

1 **Supplementary Material**

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3 For the main article:

4 **The role of leisure-time physical activity in youth for lifelong activity – A latent profile**
5 **analysis with retrospective life course data**

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20 **Supplementary Table 1:** Test-retest reliability values from $n = 29$ persons, the two questionnaires
 21 were conducted 3 months apart.

Variable	Scale	Krippendorff's alpha	
		Point estimate	Bootstrap 95%–CI ^a
<i>Regularly active years over the life course^b</i>			
First time taking up LTPA in life course (age)	ratio	.81	.72 – .89
Interruption(s) of LTPA in life course (yes/no)	nominal	.90	.70 – 1.00
Number of interruptions of LTPA in life course	ratio	.88	.67 – 1.00
Timing of interruptions of LTPA in life course (age)	ratio	.98	.94 – 1.00
<i>LTPAs practiced in youth</i>			
Taking up current LTPAs (specific activities; if entered in first 20 years of life) ^c	ratio	.92	.86 – .97
Number of activities practiced in youth (and not currently practiced) ^c	ratio	.91	.84 – .96
Specific type of LTPAs practiced in youth	nominal	.95	.89 – .99
<i>Organisational setting of LTPA in youth</i>			
Organisational forms practiced in youth ^d	nominal	.93	.87 – .99

22 Note: Krippendorff's alpha is for a nominal scale similar to Scott's Pi and for an interval scale similar to Pearson et
 23 al.'s intraclass–correlation coefficient (see Hayes & Krippendorff, 2007 for further information).

24 ^aAs suggested (Hayes & Krippendorff, 2007), 10'000 bootstrap sampling distributions were done (CI = confidence
 25 interval).

26 ^bFrom this block of questions, it was determined for each person for each year of life whether they were physically
 27 active or inactive. The variables *Number of regularly active years* and *Index of lifelong LTPA* were built out of
 28 these questions.

29 ^cFrom these two questions, the variable *Number of different activities practiced* was built.

30 ^dDifferent organisational settings could be selected (multiple selection possible), thus for calculate Krippendorff's
 31 alpha they were taken together which led to the two variables *Self-organised activities* and *Organised activities*.

32 **Supplementary Table 2:** Sample characteristics ($n = 1519$).

Variable	n (%)	Mean	SD
<i>Sociodemographic information</i>			
Sex			
Male	572 (37.7)		
Female	947 (62.3)		
Age at time of the survey (Range 25-76)		59.20	11.75
For more information about the age distribution: 5 categories			
25–34	63 (4.1)		
35–44	120 (7.9)		
45–54	278 (18.3)		
55–64	476 (31.3)		
65-76	582 (38.3)		
Level of education (5 categories)		3	1.22
1 compulsory school	74 (4.9)		
2 Secondary school/ lower professional education	646 (42.5)		
3 Higher professional education leaving certificate	263 (17.3)		
4 Technical college	274 (18)		
5 University	262 (17.2)		
<i>Additional information about the sample</i>			
At the time of the survey regularly active (LTPA)	1419 (93.4)		
Over the whole life course inactive (LTPA)	44 (2.9)		
Until 20 years of age inactive (LTPA)	235 (15.5)		
From 21 years until the current age inactive (LTPA)	52 (3.4)		

33 Note: SD = Standard Deviation.

34 **Supplementary Table 1:** Descriptive data for the four indicators for the latent profile analysis and the
 35 related outcome variable ($n = 1519$).

Variables	Mean	SD	Min	Max
<i>Indicators for the latent profile analysis</i>				
Number of regularly active years	8.50	5.95	0	18
Number of different activities practiced	2.55	1.71	0	5
Self-organised activities ^a	0.53	0.50	0	1
Organised activities ^a	0.61	0.49	0	1
<i>Auxiliary respective outcome variable</i>				
Index of lifelong LTPA	0.86	0.26	0	1

36 Note: SD = Standard Deviation.

37 ^aThese variables are dummy coded and only contain values of 0 or 1. Thus, the Mean can interpreted as probability
 38 to be active in this organisational form, as Mplus uses it.

39 **Supplementary Table 4:** Types of LTPAs for the total sample ($n = 1519$) and per profiles, separated
 40 by category. Percentage value indicates the ratio of people in the respective (sub-)group practiced these
 41 types of LTPA in youth.

Types of LTPAs	Entire sample						
		Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6
Walking and endurance activities (e.g., running, swimming, cycling)	60.1 %	15.7 %	88.6 %	90.6 %	65.2 %	61.8 %	36.7 %
Fitness (e.g., weight training)	4.4 %	0.7 %	7 %	10.3 %	1.6 %	5.5 %	2.2 %
Gymnastics and multi-sport activities	19.3 %	4.1 %	29.2 %	25.6 %	9.1 %	14.1 %	28.4 %
Athletics	6.6 %	0 %	12.9 %	12 %	1.1 %	3.2 %	7.4 %
Compositional-creative activities (e.g., dancing)	17 %	2.7 %	29.6 %	29.1 %	9.1 %	9.5 %	16.6 %
Release-oriented activities (e.g., yoga)	0.7 %	0 %	1.3 %	2.6 %	0 %	0.5 %	0.4 %
Outdoor- and mountain activities (e.g., skiing)	50 %	11.9 %	77 %	82.9 %	50.8 %	43.6 %	31.9 %
Sports games (e.g., football)	32.1 %	1.7 %	49.7 %	42.7 %	18.2 %	28.6 %	44.1 %
Martial arts (e.g., taekwondo)	6.1 %	0 %	9.9 %	13.7 %	2.7 %	5.5 %	5.7 %
Equestrian	4.1 %	0.7 %	8.7 %	3.4 %	3.7 %	1.4 %	2.2 %

42 Note: Profiles with a higher value in “number of different activities” (2nd indicator) have thus higher percentage rates
 43 of activity categories in general (e.g., profile 2 & 3) than profiles with a lower value in the indicator mentioned (e.g.,
 44 profile 1 or 6), considering that up to five activities per person can be indicated. *Walking and endurance activities*
 45 and *outdoor- und mountain activities* are practiced most often, which is not surprising for Switzerland (Lamprecht
 46 et al., 2020).

47 **Supplementary Table 5:** Fit-indices for the 1 to 8 profile of latent profile analyses (class-invariant,
 48 diagonal Σ ; $n = 1519$).

Model	LL	npar	AIC	CAIC	BIC	SABIC	BLRT	VLMRT	Entropy
1	-9898.819	6	19809.64	19847.59	19842	19822.53			1
2	-9065.433	11	18152.87	18222.45	18211	18176.51	< .001	< .001	0.89
3	-8787.108	16	17606.22	17707.43	17691	17640.6	< .001	< .001	0.902
4	-8631.701	21	17305.4	17438.24	17417	17350.53	< .001	< .001	0.919
5	-8537.834	26	17078.23	17292.14	17217	17134.11	< .001	< .001	0.928
6	-8449.304	31	16960.61	17156.71	17126	17027.23	< .001	.001	0.862
7	-8406.532	36	16809.14	17112.79	17001	16886.51	< .001	< .001	0.94
8*									



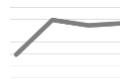



49 Note: LL: Log likelihood value; AIC: Aikake information criterion; CAIC: consistent AIC; BIC: Bayesian information
 50 criterion; SABIC: sample-sized adjusted BIC; BLRT: bootstrap likelihood ratio test; VLMRT: Vuong-Lo-Mendell-
 51 Rubin likelihood ratio test.

52 Significant BLRT and VLMR values mean a better-fitting solution than with one profile less. For the other fit-
 53 indices (LL, AIC, CAIC, BIC, SABIC), a lower value reflect a better fit, but with a large sample size, they tend to
 54 never reach a minimum and thus suggest always adding one profile (cf. Marsh et al., 2009). In this case, the fit-
 55 indices can be plotted to find the optimal solution by considering the elbow criterion (Wang & Morin, 2016).

56 Additionally, the entropy value gives information on the precision of the classification of cases to profiles, whereby
 57 zero means a random classification and one a perfect classification (Masyn, 2013).

58 *convergence problems and thus not possible to calculate.



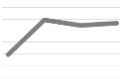



59 **Supplementary Table 6:** Sex differences between the profiles indicated by Cohen's *d* as the effect
 60 size and the Wald test for significant differences.

Profiles (means ^a)						
	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6
Profile 1 (0.775)	-	0.363** [0.216; 0.51]	0.517** [0.299; 0.734]	0.034 [-0.15; 0.217]	0.427** [0.25; 0.604]	0.478** [0.303; 0.654]
Profile 2 (0.582)		-	0.116 [-0.087; 0.318]	0.309** [0.139; 0.479]	0.059 [-0.099; 0.217]	0.066 [-0.092; 0.224]
Profile 3 (0.512)			-	0.419* [0.185; 0.652]	0.052 [-0.171; 0.274]	0.054 [-0.169; 0.277]
Profile 4 (0.759)				-	0.354** [0.159; 0.548]	0.398** [0.203; 0.593]
Profile 5 (0.546)					-	0.003 [-0.18; 0.186]
Profile 6 (0.544)						-

61 Note: * $p < .01$, ** $p < .001$; 95% confidence interval of the effect size in brackets.

62 ^aRegarding sex, the mean indicates the proportion of women in the respective profile (coding: men = 0; women =
 63 1).



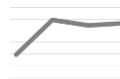



64 **Supplementary Table 7:** Age differences between the profiles indicated by Cohen's *d* as the effect
 65 size and the Wald test for significant differences.

Profiles (means ^a)						
	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6
Profile 1 (63.37)	-	0.616** [0.467;0.765]	0.328* [0.113;0.544]	0.346** [0.161;0.53]	0.224 [0.049; 0.399]	0.386** [0.211; 0.56]
Profile 2 (55.78)		-	0.314* [0.111; 0.517]	0.298** [0.128; 0.468]	0.385** [0.224; 0.547]	0.242* [0.084; 0.4]
Profile 3 (59.86)			-	0.022 [-0.209; 0.253]	0.076 [-0.301; 0.148]	0.074 [-0.297; 0.148]
Profile 4 (59.59)				-	0.098 [-0.293; 0.097]	0.055 [-0.248; 0.139]
Profile 5 (60.84)					-	0.148 [-0.333; 0.038]
Profile 6 (58.88)						-

66 Note: * $p < .01$, ** $p < .001$; 95% confidence interval of the effect size in brackets.

67 ^aRegarding age, the mean reflects the mean age of the respective profile at the time of the survey.

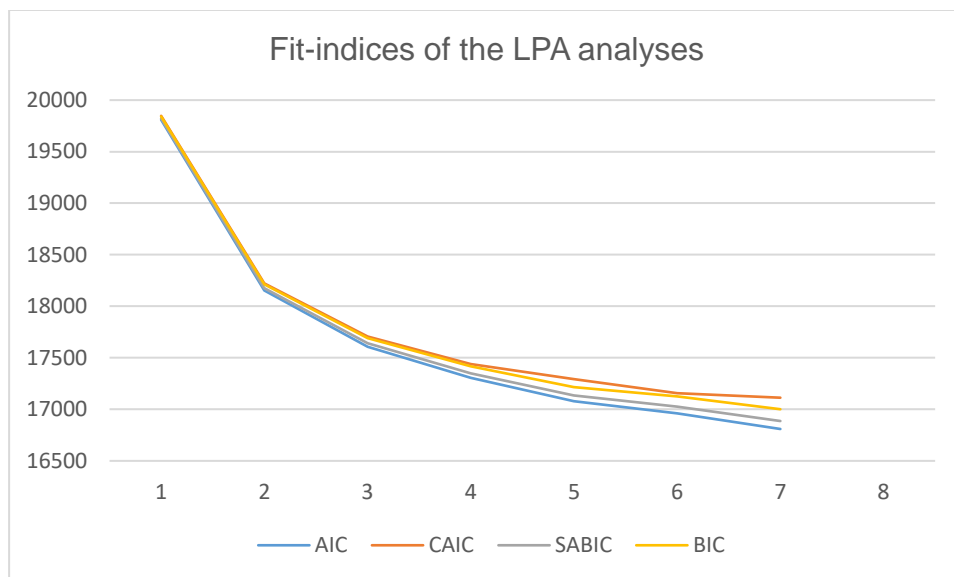
68 **Supplementary Table 8:** Differences in educational level between the profiles indicated by Cohen's *d*
 69 as the effect size and the Wald test for significant differences.

Profiles (means ^a)	 Profile 1	 Profile 2	 Profile 3	 Profile 4	 Profile 5	 Profile 6
Profile 1 (2.54)	-	0.554** [0.406; 0.703]	0.458** [0.241; 0.674]	0.29* [0.096; 0.465]	0.299* [0.123; 0.476]	0.475** [0.3; 0.65]
Profile 2 (3.27)		-	0.11 [-0.093; 0.312]	0.27* [0.1; 0.44]	0.243* [0.082; 0.403]	0.078 [-0.08; 0.236]
Profile 3 (3.11)			-	0.163 [-0.68; 0.394]	0.135 [-0.09; 0.359]	0.03 [-0.192; 0.253]
Profile 4 (2.9)				-	0.24 [-0.219; 0.171]	0.19 [-0.004; 0.383]
Profile 5 (2.93)					-	0.162 [-0.23; 0.348]
Profile 6 (3.16)						-

70 Note: * $p < .01$, ** $p < .001$; 95% confidence interval of the effect size in brackets.

71 ^aRegarding age, the mean reflects the mean educational level of the respective profile at the time of the survey.

72 **Supplementary Figure 1:** Plotted fit-indices for 1 to 7 profiles.



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74 Note: As suggested from Morin & Wang (2016), these four fit-indices are plotted and the best-fitting solution is
75 provided by the profile after which the slope flattens out (“elbow criterion”).

76 AIC: Aikake information criterion; CAIC: consistent AIC; BIC: Bayesian information criterion; SABIC: sample-sized
77 adjusted BIC.