

Supplementary material for:

Lloyd-Smith, A., Bergmann, F., Hund, L., & Kupisch, T. (2023). Can policies improve language vitality? The Sámi languages in Sweden and Norway. *Frontiers in Psychology. Section Language Sciences*. Vol. 14.

APPENDIX A

The following tables list the Norwegian and Swedish municipalities where the survey was conducted and their adult population figures. This information comes from the Norwegian and Swedish national statistical offices. The tables further list the absolute and relative numbers of survey respondents in each municipality and the number of speakers of the Sámi varieties among them. Municipalities in italics are part of the Sámi administrative areas in their respective country.

Table A1. Population, respondents, and speaker numbers by Sámi language and municipality – Norway

Municipality	Adult population as of 2017	Total respondents	Proportion	North Sámi	South Sámi	Lule Sámi
Alta	15458	295	1.91%	26		
<i>Deatnu – Tana</i>	2396	26	1.09%	13		
Divtasvuodna – Tysfjord	1623	18	1.11%	2		1
<i>Guovdageaidnu – Kautokeino</i>	2290	15	0.66%	10	1	
<i>Gáivuotna – Kåffjord – Kaivuono</i>	1774	12	0.68%	4		
Kvalsund	862	4	0.46%			3
Kvænangen	1014	17	1.68%			
<i>Kárásjohka – Karasjok</i>	2175	12	0.55%	11		
Lebesby	1076	17	1.58%	2		
<i>Loábak – Lavangen</i>	829	7	0.84%	2		
Lyngen	2342	14	0.60%	0		
<i>Porsanger – Porsángu – Porsanki</i>	3245	42	1.29%	9		
<i>Raarvihke – Røyrvik</i>	382	1	0.26%	0		
Storfjord – Omasvuotna	1523	16	1.05%	0		
<i>Unjárga – Nesseby</i>	778	6	0.77%	4		
Total	37767	502	1.33%	83	1	4

Table A2. Population, respondents, and speaker numbers by Sámi language and municipality – Sweden

Municipality	Adult population as of 2017	Total respondents	Proportion	North Sámi	South Sámi	Lule Sámi	Ume Sámi	Pite Sámi
<i>Arjeplog*</i>	2364	64	2.71%	5	1	2	2	5
<i>Jokkmokk</i>	4257	86	2.02%	9	1	8		
<i>Kiruna</i>	18637	503	2.70%	92	1	9		1
<i>Sorsele</i>	2068	35	1.69%				5	
<i>Storuman</i>	4879	133	2.73%	4	19		9	
Total	32205	821	2.55%	110	22	19	16	6

APPENDIX B

The following tables list the observed distribution of data and corresponding Pearson's chi-squared tests of independence related to Figures 3 to 7 of the article. The test statistics indicate whether the distributions differ between Norway and Sweden on a statistically significant level.

Table B1.1. Self-assessed proficiency (*Figure 3*) – Non-Sámi respondents

	Norway	Sweden	Σ
Nativelike	2	1	3
Very well	3	3	6
Moderately	7	11	18
A few words	84	143	227
Not at all	137	421	558
Σ	233	579	812

$$\chi^2 = 16.7006^{**} (df = 4)$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B1.2. Self-assessed proficiency (*Figure 3*) – Sámi respondents

	Norway	Sweden	Σ
Nativelike	27	11	38
Very well	7	7	14
Moderately	29	28	57
A few words	101	104	205
Not at all	42	77	119
Σ	206	227	433

$$\chi^2 = 16.1118^{**} (df = 4)$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B2.1. Self-reported Sámi learning at school (*Figure 4*) – Non-Sámi respondents

	Norway	Sweden	Σ
We had some foreign language classes	7	5	12
The instruction of some subjects was in Sámi	1	0	1
No Sámi at school	209	486	695
Other/skipped question	16	101	117
Σ	233	592	825

$$\chi^2 = 21.3010^{***} \text{ (df = 2)}$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Due to the very small number of non-Sámi respondents stating they learned Sámi at school this, Chi-squared test has little informative value, even though it is highly significant. Answer patterns differ between Norway and Sweden primarily in the category “Other/skipped question”.

Table B2.2. Self-reported Sámi learning at school (*Figure 4*) – Sámi respondents

	Norway	Sweden	Σ
We had some foreign language classes	33	29	62
The instruction of some subjects was in Sámi	14	4	18
No Sámi at school	147	155	302
Other/skipped question	18	48	66
Σ	212	236	448

$$\chi^2 = 18.4291^{***} \text{ (df = 2)}$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B3.1. Amount of Sámi spoken before age 6 (*Figures 5 and 6*) – With mother

	Norway	Sweden	Σ
Only Sámi	22	9	31
Mostly Sámi	1	3	4
Half-half	4	3	7
Mostly majority	6	29	35
Never	165	187	352
Σ	198	231	429

$$\chi^2 = 31.8745^{***} \text{ (df = 4)}$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B3.2. Amount of Sámi spoken before age 6 (*Figures 5 and 6*) – With father

	Norway	Sweden	Σ
Only Sámi	25	10	35
Mostly Sámi	0	2	2
Half-half	2	2	4
Mostly majority	6	32	38
Never	160	180	340
Σ	193	226	419

$\chi^2 = 39.6531^{***}$ (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B3.3. Amount of Sámi spoken before age 6 (*Figures 5 and 6*) – With grandparents

	Norway	Sweden	Σ
Only Sámi	18	13	31
Mostly Sámi	2	5	7
Half-half	16	5	21
Mostly majority	17	38	55
Never	134	150	284
Σ	187	211	398

$\chi^2 = 27.3426^{***}$ (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B3.4. Amount of Sámi spoken before age 6 (*Figures 5 and 6*) – With siblings

	Norway	Sweden	Σ
Only Sámi	21	8	29
Mostly Sámi	3	1	4
Half-half	2	3	5
Mostly majority	4	16	20
Never	166	194	360
Σ	196	222	418

$\chi^2 = 21.2746^{***}$ (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B3.5. Amount of Sámi spoken before age 6 (*Figures 5 and 6*) – With own children

	Norway	Sweden	Σ
Only Sámi	12	6	18
Mostly Sámi	6	2	8
Half-half	3	2	5
Mostly majority	13	23	36
Never	133	152	285
Σ	167	185	352

$\chi^2 = 7.2318$ (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B4.1. Amount of Sámi spoken currently (*Figures 5 and 6*) – With mother

	Norway	Sweden	Σ
Only Sámi	14	6	20
Mostly Sámi	2	1	3
Half-half	5	1	6
Mostly majority	8	27	35
Never	138	165	303
Σ	167	200	367

$\chi^2 = 21.1470$ *** (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B4.2. Amount of Sámi spoken currently (*Figures 5 and 6*) – With father

	Norway	Sweden	Σ
Only Sámi	15	5	20
Mostly Sámi	4	1	5
Half-half	6	3	9
Mostly majority	4	27	31
Never	131	156	287
Σ	160	192	352

$\chi^2 = 25.5092$ *** (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B4.3. Amount of Sámi spoken currently (*Figures 5 and 6*) – With grandparents

	Norway	Sweden	Σ
Only Sámi	9	9	18
Mostly Sámi	2	0	2
Half-half	1	6	7
Mostly majority	20	7	27
Never	133	103	236
Σ	165	125	290

$\chi^2 = 14.3990^{**}$ (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B4.4. Amount of Sámi spoken currently (*Figures 5 and 6*) – With siblings

	Norway	Sweden	Σ
Only Sámi	16	7	23
Mostly Sámi	5	2	7
Half-half	4	1	5
Mostly majority	8	21	29
Never	159	190	349
Σ	192	221	413

$\chi^2 = 15.2674^{**}$ (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B4.5. Amount of Sámi spoken currently (*Figures 5 and 6*) – With own children

	Norway	Sweden	Σ
Only Sámi	10	5	15
Mostly Sámi	6	2	8
Half-half	2	3	5
Mostly majority	11	28	39
Never	136	147	283
Σ	165	185	350

$\chi^2 = 10.0118^*$ (df = 4)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B5.1. Frequency of Sámi language engagement outside the family (*Figure 7*) – Listen to radio

	Norway	Sweden	Σ
Daily	18	12	30
Weekly	48	23	71
Once/twice a month	42	29	71
Once/twice a year	28	37	65
Never	52	126	178
No answer	51	36	87
Σ	239	263	502

$$\chi^2 = 45.9371^{***} (df = 5)$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B5.2. Frequency of Sámi language engagement outside the family (*Figure 7*) – Watch TV

	Norway	Sweden	Σ
Daily	11	12	23
Weekly	23	16	39
Once/twice a month	32	25	57
Once/twice a year	37	35	72
Never	85	139	224
No answer	51	36	87
Σ	239	263	502

$$\chi^2 = 16.7099^{**} (df = 5)$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B5.3. Frequency of Sámi language engagement outside the family (*Figure 7*) – Read short texts

	Norway	Sweden	Σ
Daily	19	8	27
Weekly	17	19	36
Once/twice a month	23	12	35
Once/twice a year	18	19	37
Never	111	169	280
No answer	51	36	87
Σ	239	263	502

$$\chi^2 = 21.5792^{***} \text{ (df = 5)}$$

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B5.4. Frequency of Sámi language engagement outside the family (*Figure 7*) – Read long texts

	Norway	Sweden	Σ
Daily	15	5	20
Weekly	10	6	16
Once/twice a month	13	15	28
Once/twice a year	27	13	40
Never	123	188	311
No answer	51	36	87
Σ	239	263	502

$$\chi^2 = 26.1266^{***} \text{ (df = 5)}$$

* p < 0.05, ** p < 0.01, *** p < 0.001

Table B5.5. Frequency of Sámi language engagement outside the family (*Figure 7*) – Write short messages

	Norway	Sweden	Σ
Daily	21	5	26
Weekly	8	12	20
Once/twice a month	17	7	24
Once/twice a year	15	13	28
Never	127	190	317
No answer	51	36	87
Σ	239	263	502

$$\chi^2 = 28.9812^{***} \text{ (df = 5)}$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B5.6. Frequency of Sámi language engagement outside the family (*Figure 7*) – Write long texts

<i>Write long texts (letters, essays)</i>	Norway	Sweden	Σ
Daily	4	4	8
Weekly	4	6	10
Once/twice a month	10	5	15
Once/twice a year	6	0	6
Never	164	212	376
No answer	51	36	87
Σ	239	263	502

$$\chi^2 = 15.6690^{**} \text{ (df = 5)}$$

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

APPENDIX C

Table C1. Items and item statistics for the North Sámi vocabulary task (NSVT)

Item no.	Item	Criteria	r ² (binomial)	Facility (%)	DiscrimValue	Frequency*
SA01	beahkat	pseudoword	0.4379416	71,43	1,00	n.a.
SA02	áhppet	pseudoword	0.4238612	64,29	0,67	n.a.
SA03	noadđit	pseudoword	0.2654192	71,43	0,33	n.a.
SA04	arddašit	pseudoword	0.3693048	64,29	0,67	n.a.
SA05	jienastuvvat	pseudoword	0.165887	35,71	0,33	n.a.
SA06	čalmmuhit	pseudoword	0.03908329	14,29	0,33	n.a.
SA07	láhppat	pseudoword	0.7679075	57,14	1,00	n.a.
SA08	láidut	pseudoword	0.3944847	42,86	0,33	n.a.
SA09	lohkahallat	pseudoword	0.5631322	50,00	0,67	n.a.
SA10	váivašuhit	pseudoword	0.4748952	28,57	0,33	n.a.
SA11	buoskudit	pseudoword	0.2874702	64,29	0,33	n.a.
SA12	jápmidit	pseudoword	0.4218372	57,14	0,33	n.a.
SA13	gáskut	pseudoword	0.7218231	42,86	0,67	n.a.
SA14	juohkašit	pseudoword	0.589753	50,00	1,00	n.a.
SA15	roššut	pseudoword	0.7829866	71,43	1,00	n.a.
SA16	johkat	pseudoword	0.456649	50,00	1,00	n.a.
SA17	čuollit	pseudoword	0.722857	50,00	1,00	n.a.
SA18	olmmuhit	pseudoword	0.7679075	57,14	1,00	n.a.
SA19	skáiput	pseudoword	NA	100,00	0,00	n.a.
SA20	geahnodit	pseudoword	0.3755549	78,57	0,67	n.a.
SA21	veajit	pseudoword	0.4372382	64,29	0,67	n.a.
SA22	árbalit	pseudoword	0.2366654	71,43	0,67	n.a.
SA23	iloštuvvat	pseudoword	0.5745955	42,86	0,67	n.a.
SA24	ávžidit	pseudoword	0.3755549	78,57	0,33	n.a.
SA25	biednut	pseudoword	0.5645437	78,57	0,67	n.a.
SA26	addit	real word	0.5429618	92,86	0,33	14584
SA27	nannet	real word	0.6875543	78,57	1,00	618
SA28	šaddat	real word	0.5429618	92,86	0,33	12216
SA29	mearridit	real word	0.4096028	92,86	0,33	9840
SA30	ohcat	real word	0.7010685	85,71	0,33	8964
SA31	bivdit	real word	NA	100,00	0,00	6585
SA32	hukset	real word	0.6029189	85,71	0,33	5498
SA33	lasihit	real word	0.8549588	78,57	0,67	4652
SA34	diedihit	real word	NA	100,00	0,00	4700
SA35	almmuhit	real word	NA	100,00	0,00	4044
SA36	deaivvadit	real word	NA	100,00	0,00	3562
SA37	orrut	real word	00.04481	92,86	0,33	4112
SA38	juohkit	real word	NA	100,00	0,00	3368
SA39	jearrat	real word	0.5429618	92,86	0,33	3368
SA40	vuoitit	real word	0.5829264	78,57	0,33	3185
SA41	áddet	real word	0.1428847	92,86	0,33	2878
SA42	jienastit	real word	0.5429618	92,86	0,33	2448
SA43	gokčat	real word	0.6029189	85,71	0,33	1791
SA44	viiddidit	real word	0.7782219	64,29	1,00	1777
SA45	čatnat	real word	0.4066198	85,71	0,33	1419
SA46	cealkit	real word	0.3084702	85,71	0,33	1308

SA47	ovttastahttit	real word	0.4155219	78,57	0,67	1093
SA48	gieldit	real word	0.852947	78,57	0,67	1019
SA49	miedihit	real word	0.7423827	64,29	0,67	997
SA50	doapmat	real word	0.7010685	85,71	0,67	243
SA51	gierdat	real word	0.2103206	85,71	0,33	632
SA52	boktit	real word	0.1428847	92,86	0,33	591
SA53	báhtarit	real word	0.2416975	85,71	0,33	618
SA54	bálkesttit	real word	NA	100,00	0,00	622
SA55	coggat	real word	NA	100,00	0,00	542
SA56	johtalit	real word	0.1737745	71,43	0,67	358
SA57	oadđit	real word	NA	100,00	0,00	459
SA58	čiehkát	real word	NA	100,00	0,00	346
SA59	gaikut	real word	0.6029189	85,71	0,33	297
SA60	geardduhit	real word	0.5429618	85,71	0,33	516
SA61	dovddastit	real word	0.5410346	92,86	0,33	880
SA62	ribahit	real word	0.1428847	92,86	0,33	226
SA63	unnut	real word	0.8532938	71,43	0,67	152
SA64	botnjat	real word	0.5158931	71,43	0,67	143
SA65	duolbmat	real word	0.5829264	78,57	0,33	140
SA66	gollat	real word	0.5201497	78,57	0,33	135
SA67	bordit	real word	0.8532938	71,43	0,67	115
SA68	háleštit	real word	0.4066198	85,71	0,33	1225
SA69	nágget	real word	0.07874158	71,43	0,33	77
SA70	ráfehuhttit	real word	0.4464877	50,00	0,33	46
SA71	suodđat	real word	0.1510365	64,29	0,33	37
SA72	gáskit	real word	NA	100,00	0,00	33
SA73	garret	real word	0.5452673	64,29	0,33	31
SA74	jiekŋut	real word	0.7249656	71,43	0,67	29
SA75	ruohttat	real word	0.7010685	85,71	0,67	163

Note: *Frequency = absolute values from the SIKOR corpus