Profile accuracy was evaluated by means of two indices: posterior probability and entropy.

Posterior probability is calculated as

$$t_{ik} = p(c_i = k|y_i) = \frac{p(c_i = k)f(y_i|c_i = k)}{f y_i}$$

where *p* represents the probability of an individual's assigned membership (c_i) to a specific profile (k), given their scores on variables in the y_i vector. A posterior probability is calculated for each individual in relation to each profile. Values closer to 1.0 indicate a higher probability of membership into a specific profile; individuals are classified into profiles based on their highest posterior probability.

Entropy is calculated as

$$\mathrm{E}(K) = \sum_{k=1}^{K}\sum_{i=1}^{n} t_{ik} \ln t_{ik}$$

where t_{ik} represents the posterior probabilities as shown in previous equation. For details on the calculation of posterior probability and entropy in latent profile/class analysis, see Ferguson, Moore and Hull (2020).[1]

[1] Ferguson, S. L., G. Moore, E. W., & Hull, D. M. (2020). Finding latent groups in observed data: A primer on latent profile analysis in Mplus for applied researchers. *International Journal of Behavioral Development, 44*(5), 458-468. https://doi.org/10.1177/0165025419881721

Table S1. *Descriptive Statistics of Study Sample vs SLP Population*

	Study Sample	SLP Population	
	M (SD) or *%*	*M (SD)* or *%*	Range
Sample/Population size	6,568	15, 258	
Age	59.06 (5.76)	58.70 (6.49)	50 – 84
Gender (% Female)	52%	52%	-
Race			
Chinese	88%	83%	-
Malay	5%	9%	-
Indian	5%	6%	-
Others	2%	2%	-
Education Level	3.09 (0.84)	2.99 (.86)	1 – 4
Marital Status (% married)	81%	81%	-
Health	1.37 (1.31)	1.13 (1.22)	0 – 7
Income	5.55 (2.86)	5.50 (2.87)	1 – 10

Note. *M* = Mean; *SD* = Standard deviation. SDs are shown in parentheses. Education attainment was measured on a scale of 1 (No formal schooling) to 4 (post-secondary or tertiary education). Health was measured as number of chronic conditions. Income was measured as monthly income from work, spouse, monetary allowance from family and friends, and other sources, recoded into deciles.

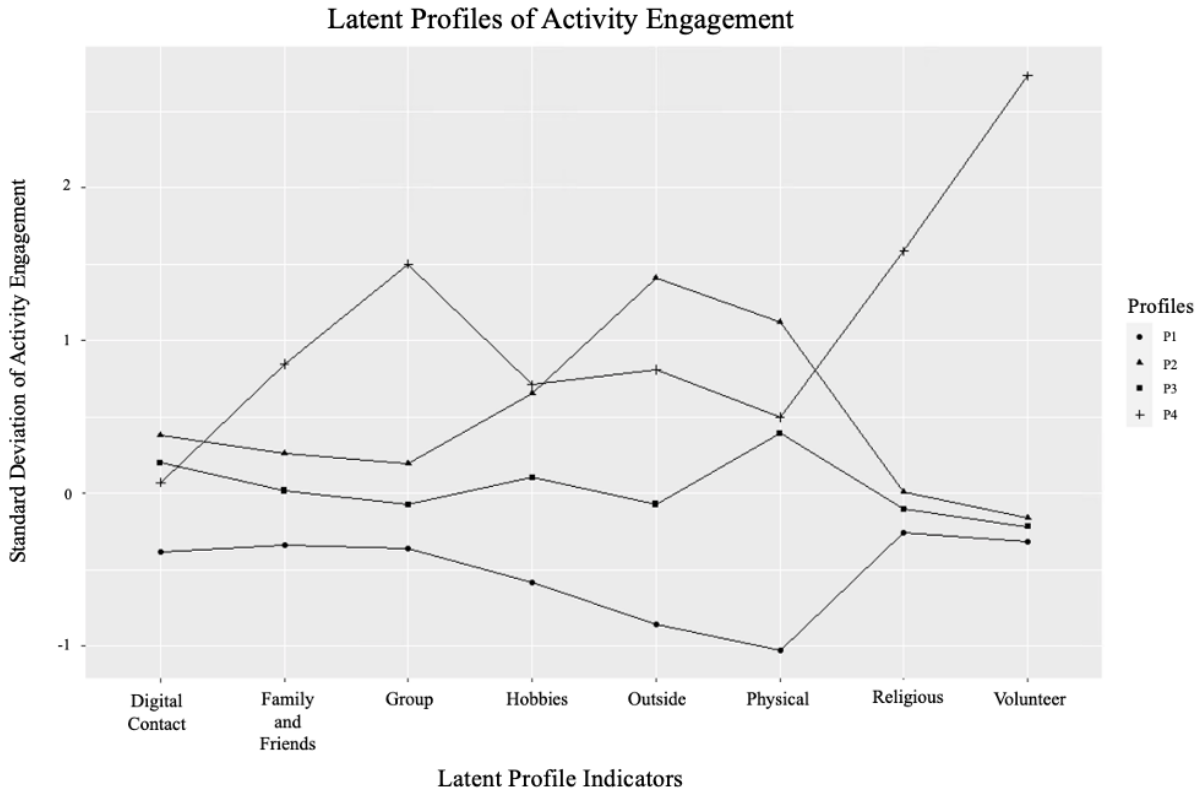
Table S2. *Measured Used and Corresponding SLP Waves*

Measure	Waves administered in the SLP	Waves used for the current study	Additional comments
Activity Engagement	Measured every wave, beginning at 61 to 81 (August 2020 to April 2022).	61 to 81	Activity measures used for our main analyses were restricted to wave 61 to 63, in order to establish temporal precedence with depression measured in wave 64. Activities measured from wave 64 to 81 were used in our additional analyses to ascertain if social activity engagement were correlated across time.
Depression	Measured quarterly, beginning with 64 to 79: 64 (November 2020), 67 (February 2021), 70 (May 2021), 73 (August 2021), 76 (November 2021), 79 (February 2022).	64, 67, 70, 73, 76, 79	
Age, education, gender, ethnicity, health, marital status, and income	0 (May to July 2015)	0	
ADL	64 (November 2020)	64	
Personality	49 (August 2019)	49	
Pre-pandemic affect	Measured every 3 waves, beginning with 3 to 81: 3 (October 2015), 6 (January 2016), 9 (April 2016), 12 (July 2016),… 51 (October 2019),… 81 (April 2022)	3 to 51	Only wave 3 to wave 51 were used for our analyses, as wave 52 coincided with the start of the COVID-19 outbreak in November 2019

Table S3. *Accuracy of Activity Engagement Profiles*

Activity Engagement profiles	P1 "Digital activity only"	P2 "High physical and outside activity"	P3 "Moderate physical and outside activity"	P4 "Broadly active
Average Posterior Probability	.935	.913	.862	.950

Figure S1. *Latent Profiles of Activity Engagement, Standardized*



Note. P1 = *Digital activity only;* P2 = *High physical and outside activity*; P3 = *Moderate physical and outside activity*; P4 = *Broadly active*.