Appendix A: Statistical analysis

To explore the predictors and the outcome of the algorithmic knowledge gap, we constructed a structural equation modeling (SEM) path model based on the theoretical model (see Figure 1) and carried out SEM analyses using a path analysis approach (SPSS AMOS 28). SEM enables the simultaneous use of multiple indicator variables for each construct, leading to more valid conclusions at the construct level. Alternative analysis methods often result in less clear conclusions and/or require multiple separate analyses.

We checked the fit indices of the SEM model with independent country samples. To ensure a satisfactory model fit, the CFI needs to be no less than .95, and the RMSEA estimate should be smaller than .06. The results all met the criteria (see Table 1).

Table A1. *SEM Model fit indices.*

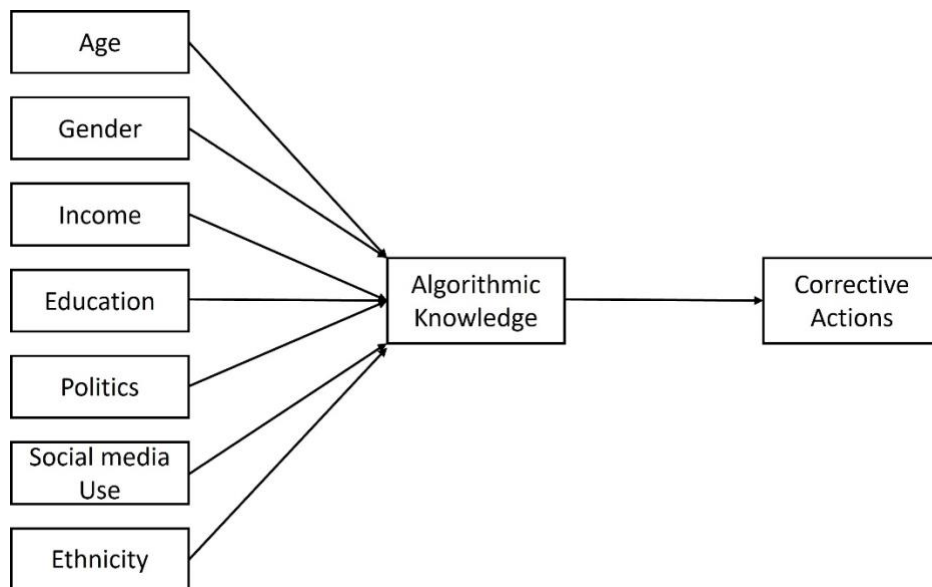|	χ^2	df	p	CFI	RMSEA
United States	10.84	4	.028	.991	.035 (.010, .060)
United Kingdom	18.18	4	.001	.982	.050 (.028, .074)
South Korea	14.02	4	.000	.981	.037 (.017, .059)
Mexico	22.80	4	.000	.992	.026 (.000, .070)

Figure A1. Theoretical model for the predictors and the outcome of the algorithmic knowledge gap.

To conduct a more detailed analysis, we performed a series of one-way ANOVAs in the United States, the United Kingdom, and South Korea to determine which age group demonstrates the highest levels of algorithmic knowledge.

Table A2. *ANOVA results.*

Item	Country		
	United States *M (SD)*	**United Kingdom** *M (SD)*	**South Korea** *M (SD)*
Age group			
18 – 24	6.36 (1.78)	6.53 (1.63)	5.36 (1.71)
25 - 34	6.26 (1.78)	6.22 (1.63)	5.58 (1.79)
35 – 44	6.00 (1.75)	6.12 (1.66)	5.20 (1.71)
45 – 54	6.15 (1.72)	6.09 (1.73)	5.08 (1.75)
55 – 64	6.18 (1.65)	5.80 (1.85)	4.84 (1.72)
65 or older	5.73 (1.68)	5.78 (1.76)	4.57 (1.67)
ANOVA	$F(5, 1414) = 3.376$ $p = .005$	$F(5, 1434) = 5.327$ $p < .001$	$F(1797) = 9.711$ $p < .001$

Note: Algorithmic knowledge was measured using nine questions that gauged respondents' understanding of social media algorithms with yes/no options (for question items, see Table1 in Appendix C). The number of correct answers constituted the algorithmic knowledge index, with a possible range of 0 to 9.