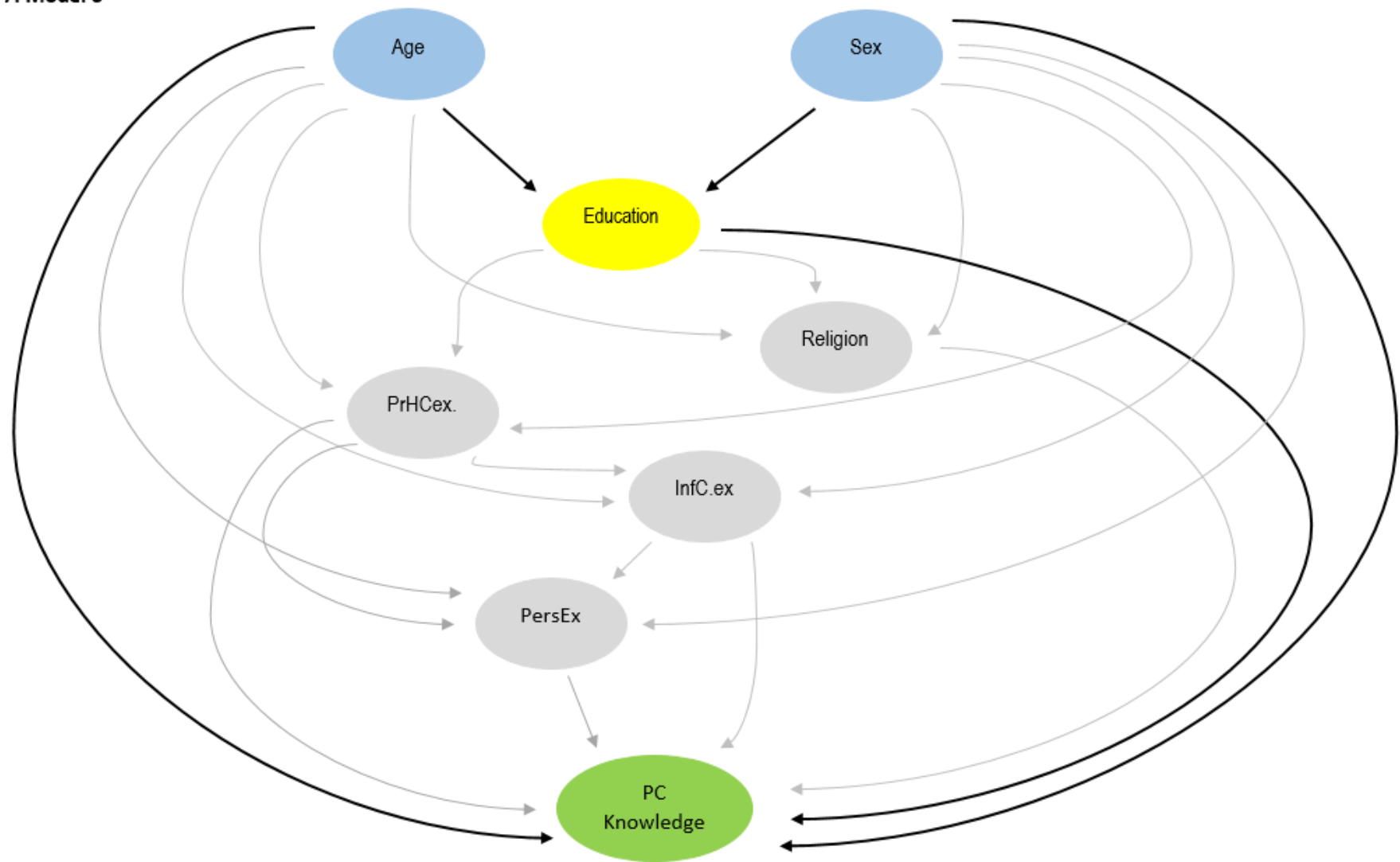


Figure 8. Model 4

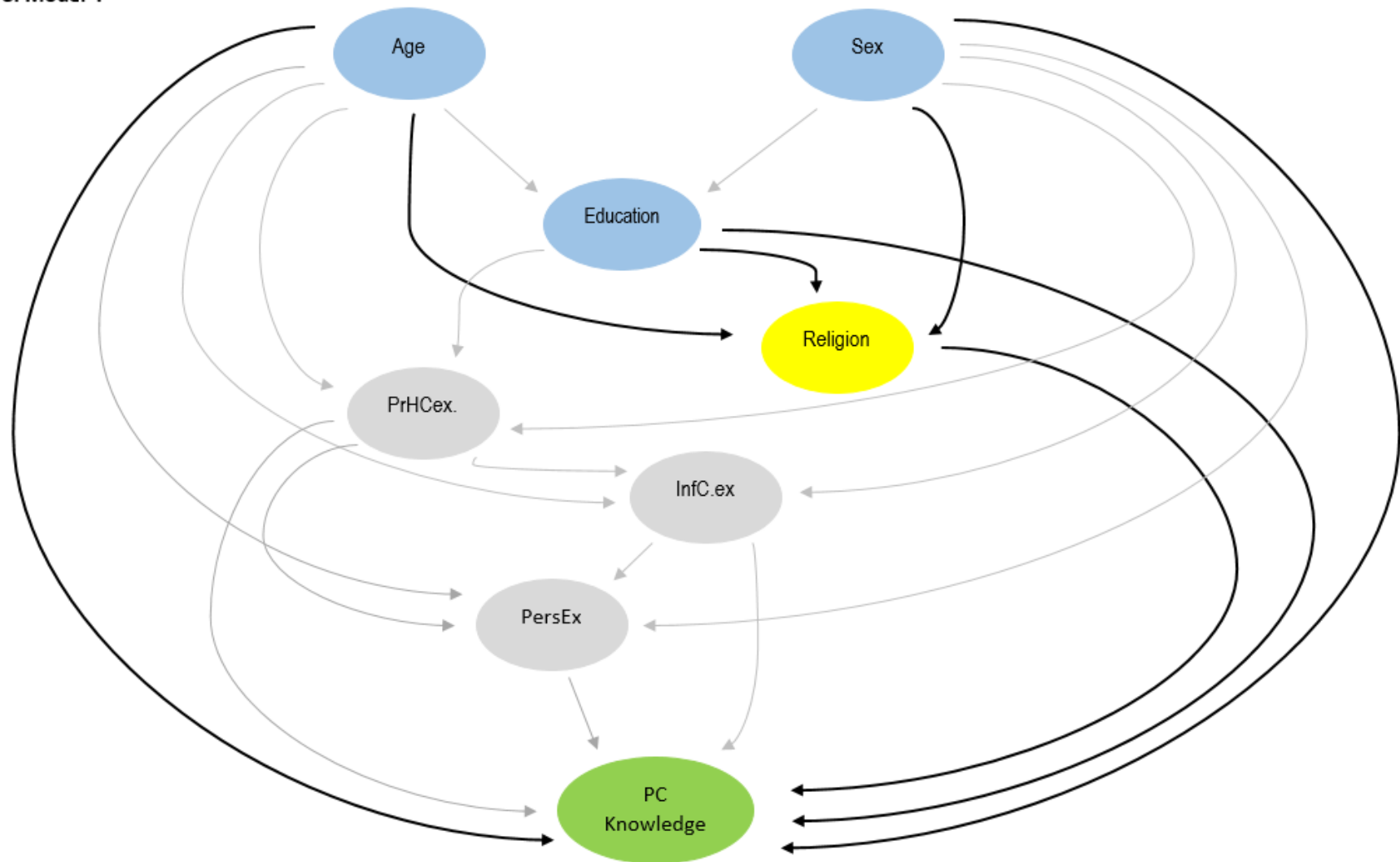


Figure 9. Model 5



Figure 10. Model 6

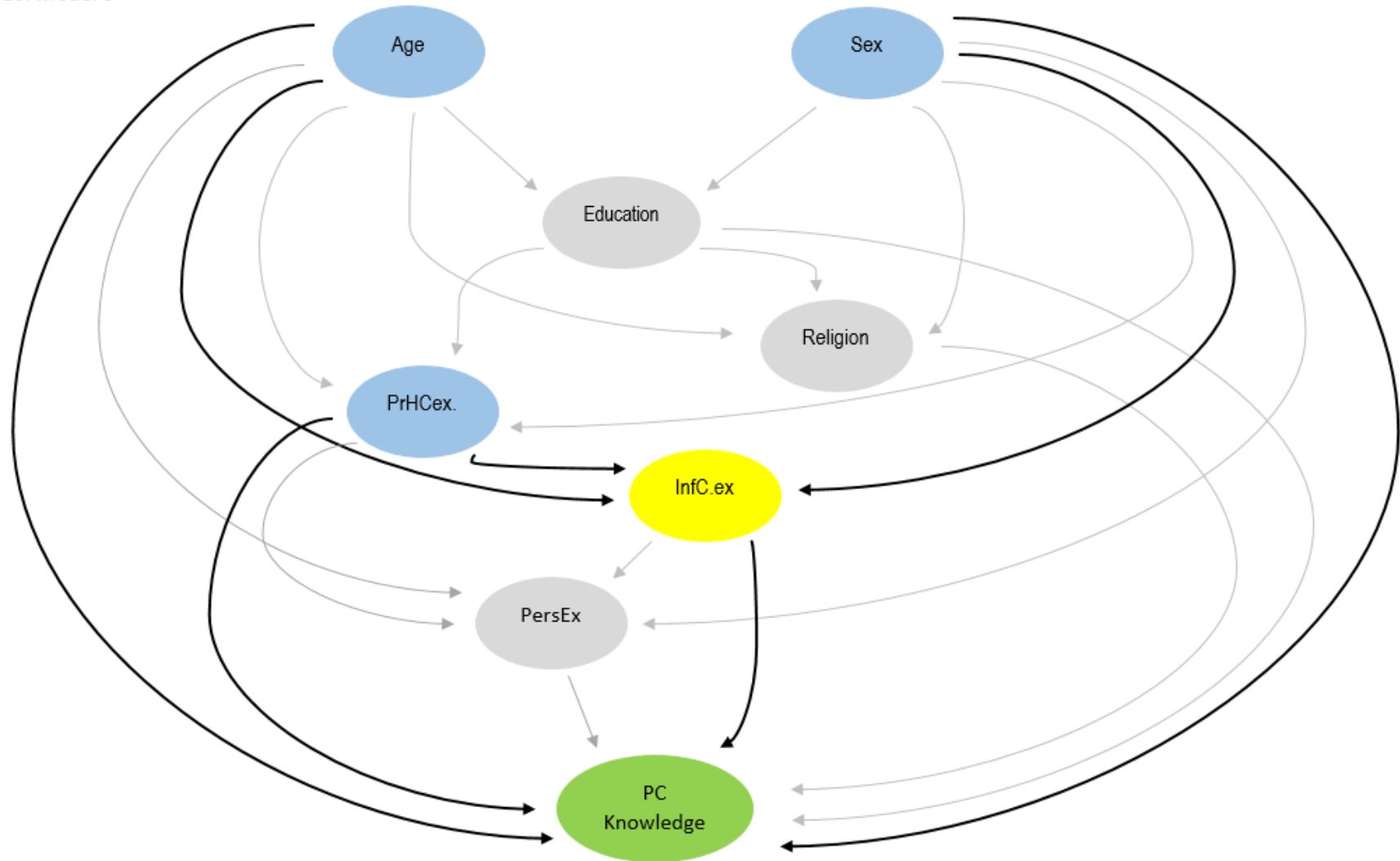


Figure 11. Model 7

