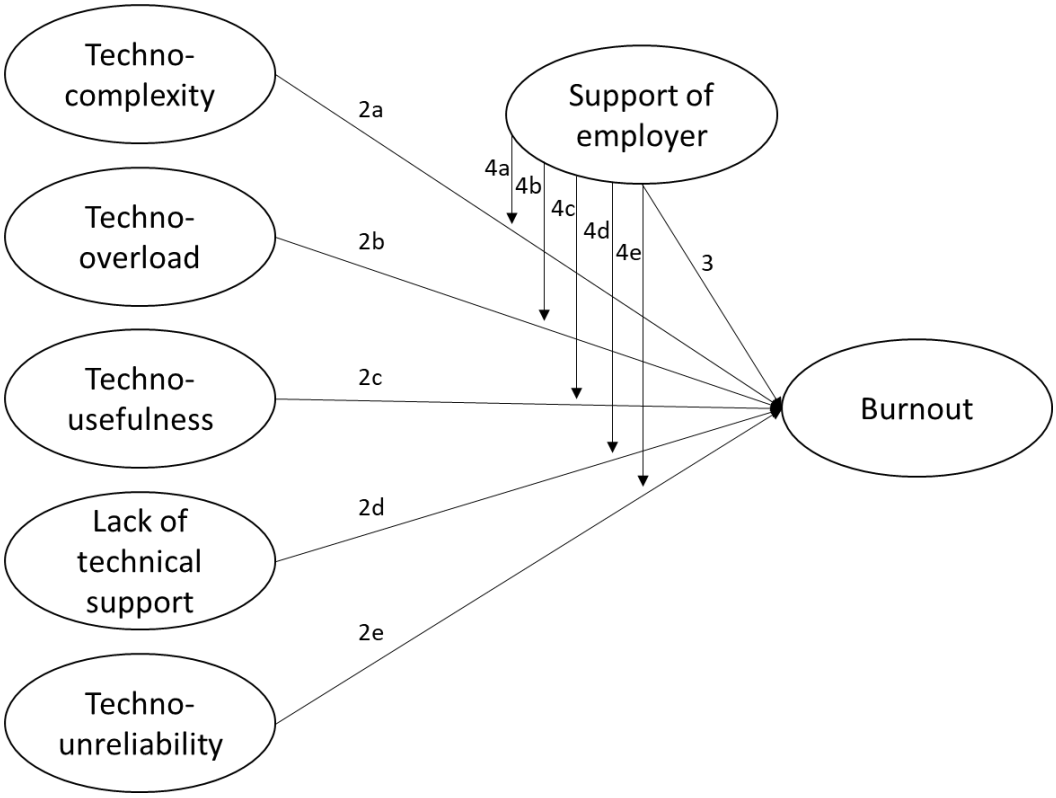

Supplementary Figure A. Conceptual model with hypotheses 2-4 on the relationship between indicators of technostress, support offered by the employer and burnout

Supplementary Table A. Overview of the reported scales and items of the online questionnaire

Section	Scales/items	Number of items	Response categories	Reference
Sociodemographic data: Personal details and workplace information	Age	1	Up to 19 years, 20-29, 30-39, 40-49, 50-59, 60 years or older	Self-developed
	Sex	1	Male, female, diverse	
	German as mother tongue	1	Yes, no	
	Professional qualification	1	General nurse, paediatric nurse, geriatric nurse, nursing assistant (old and new professional training)	
	Working time	1	Full-time with 35 hours/week or more, part-time with 15-34 hours/week, part-time or hourly employed with less than 15 hours/week	
	Work experience in the current hospital, overall work experience	2	1-5 years, 6-10 years, 11-15 years, more than 15 years	
	Leadership position	1	Yes, no	
	Ownership of the hospital	1	Private, public, non-profit, I don't know	
	Number of beds of the hospital	1	Up to 299 beds, 300-599, 600 beds or more, I don't know	
	Federal state of the hospital	1	Baden-Württemberg, Bavaria, Berlin, Brandenburg, Bremen, Hamburg, Hesse, Lower Saxony, Mecklenburg-Western Pomerania, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, Saxony, Saxony-Anhalt, Schleswig-Holstein, Thuringia	
Use of information and communication technologies (ICT)	Average time of use of ICT on a typical working day in the last month	8	0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10 hours/day	Adapted from Bail et al. 2023[29]
Information on technostress	Techno-complexity, techno-overload, techno-usefulness, lack of technical support and techno-unreliability of the Digital Stressors Scale (DSS)	25	1 = strongly disagree, 2, 3, 4, 5, 6, 7 = strongly agree	Fischer et al. 2021[13] (German version: Riedl et al. 2022[44])

Information on work and health	Personal burnout of the Copenhagen Burnout Inventory (CBI)	6	Never/almost never, seldom, sometimes, often, always	Kristensen et al. 2005[15] (German version: Nübling et al. 2005[45])
Support offers	Availability of support offers	1	a) Yes, b) yes, but I don't use these support offers, c) no	Self-developed
	a) Specification of support offers, usefulness of support offers	2	Free-text format	
	b) Specification of support offers, reasons for not using support offers	2	Free-text format	
	c) Requests for further support offers	1	Free-text format	

Supplementary Table B. Description of the hospitals in which the study participants were employed (n=303)

Variables	**n**	**%**
Type of hospital ownership		
Public	190	62.7
Non-profit	75	24.8
Private	28	9.2
Unknown	10	3.3
Number of hospital beds		
≤ 299 beds	99	32.7
300-599 beds	86	28.4
≥ 600 beds	107	35.3
Unknown	11	3.6
Federal state of the hospital		
Bavaria	114	37.6
North Rhine-Westphalia	66	21.8
Lower Saxony	22	7.3
Hesse	21	6.9
Saarland	15	5.0
Hamburg	12	4.0
Brandenburg	8	2.6
Baden-Württemberg	7	2.3
Bremen	7	2.3
Rhineland-Palatinate	7	2.3
Saxony-Anhalt	6	2.0
Schleswig-Holstein	6	2.0
Berlin	4	1.3
Saxony	4	1.3
Thuringia	4	1.3

Supplementary Table C. Average duration of use of different types of ICT in everyday nursing care (hours per day, n=303)

		n (%)				
Type of ICT	**Range**	**No utilisation**	**0.5-2.5 h/day**	**3-5 h/day**	**5.5-7.5 h/day**	**8-10 h/day**
Hospital information system[1]	0-10	32 (10.6)	134 (44.2)	83 (27.4)	39 (12.9)	15 (5.0)
Electronic care documentation	0-10	66 (21.8)	131 (43.2)	53 (17.5)	31 (10.2)	22 (7.3)
Electronic health/ nursing records[1]	0-10	84 (27.7)	125 (41.3)	45 (14.9)	27 (8.9)	22 (7.3)
Electronic planning of care processes	0-10	143 (47.2)	101 (33.3)	33 (10.9)	15 (5.0)	11 (3.6)
Digital medication management	0-10	171 (56.4)	92 (30.4)	20 (6.6)	10 (3.3)	10 (3.3)
Digital SOPs	0-10	228 (75.2)	60 (19.8)	9 (3.0)	1 (0.3)	5 (1.7)
Decision support systems[1]	0-10	260 (85.8)	33 (10.9)	6 (2.0)	2 (0.7)	2 (0.7)
Smartphone apps[1]	0-8	268 (88.4)	28 (9.2)	4 (1.3)	2 (0.7)	1 (0.3)

[1] Percentages do not add up to 100% due to rounding.

Supplementary Table D. Descriptive statistics of the main study variables

Variable	Range	Mean	SD	α
Techno-complexity	1-7	3.44	1.40	0.84
Techno-overload	1-6.6	3.39	1.35	0.84
Techno-usefulness	1-7	3.80	1.41	0.83
Lack of technical support	1-7	4.10	1.90	0.95
Techno-unreliability	1-7	4.26	1.83	0.94
Burnout	0-100	49.86	19.90	0.91

α = Cronbach's alpha, n = 303

Supplementary Table E. Correlation matrix of the main study variables

Variable	1	2	3	4	5	6	7
1. Techno-complexity	303						
2. Techno-overload	0.618**	303					
3. Techno-usefulness	0.696**	0.571**	303				
4. Lack of technical support	0.391**	0.286**	0.470**	303			
5. Techno-unreliability	0.463**	0.416**	0.513**	0.752**	303		
6. Personal burnout	0.291**	0.329**	0.224**	0.187**	0.245**	303	
7. Support by employer[1]	-0.002	-0.044	-0.134*	-0.123*	-0.064	-0.125*	296

Spearman's correlation coefficient; n is shown on the diagonal; [1] No support as reference category; * p <0.05 ** p <0.01 (2-tailed)