

Electronic Supplementary Material 1

Disaster Preparedness Evaluation Tool (DPET): Adaptation and psychometric evaluation for nurses in Germany

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Table S1. STROBE Checklist

Item	Item No	Recommendation	Page Number
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	1
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	2
Objectives	3	State specific objectives, including any prespecified hypotheses	2-3
Methods			
Study design	4	Present key elements of study design early in the paper	1, 4
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	4
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	4
Bias	9	Describe any efforts to address potential sources of bias	4
Study size	10	Explain how the study size was arrived at	4
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	4
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	4-5

		(b) Describe any methods used to examine subgroups and interactions	No subgroup analyses conducted
		(c) Explain how missing data were addressed	Complete case analysis
		(d) If applicable, describe analytical methods taking account of sampling strategy	4
		(e) Describe any sensitivity analyses	Not conducted
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	5
		(b) Give reasons for non-participation at each stage	Complete case analysis
		(c) Consider use of a flow diagram	Figure S1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Page 5 and Table 2
		(b) Indicate number of participants with missing data for each variable of interest	Complete case analysis
Outcome data	15*	Report numbers of outcome events or summary measures	Not carried out because data was only collected for the questionnaire and not evaluated in terms of content.
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	5-6
		(b) Report category boundaries when continuous variables were categorized	Not conducted
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not relevant
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Not conducted
Discussion			
Key results	18	Summarise key results with reference to study objectives	6

Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	7
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	6-7
Generalisability	21	Discuss the generalisability (external validity) of the study results	6-7
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	No funding

Note. Source: von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for reporting observational studies. *BMJ*. 2007; 335(7624): 806. doi:10.1136/bmj.39335.541782.AD.

Table S2. *Items on the DPET rated as irrelevant for the nursing context in Germany*

Item on DPET	German translation
2	Example translation: Ich habe an der Ausarbeitung von Notfallplänen und an der Notfallplanung für Katastrophenfälle in meiner Gemeinde mitgewirkt oder wirke aktuell mit.
8	
9	
12	
15	
16	
33	
42	
46	
47	

Note. Due to the copyright of the original DPET, the German translation of the excluded items is available on request from the first author.

Table S3. DPET-GER with 37 items

Original tool: Disaster Preparedness Evaluation Tool (DPET)

Source: Tichy, M., Bond, A. E., Beckstrand, R. L., & Heise, B. (2008). NPs' perceptions of disaster preparedness education: Quantitative survey research. *American Journal for Nurse Practitioners*, 13(1), 10-22.

Translation: Due to the copyright of the original DPET, the German translation of DPET is available on request from the first author.

Bereitschaft von Pflegefachkräften für Katastrophenfälle (DPET-GER)

German translation of Disaster Preparedness Evaluation Tool (DPET)

Definition einer Katastrophe:

Die folgenden Fragen beziehen sich darauf, wie Du Deine berufliche und persönliche Vorbereitung auf Katastrophen einschätzt. Bewerte die Fragen von „Trifft überhaupt nicht zu“ bis „Trifft vollkommen zu“.

Item-DPET	Item DPET-GER	Item	1 = Trifft überha upt nicht zu	2 = Trifft nicht zu	3 = Trifft eher nicht zu	4 = Trifft eher zu	5 = Trifft zu	6 = Trifft vollko mmen zu
1	1	Example item: Ich nehme regelmäßig an Katastrophenschutzübungen an meinem Arbeitsplatz teil (zum Beispiel im Krankenhaus).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	2		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	3		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	4		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	5		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	6		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	7		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	8		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	9		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	10		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	11		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18	12		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19	13		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	14		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21	15		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22	16		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23	17		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24	18		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25	19		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26	20		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27	21		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28	22		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29	23		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30	24		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31	25		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32	26		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34	27		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35	28		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36	29		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37	30		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38	31		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39	32		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40	33		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41	34		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43	35		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44	36		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45	37		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Soziodemografische Daten

Bitte erzähle ein wenig über Dich, indem Du die entsprechenden Felder ausfüllst:

38. Wie viele Jahre Erfahrung als Pflegefachkraft hast du?

_____ Jahre

39. Welchem Geschlecht fühlst Du dich zugehörig?

- Männlich
- Weiblich
- Divers

40. Wie alt bist Du?

_____ Jahre

41. Welche Berufsbezeichnung darfst Du laut deiner Berufsurkunde führen?

- Krankenschwester/-pfleger
- Kinderkrankenschwester/-pfleger
- Gesundheits- und Kinderkranknenpfleger:in
- Gesundheits- und Krankenpfleger:in
- Altenpfleger:in
- Pflegefachmann/-frau

42. Hast Du eine Weiterbildung in der Pflege abgeschlossen? (wenn nein, überspringe die folgende Frage)

- Ja
- Nein

43. Welche Art der Weiterbildung hast Du abgeschlossen?

- Fachweiterbildung nach Landesrecht (z.B. Fachkrankenpfleger:in für Notfallpflege)
- Bachelor in einer pflegerischen Disziplin
- Master in einer pflegerischen Disziplin
- Promotion zu einem pflegerischen Thema
- Sonstiges: _____

44. In welcher Art der Einrichtung bist Du als Pflegefachkraft tätig?

- Krankenhaus
- Vorsorge- oder Rehabilitationseinrichtung
- Ambulante Pflegeeinrichtung (Pflegedienst)
- Stationäre Pflegeeinrichtung (Pflegeheim: stationär oder teilstationär)

45. Welche Erwerbssituation passt für Dich?

- Vollzeit
- Teilzeit

Vielen Dank für Deine Teilnahme an dieser Studie!

Figure S1. *Response rate on the online survey*

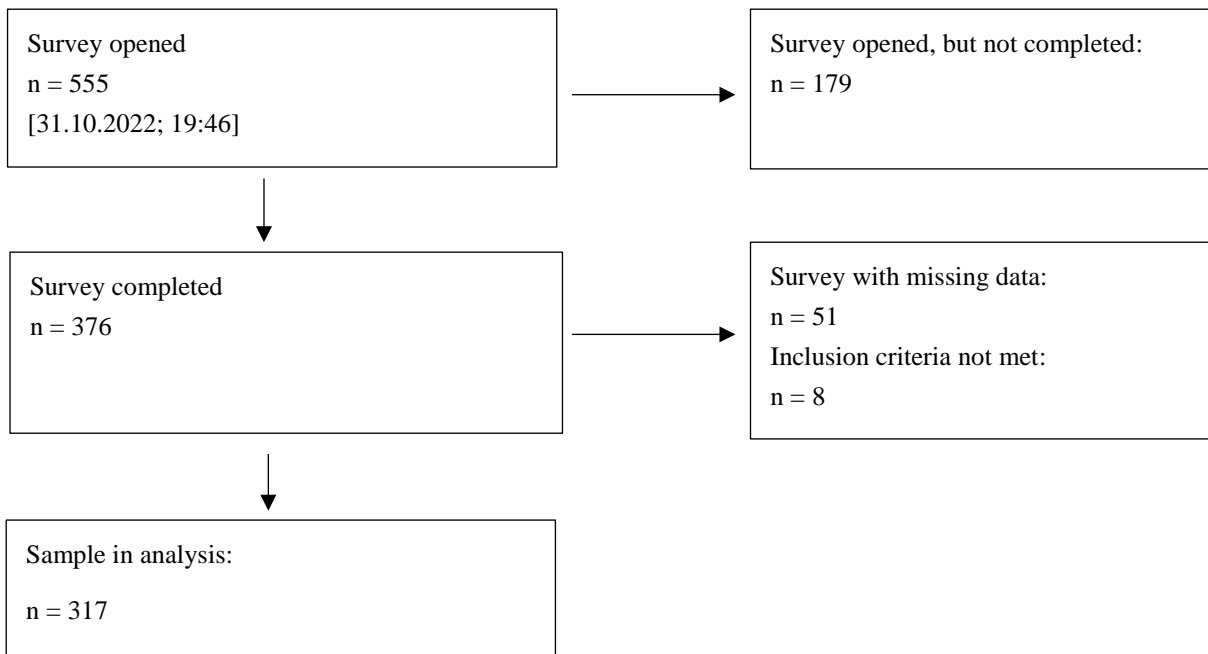


Table S4. *Location (federal state or residence) of participants in online survey (n = 317)*

Characteristic	n	%
Federal state		
Baden-Württemberg	14	4.42
Bavaria	44	13.88
Berlin	27	8.52
Brandenburg	1	0.32
Bremen	3	0.95
Hamburg	7	2.21
Hessen	17	5.36
Lower Saxony	39	12.30
Mecklenburg-Western Pomerania	8	2.52
North Rhine-Westphalia	131	41.32
Rhineland-Palatinate	6	1.89
Saarland	2	0.63
Saxony	5	1.58
Saxony-Anhalt	1	0.32
Schleswig-Holstein	6	1.89
Thuringia	6	1.89

Table S5. *Item analysis*

DPET item	DPET-GER item	n	<i>M</i>	<i>SD</i>	Communality	Discrimination (item-total correlation)	Cronbach's alpha	Cronbach's alpha if item removed
1	1	317	2.16	1.48	0.61	0.58	0.941	0.939
3	2	317	2.88	1.62	0.66	0.61	0.941	0.938
4	3	317	2.35	1.50	0.63	0.58	0.941	0.939
5	4	317	2.29	1.48	0.52	0.56	0.941	0.939
6	5	317	2.40	1.54	0.48	0.46	0.941	0.940
7	6	317	4.71	1.08	0.39	0.23	0.941	0.941
10	7	317	2.58	1.25	0.65	0.71	0.941	0.938
11	8	317	4.03	1.29	0.42	-0.03	0.941	0.944
13	9	317	3.48	1.63	0.57	0.60	0.941	0.939
14	10	317	3.39	1.27	0.20	0.23	0.941	0.942
17	11	317	3.65	1.40	0.36	0.43	0.941	0.940
18	12	317	4.09	1.28	0.44	0.46	0.941	0.940
19	13	317	3.43	1.66	0.73	0.54	0.941	0.939
20	14	317	2.63	1.44	0.75	0.65	0.941	0.938
21	15	317	3.33	1.53	0.71	0.60	0.941	0.939
22	16	317	2.67	1.36	0.57	0.68	0.941	0.938
23	17	317	3.74	1.59	0.65	0.60	0.941	0.938
24	18	317	2.13	1.29	0.69	0.52	0.941	0.939
25	19	317	2.14	1.33	0.61	0.49	0.941	0.940
26	20	317	3.91	1.19	0.50	0.55	0.941	0.939
27	21	317	4.06	1.16	0.59	0.52	0.941	0.939
28	22	317	3.47	1.35	0.66	0.56	0.941	0.939
29	23	317	3.57	1.28	0.63	0.64	0.941	0.938
30	24	317	2.51	1.25	0.59	0.69	0.941	0.938
31	25	317	2.82	1.26	0.61	0.70	0.941	0.938
32	26	317	3.10	1.31	0.67	0.68	0.941	0.938
34	27	317	3.40	1.29	0.44	0.53	0.941	0.939
35	28	317	2.37	1.23	0.64	0.69	0.941	0.938
36	29	317	3.12	1.43	0.63	0.62	0.941	0.938
37	30	317	3.86	1.38	0.14	-0.02	0.941	0.944
38	31	317	3.76	1.21	0.48	0.54	0.941	0.939
39	32	317	2.32	1.30	0.64	0.70	0.941	0.938
40	33	317	3.44	1.29	0.57	0.62	0.941	0.938
41	34	317	3.73	1.39	0.63	0.55	0.941	0.939
43	35	317	2.15	0.97	0.56	0.50	0.941	0.939
44	36	317	3.35	1.38	0.58	0.65	0.941	0.938
45	37	317	2.45	1.42	0.36	0.53	0.941	0.939

Note. Item rating scale: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree.

Table S6. *Factor loadings from exploratory factor analysis*

DPET- GER item	Factor loadings following Oblimin rotation					Cronbach's alpha for all items per factor	Cronbach's alpha if item removed per factor
	1	2	3	4	5		
3	0.76	-0.03	0.05	0.00	0.08	0.87 (factor 1)	0.78
2	0.76	-0.05	0.01	0.06	0.15		0.77
1	0.74	-0.05	0.00	0.11	0.06		0.78
5	0.68	-0.02	0.10	0.01	-0.14		0.79
9	0.61	-0.06	0.17	0.22	-0.08		0.79
7	0.59	0.16	0.04	0.13	0.13		0.83
16	0.53	0.14	0.09	0.10	0.17		0.77
10	0.40	0.03	0.19	-0.16	-0.18		0.85
29	-0.08	0.73	0.13	0.07	0.12		0.87
26	0.01	0.62	0.23	0.19	-0.07		0.86
33	0.11	0.59	0.17	-0.05	0.12	0.87	
31	-0.13	0.53	0.18	0.13	0.15	0.87	
28	0.09	0.51	-0.01	0.37	0.11	0.86	
27	0.01	0.50	-0.03	0.31	0.01	0.90	
24	0.11	0.45	0.10	0.26	0.16	(factor 2)	0.87
25	0.07	0.45	0.15	0.33	0.07	0.86	
32	0.40	0.42	0.09	-0.08	0.25	0.87	
30	0.08	-0.32	0.05	-0.05	0.29	0.91	
37	0.21	0.30	0.27	-0.02	0.01	0.88	
17	0.14	0.30	0.12	0.28	0.09	0.87	
22	0.09	0.00	0.78	-0.04	0.04	0.83	
35	0.05	0.05	0.73	-0.05	-0.02	0.84	
21	-0.07	-0.07	0.72	0.15	0.11	0.85	
23	0.11	0.12	0.69	0.05	0.00	(factor 3)	0.83
34	0.03	0.30	0.67	-0.17	-0.01	0.84	
36	0.26	0.30	0.46	0.01	-0.09	0.86	
13	0.00	0.07	-0.04	0.85	-0.02	0.75	
15	0.05	0.03	0.09	0.78	-0.04	0.74	
14	0.22	0.13	-0.14	0.73	0.06	0.83	
20	-0.07	0.00	0.40	0.45	0.10	(factor 4)	0.82
12	0.19	-0.19	0.40	0.41	-0.13	0.84	
18	0.17	0.17	-0.05	-0.05	0.74	0.57	
19	0.22	0.10	0.00	-0.08	0.68	0.60	
6	-0.30	0.03	0.15	0.07	0.57	0.69	
8	-0.33	-0.37	0.21	0.11	0.51	(factor 5)	0.73
4	0.33	0.14	-0.06	0.08	0.47	0.63	
11	0.16	-0.19	0.16	0.23	0.41	0.66	

Note. Two assumptions were tested to assess the suitability of the data for EFA: (1) Bartlett's test of sphericity was used to check whether a correlation matrix is present (i.e., a statistically significant test indicates that correlations among items are present) and (2) Kaiser-Meyer-Olkin (KMO) criterion was used to test the sampling adequacy (i.e., a KMO value close to 1 indicates that patterns

exist among item correlations and, thus, that factors could be identified in the correlation matrix). A statistically significant Bartlett's test ($\chi^2 = 251.83$; $df = 32$; $p < 0.001$) and the KMO value of 0.93 showed that the assumptions for EFA were fulfilled. Five factors obtained eigenvalues of more than 1 and were retained based on parallel analysis. The rotated solution produced a clear factor structure, whereby most items loaded with high loadings of ± 0.3 or higher onto a single factor. In case of multiple high loadings, items were assigned into factors based on the highest loading of the item onto any of the five factors.

Table S7. *Factor correlations*

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	1.00				
Factor 2	0.40	1.00			
Factor 3	0.31	0.33	1.00		
Factor 4	0.37	0.33	0.33	1.00	
Factor 5	0.23	0.26	0.24	0.23	1.00

Note. Based on item content the following meaning was determined for the five factors. Factor 1: Professional disaster preparedness knowledge; Factor 2: Disaster management skills; Factor 3: Psychosocial emergency skills; Factor 4: Biological hazard skills. Factor 5: Personal disaster preparedness knowledge.