

Supplementary materials

Appendix A.**Table 5.** *Model fit measures: Akaike's Information Criterion*

<i>Number of Clusters</i>	<i>Akaike's Information Criterion (AIC)</i>	<i>AIC Change</i>	<i>Ratio of AIC Changes</i>	<i>Ratio of Distance Measures</i>
1	29858.067			
2	22506.732	-7351.335	1.000	1.431
3	17373.867	-5132.865	.698	1.492
4	13937.584	-3436.283	.467	1.158
5	10971.679	-2965.905	.403	1.434
6*	8908.043	-2063.636	.281	2.191
7	7973.808	-934.234	.127	1.056
8	7089.474	-884.335	.120	1.141
9	6316.065	-773.409	.105	1.290
10	5719.447	-596.618	.081	1.034
11	5142.671	-576.775	.078	1.152
12	4643.665	-499.007	.068	1.148
13	4210.896	-432.769	.059	1.085
14	3813.148	-397.748	.054	1.102
15	3453.494	-359.654	.049	1.320

*Best model fit

Appendix B.

Table 6. Comparability of clusters in percentages; shows how well the data of a certain year fits in the model of another year, i.e., in the first row shows how well the data of 2014-2019 fits in the model of 2014.

	2014	2015	2016	2017	2018	2019
2014	100%	100%	100%	100%	99.9%	100%
2015	100%	100%	100%	100%	99.8%	100%
2016	100%	100%	100%	100%	99.7%	100%
2017	100%	100%	100%	100%	100%	100%
2018	99.9%	99.8%	99.7%	100%	100%	100%
2019	100%	100%	100%	100%	100%	100%

CLUSTERING OF LIFESTYLE FACTORS AND MENTAL HEALTH

Appendix C.

Table 7. *Sociodemographic factors per cluster in 2014.*

		<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>	<i>Cluster 4</i>	<i>Cluster 5</i>	<i>Cluster 6</i>	<i>Total</i>
<i>Age (SD)</i>		53.3	44.6	47.9	56.4	53.1	31.2	50.0
		(17.0)	(16.0)	(15.3)	(19.4)	(15.8)	(11.8)*	(17.8)
<i>Sex</i>	Men	44.7%	48.4%	50.7%	50.0%	55.8%	62.4%*	48.4%
	Women	55.3%	51.6%	49.3%	50.0%	44.2%	37.6%*	51.6%
<i>Educational level</i>	Low	23.2%	22.1%	37.5%	42.1%*	27.7%	22.4%	29.9%
	Intermediate	39.2%	45.7%	47.1%	38.0%	43.3%	48.1%*	41.9%
	High	37.6%	32.2%	15.4%*	19.9%	29.0%	29.5%	28.2%
<i>Societal position</i>	Paid job	49.4%	62.5%*	58.9%	46.6%	50.9%	56.5%	51.9%
	Unemployed	2.1%	2.2%	3.6%	1.5%	3.5%	4.7%*	2.6%
	Volunteer	4.9%	2.7%	4.0%	0.8%*	3.9%	1.8%	3.7%
	Incapacitated	2.2%	2.8%	7.0%*	6.1%	3.7%	3.5%	3.6%
	Student	4.8%	8.3%	2.4%	2.8%	4.3%	27.0%*	6.4%
	Family man/housewife	9.2%	9.3%	10.1%	12.1%	9.3%	3.0%*	9.7%
	Retired	23.6%	9.2%	10.6%	25.0%	22.3%	1.0%*	17.9%
	None of the above	3.7%	3.0%	3.5%	5.1%	1.9%*	2.4%	4.0%

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Marital status	Married	62.8%	59.6%	52.4%	57.8%	61.3%	11.4%*	56.8%
	Divorced	8.2%	4.5%	12.7%*	8.9%	10.2%	9.6%	8.0%
	Widowed	7.2%	3.5%	4.7%	15.2%*	4.8%	0.4%	6.2%
	Never married	21.9%	32.4%	30.1%	18.1%	23.6%	78.7%*	29.0%
Origin	Native Dutch	83.7%	87.8%	80.9%	82.8%	89.8%*	79.5%	84.0%
	Western immigrant	9.6%	6.1%	10.2%	8.3%	7.8%	11.4%*	8.6%
	Non-western immigrant	6.7%	6.1%	8.8%	8.9%	2.4%*	9.1%	7.4%
Living environment	Very urban	42.6%	41.8%	41.5%	42.9%	42.0%	61.8%*	43.5%
	Moderately urban	23.8%	21.6%	22.2%	18.7%	21.4%	16.3%*	21.7%
	Little/not urban	33.6%	36.6%	36.4%	38.3%	36.6%	22.0%*	34.8%

*Note. *Percentages differ the most from the overall sample (absolute)*

Table 8. Sociodemographic factors per cluster in 2015.

		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Total
Age (SD)		54.9	45.8	48.1	55.6	51.9	33.0	50.0
		(17.1)	(16.2)	(15.9)	(19.0)	(16.5)	(13.0)*	(17.8)
Sex	Men	45.2%	49.5%	50.0%	45.5%	58.6%	62.5%*	48.9%
	Women	54.8%	50.4%	50.0%	54.5%	41.4%	37.5%*	51.1%

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Educational level	Low	23.7%	22.7%	38.1%	42.7%*	27.8%	20.8%	29.9%
	Intermediate	38.5%	45.3%	43.5%	37.6%	44.3%	54.7%*	42.0%
	High	37.8%*	32.0%	18.4%*	19.7%	27.8%	24.5%	28.1%
Societal position	Paid job	51.4%	61.5%*	54.9%	47.2%	55.1%	54.7%	52.2%
	Unemployed	2.3%	2.1%	4.1%	1.2%	3.1%	5.8%*	2.7%
	Volunteer	4.6%	2.6%	3.3%	3.1%	3.9%	1.8%*	3.6%
	Incapacitated	2.2%	2.5%	7.6%*	3.8%	3.3%	4.3%	3.6%
	Student	5.0%	7.5%	3.5%	2.3%	5.5%	24.6%*	6.5%
	Family man/housewife	8.3%	8.7%	11.8%	13.7%	2.9%	2.5%*	9.1%
	Retired	22.7%	11.7%	12.1%	24.3%	23.9%	1.8%*	18.2%
	None of the above	3.5%	3.4%	2.8%	4.3%	2.4%*	4.3%	3.9%
Marital status	Married	63.1%	61.0%	49.3%	57.8%	56.5%	16.5%*	56.7%
	Divorced	7.7%	6.0%	14.1%*	8.1%	10.0%	10.0%	8.3%
	Widowed	7.1%	3.0%	6.8%	13.5%*	6.1%	0.7%	6.2%
	Never married	22.2%	30.1%	29.8%	20.6%	27.3%	72.8%*	28.8%
Origin	Native Dutch	84.4%	87.6%	82.5%	82.3%	89.0%	78.4%*	83.8%

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Living environment	Western immigrant	9.3%	7.3%	9.8%	8.3%	9.0%	11.8%*	9.2%
	Non-western immigrant	6.3%	5.0%	7.6%	9.4%	2.0%*	9.8%	7.0%
	Very urban	49.0%	46.4%	49.7%	50.3%	44.1%	64.7%**	49.5%
	Moderately urban	19.9%	18.7%	17.6%	16.0%	17.1%	16.1%	18.4%
	Little/not urban	31.0%	34.9%	32.7%	33.7%	38.8%	19.2%*	32.1%

Note. *Percentages differ the most from the overall sample (absolute)

Table 9. Sociodemographic factors per cluster in 2016.

		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Total
Age (SD)		52.9	46.6	49.7	55.7	51.9	33.4	50.3
		(17.2)	(17.0)	(15.1)	(19.5)	(16.3)	(13.3)*	(17.9)
Sex	Men	41.7%	49.7%	53.7%	44.7%	52.8%	61.6%*	48.0%
	Women	58.3%	50.3%	46.3%	55.3%	47.2%	38.4%*	52.0%
Educational level	Low	22.7%	22.5%	38.7%*	36.9%	28.8%	21.9%	29.7%
	Intermediate	36.8%	42.5%	45.0%	41.5%	41.0%	49.1%*	40.5%
	High	40.5%	35.0%	16.2%*	21.6%	30.2%	29.0%	29.8%
Societal position	Paid job	53.9%	60.2%*	58.7%	45.4%	53.7%	55.5%	52.6%
	Unemployed	2.0%	2.1%	3.5%	1.8%	2.9%	5.2%*	2.6%

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	Volunteer	4.2%	2.4%	3.0%	2.0%*	4.3%	2.1%	3.3%
	Incapacitated	2.1%	2.7%	8.3%*	7.7%	3.8%	5.9%	4.4%
	Student	4.3%	8.1%	2.6%	3.5%	6.0%	23.2%*	6.4%
	Family man/housewife	8.1%	6.7%	7.0%	12.4%	4.7%	2.7%*	8.2%
	Retired	21.7%	14.5%	13.7%	24.2%	21.9%	2.7%*	18.9%
	None of the above	3.7%	3.2%	3.2%	2.7%	2.7%	2.5%*	3.6%
Marital status	Married	60.4%	57.9%	48.8%	55.4%	56.6%	13.2%*	54.0%
	Divorced	8.0%	6.8%	15.5%*	8.0%	11.2%	8.2%	8.9%
	Widowed	7.8%	3.3%	5.5%	12.9%*	3.1%	1.4%	6.0%
	Never married	23.8%	32.0%	30.2%	23.7%	29.1%	77.1%*	31.0%
Origin	Native Dutch	84.2%	87.4%	82.2%	78.5%	88.4%	76.1%*	83.1%
	Western immigrant	9.8%	7.4%	9.9%	11.0%	7.8%	11.6%*	9.3%
	Non-western immigrant	6.0%	5.2%	7.9%	10.5%	3.8%	12.3%*	7.5%
Living environment	Very urban	52.0%	46.5%	50.8%	49.2%	50.1%	68.6%*	50.6%
	Moderately urban	18.1%	18.5%	16.9%	17.7%	16.8%	12.1%*	17.8%

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Little/not urban	29.9%	35.0%	32.3%	33.1%	33.1%	19.3%*	31.5%
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Note. *Percentages differ the most from the overall sample (absolute)

Table 10. Sociodemographic factors per cluster in 2017.

		<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>	<i>Cluster 4</i>	<i>Cluster 5</i>	<i>Cluster 6</i>	<i>Total</i>
<i>Age (SD)</i>		53.4	47.7	50.6	55.4	53.9	33.9	51.2
		(17.1)	(17.1)	(15.3)	(18.8)	(16.8)	(14.1)*	(18.1)
<i>Sex</i>	Men	42.8%	50.7%	49.9%	47.4%	60.2%	62.3%*	48.8%
	Women	57.2%	49.3%	50.1%	52.6%	39.8%	37.7%*	51.2%
<i>Educational level</i>	Low	20.2%	21.9%	35.6%	36.8%	25.9%	17.9%*	28.0%
	Intermediate	39.6%	43.0%	47.8%	40.5%	45.3%	50.1%*	41.8%
	High	40.3%	35.2%	16.6%*	22.7%	28.8%	32.0%	30.3%
<i>Societal position</i>	Paid job	54.7%	60.4%*	57.0%	49.7%	51.8%	58.4%	53.0%
	Unemployed	1.1%	1.2%	2.8%*	1.0%	2.7%	2.6%	1.6%
	Volunteer	4.1%	2.6%	2.7%	2.8%	3.7%	1.8%*	3.4%
	Incapacitated	2.3%	2.4%	7.9%*	7.5%	3.1%	3.6%	3.8%
	Student	4.3%	7.5%	2.1%	3.1%	5.6%	25.4%*	6.5%
	Family man/housewife	6.8%	8.0%	9.6%	10.3%	5.4%	2.4%*	8.5%
	Retired	23.8%	15.5%	15.4%	22.6%	25.6%	2.6%*	20.3%

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	None of the above	2.9%	2.3%*	2.5%	3.0%	2.3%*	3.1%	3.0%
Marital status	Married	61.4%	59.1%	50.3%	60.1%	55.8%	15.2%*	55.4%
	Divorced	8.1%	6.9%	16.4%*	7.2%	11.6%	9.3%	8.7%
	Widowed	6.7%	4.8%	4.9%	11.5%	5.4%	1.1%*	6.5%
	Never married	23.8%	29.2%	28.4%	21.2%	27.3%	74.4%*	29.5%
Origin	Native Dutch	82.9%	87.3%	79.6%	82.5%	89.9%*	79.9%	82.9%
	Western immigrant	9.8%	7.0%	12.2%	8.9%	7.6%	12.1%*	9.4%
	Non-western immigrant	7.3%	5.7%	8.1%	8.6%	2.5%*	8.0%	7.6%
Living environment	Very urban	49.6%	48.0%	52.0%	50.7%	53.0%	69.5%*	50.7%
	Moderately urban	18.7%	17.1%	17.0%	16.8%	16.9%	14.4%*	17.8%
	Little/not urban	31.7%	34.9%	31.0%	32.5%	30.1%	16.2%*	31.5%

*Note. *Percentages differ the most from the overall sample (absolute)*

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Table 11. *Sociodemographic factors per cluster in 2018*

		<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>	<i>Cluster 4</i>	<i>Cluster 5</i>	<i>Cluster 6</i>	<i>Total</i>
<i>Age (SD)</i>		52.2	47.8	49.9	53.5	53.4	35.1	50.5
		(16.5)	(16.3)	(14.8)	(18.9)	(16.0)	(13.8)*	(17.2)
<i>Sex</i>	Men	43.7%	53.3%	48.3%	44.6%	56.1%	59.3%*	49.1%
	Women	56.3%	46.7%	51.7%	55.4%	43.9%	40.7%*	50.9%
<i>Educational level</i>	Low	19.0%	20.4%	36.2%*	33.2%	24.3%	19.3%	26.0%
	Intermediate	37.3%	42.8%	49.2%*	39.5%	42.1%	44.3%	40.9%
	High	43.6%	36.8%	14.6%*	27.3%	33.7%	36.4%	33.1%
<i>Societal position</i>	Paid job	59.6%	66.6%*	63.1%	48.9%	55.9%	63.1%	57.6%
	Unemployed	1.3%	1.2%	1.3%	1.4%	1.5%	2.9%*	1.6%
	Volunteer	3.3%	2.8%	4.5%*	2.5%	4.2%	2.9%	3.4%
	Incapacitated	2.6%	2.8%	7.0%	8.1%*	4.4%	4.2%	4.4%
	Student	3.1%	5.7%	1.3%	3.3%	3.1%	17.7%*	4.9%
	Family man/housewife	6.7%	5.9%	9.0%	10.3%	5.2%	2.3%*	7.2%
	Retired	20.3%	13.3%	11.5%	21.5%	23.5%	2.9%*	17.9%
	None of the above	3.0%	1.7%*	2.2%	4.0%	2.3%	4.1%	2.9%
	Married	60.1%	59.7%	47.7%	52.1%	55.3%	14.4%*	54.4
	<i>Marital status</i>							

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	Divorced	9.8%	7.3%	16.0%*	9.0%	13.3%	10.1%	9.7%
	Widowed	5.4%	3.3%	6.1%	10.3%*	4.6%	1.5%	5.2%
	Never married	24.7%	29.7%	30.2%	28.6%	26.8%	74.0%*	30.8%
Origin	Native Dutch	83.8%	86.8%	82.8%	80.4%	91.5%*	78.1%	83.4%
	Western immigrant	9.3%	6.6%	9.6%	8.4%	6.2%*	10.1%	8.6%
	Non-western immigrant	7.0%	6.6%	7.6%	11.2%	2.3%*	11.8%	8.0%
Living environment	Very urban	51.1%	50.5%	49.8%	49.1%	51.1%	68.4%*	51.9%
	Moderately urban	17.9%	16.1%	16.7%	18.0%	16.6%	10.4%*	16.2%
	Little/not urban	31.0%	33.4%	33.5%	32.9%	32.2%	21.2%*	31.8%

*Note. *Percentages differ the most from the overall sample (absolute)*

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Table 12. *Sociodemographic factors per cluster in 2019.*

		<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>	<i>Cluster 4</i>	<i>Cluster 5</i>	<i>Cluster 6</i>	<i>Total</i>
<i>Age (SD)</i>		53.1	48.0	50.0	54.5	53.4	35.1	50.9
		(17.2)	(17.1)	(15.8)	(19.8)	(16.7)	(14.1)*	(18.1)
<i>Sex</i>	Men	43.6%	51.9%	50.2%	43.6%	57.8%	60.9%*	48.9%
	Women	56.4%	48.1%	49.8%	56.4%	42.2%	39.1%*	51.1%
<i>Educational level</i>	Low	36.7%	19.5%	39.3%*	32.5%	26.6%	19.9%	27.0%
	Intermediate	37.9%	42.0%	45.1%*	35.5%	43.2%	44.5%	40.0%
	High	25.5%	38.5%	15.7%*	30.5%	30.2%	35.6%	33.0%
<i>Societal position</i>	Paid job	55.7%	63.2%*	59.1%	50.4%	59.1%	60.6%	55.6%
	Unemployed	1.1%	1.4%	3.2%*	0.2%	1.8%	2.6%	1.6%
	Volunteer	3.7%	2.9%	2.2%	2.2%	1.6%*	1.8%	3.1%
	Incapacitated	2.5%	2.6%	5.9%	7.2%*	3.2%	6.0%	3.7%
	Student	4.0%	6.5%	1.1%	3.8%	3.8%	20.7%*	5.8%
	Family man/housewife	7.5%	6.0%	9.1%	8.4%	5.2%	2.2%*	7.5%
	Retired	22.5%	15.4%	15.6%	24.7%	22.6%	2.4%*	19.7%
	None of the above	0.9%	0.5%	2.1%*	1.2%	1.1%	1.6%	1.0%
<i>Marital status</i>	Married	61.0%	59.6%	48.7%	52.6%	54.9%	14.6%*	54.3%
	Divorced	8.4%	7.0%	13.1%*	8.8%	11.5%	9.1%	8.7%
	Widowed	6.0%	4.0%	7.0%	12.7%*	3.8%	1.0%	6.0%

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	Never married	24.6%	29.4%	31.1%	25.9%	29.8%	75.3%*	31.0%
Origin	Native Dutch	82.5%	84.5%	78.3%	78.1%	87.8%*	77.4%	81.5%
	Western immigrant	9.4%	8.1%	9.9%	8.4%	9.5%	10.7%	9.1%
	Non-western immigrant	8.0%	7.4%	11.8%	13.5%	2.7%*	11.9%	9.4%
Living environment	Very urban	50.2%	50.5%	50.8%	49.8%	48.5%	66.8%*	51.6%
	Moderately urban	17.3%	16.1%	16.6%	15.1%	16.7%	11.6%*	15.8%
	Little/not urban	32.5%	33.4%	32.6%	35.1%	34.8%	21.6%*	32.6%

*Note. *Percentages differ the most from the overall sample (absolute)*

Appendix D.**Table 13.** *MHI-score/Self-reported depression*

	<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>	<i>Cluster 4</i>	<i>Cluster 5</i>	<i>Cluster 6</i>	<i>Total</i>
<i>MHI-score</i>							
2014	81.6	80.3	78.6	78.4	81.4	75.7	79.8
2015	81.7	80.9	77.2	78.7	80.6	76.0	79.8
2016	81.9	80.1	77.4	76.3	80.7	73.5	79.0
2017	81.6	80.2	77.8	79.4	80.0	74.9	79.4
2018	81.0	79.8	77.0	76.3	80.6	73.8	78.7
2019	80.4	80.1	77.5	76.9	80.1	73.8	78.8
<i>Self-reported depression</i>							
2014	5.0%	4.8%	11.2%	8.4%	6.5%	15.4%	7.3%
2015	5.4%	4.7%	13.9%	7.8%	8.2%	11.1%	7.3%
2016	5.2%	6.5%	11.3%	10.0%	7.8%	15.2%	8.5%
2017	5.1%	5.4%	12.4%	6.8%	6.2%	13.1%	7.1%
2018	5.8%	5.9%	11.2%	10.3%	8.1%	17.4%	8.1%
2019	5.9%	6.3%	11.0%	11.0%	6.1%	15.0%	7.7%

Note. Range MHI-score: 0-100; <60 qualifies as psychologically unhealthy, ≥60 qualifies as psychologically healthy/percentage

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Appendix E.

Table 14. *Linear regression analysis on the associations of lifestyle clusters with MHI-5 score and logistic regression analysis on the associations of lifestyle clusters with self-reported depression*

	MHI-5				Self-reported depression		
	Overall Model Statistics				Overall Model Statistics		
	B	SE	95% CI	Sig.	OR	95% CI	Sig.
Step 1							
Cluster 2*	-.39	.486	-1.34 – .56	.42	.77	.59 – 1.01	.06
Cluster 3*	-1.78	.641	-3.04 – -.53	.01	1.91	1.46 – 2.49	<.001
Cluster 4*	-2.00	.698	-3.37 – -.63	.004	1.40	1.02 – 1.92	.04
Cluster 5*	.86	.750	-.61 – 2.33	.25	1.07	.74 – 1.56	.71
Cluster 6*	-4.95	.778	-6.48 – -3.43	<.001	2.80	2.11 – 3.73	<.001
Step 2							
Cluster 2*	-.98	.48	-1.93 – -.04	.04	.885	.67 – 1.16	.38
Cluster 3*	-1.84	.64	-3.09 – -.59	.004	1.938	1.47 – 2.55	<.001
Cluster 4*	-1.99	.69	-3.34 – -.64	.004	1.330	.96 – 1.84	.08
Cluster 5*	.05	.74	-1.40 – 1.50	.95	1.253	.86 – 1.83	.24
Cluster 6*	-4.15	.80	-5.72 – -2.57	<.001	2.872	2.10 – 3.94	<.001
Sex	-3.81	.38	-4.55 – -3.08	<.001	1.482	1.23 – 1.79	<.001
Paid job	-.01	.004	-.02 – .001	.07	1.003	1.00 – 1.01	.002
Societal position	-.20	.06	-.32 – -.09	<.001	1.019	1.00 – 1.04	.06
Origin	-2.14	.34	-2.81 – -1.48	<.001	1.518	1.33 – 1.74	<.001
Marital status	-1.01	.15	-1.30 – -.73	<.001	1.080	1.01 – 1.16	.04

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Living environment	.56	.22	.13 – .99	.01	.95	.85 – 1.06	.36
Educational level	1.21	.25	.71 – 1.70	<.001	.70	.62 - .80	<.001

Note. *reference category is cluster 1 (healthy). B = unstandardized coefficient, SE =

Standard Error, CI = Confidence Interval, OR= Odds Ratio, Sig.= *p*-value.