

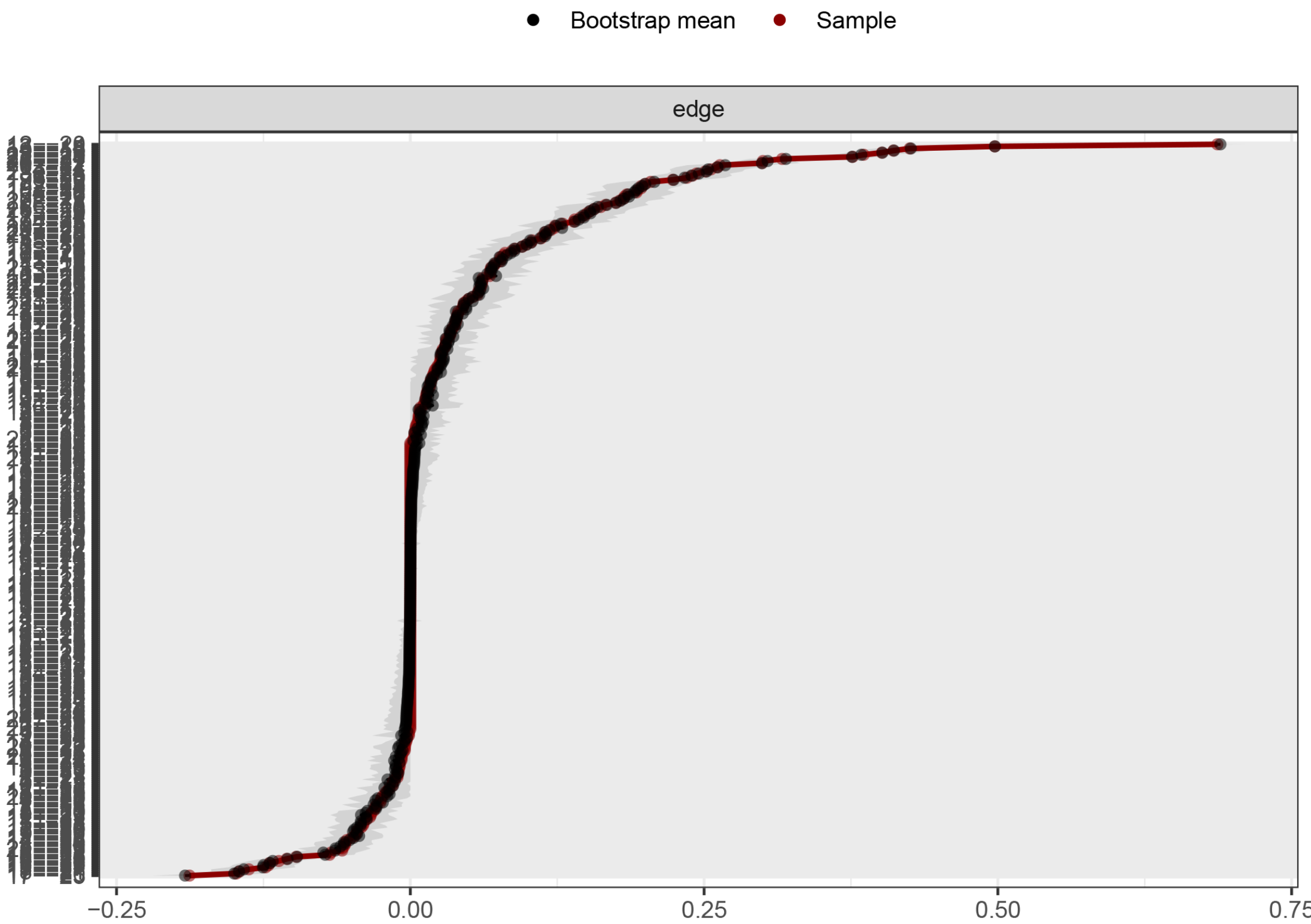


Fig A1. Bootstrapped with 95%CIs

Table A1. Network estimation

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1																											
2	0.04																										
3	-0.02	0.12																									
4		0.20	0.26																								
5	0.05	0.20	0.09	0.14																							
6		0.06	0.07	0.19	0.18																						
7	-0.04	0.18	0.08	0.26		0.17																					
8		0.04	0.05	0.01	0.10	0.24	0.03																				
9	0.01		0.07		0.15	0.01		0.24																			
10	0.04	0.05	0.05	0.06	0.11	0.16	0.11	0.10	0.41																		
11		-0.03	0.01		-0.01																						
12					0.03		-0.06	0.01	0.02																		
13											0.07																
14			0.01								0.10		0.50														
15				-0.01			-0.03		0.03		0.07	0.03	0.40	0.42													
16	0.03			-0.01	0.01		-0.03	0.03	0.03		0.08	0.10	0.03	0.01	0.07												
17		-0.02	0.02	-0.01						-0.01	0.02	0.14	0.03			0.30											
18	-0.03			-0.01					-0.02		0.06	0.08	-0.01		0.01	0.19	0.17										
19		0.01								0.02	0.15	0.04	0.02			0.08	-0.12	0.06									
20				0.01	-0.03		0.08	-0.03	-0.05			0.69			-0.04	-0.02	-0.15		0.22								
21	0.06		-0.01		0.02		-0.01	0.03	0.01	0.01	-0.04	0.01			-0.04	0.26	-0.14	-0.15	0.20	0.18							
22											-0.05					-0.01	0.14	-0.11	0.12	0.03							
23	-0.01			-0.01			0.04				-0.05	-0.03	-0.02		-0.01	-0.11	0.20		0.12	0.03	0.39						
24					0.02		-0.06	0.02	0.03				-0.01		0.01		0.15		0.02	-0.01	0.06	0.38	0.25				
25						0.02	-0.04	0.04	0.04	0.03		-0.07	-0.02			0.07	-0.19	0.24	0.13	-0.02	-0.06			0.12			
26	-0.04	0.06					0.02			0.01	-0.12	-0.02		-0.05	-0.06	-0.10	-0.06	0.09		0.12	0.06	0.07	0.02	0.16			
27	0.03	0.04		-0.03	0.01		-0.05	0.04	0.04		-0.03	0.05				-0.07	0.18	-0.12	0.03		0.04	0.06	0.02		0.32	0.30	

Note: The black numbers in the figure represent positive correlation estimation coefficients, while the red numbers represent negative correlation estimation coefficients.

Table A2. Centrality indices of variables

Variable	Predictability (R ²)	Centrality			
		Betweenness	Closeness	Strength	Expected Influence
1.Average weekly exercise	0.055	0	0.001394128	0.4122830	0.1198369
2.Health Motivation	0.684	28	0.001902202	1.0434965	0.9486295
3.Appearance Motivation	0.633	0	0.001616902	0.8562914	0.7986832
4.Enjoyment Motivation	0.757	23	0.001891356	1.1878232	1.0543829
5.Ability Motivation	0.726	9	0.001677573	1.1550960	1.0529286
6.Social Motivation	0.760	19	0.001777425	1.1129743	1.1129743
7.Academic Motivation	0.652	81	0.002131770	1.2514120	0.6266046
8.Obedience Motivation	0.669	3	0.001614644	1.0123096	0.9455311
9.Economic Motivation	0.701	13	0.001678554	1.1520959	1.0278312
10.Honor Motivation	0.754	4	0.001660134	1.1691869	1.1545777
11.DERS-16	0.460	26	0.002005372	0.8914790	0.2236108
12.Suppression	0.657	0	0.002412764	1.3599199	1.0020295
13.Stress	0.849	0	0.001426852	1.1222630	0.9960855
14.Anxiety	0.858	15	0.001489567	1.1103403	0.9812641
15.Depression	0.836	21	0.001530447	1.2527698	0.8626422
16.Negative Affect	0.428	27	0.002284940	1.6165631	0.9495535
17.Neuroticism	0.488	37	0.002440418	1.9958715	0.7412909
18.BBIS	0.296	2	0.002082252	1.3201798	0.3251779
19.COFLEX	0.456	33	0.002489688	1.3007894	1.0594308
20.Reappraisal	0.713	82	0.002604425	1.6957742	0.9691481
21.Positive Affect	0.448	24	0.002377216	1.4714662	0.5882789
22.Conscientiousness	0.700	5	0.002040098	1.3474967	1.0053209
23.Agreeableness	0.672	4	0.002112275	1.3713929	0.8812645
24.Openness	0.624	10	0.002097766	1.1483908	1.0056817
25.Extraversion	0.437	11	0.002175266	1.5608847	0.7536348
26.Self -Esteem	0.595	26	0.002266845	1.3479422	0.4614363
27.BSCS	0.542	5	0.002268419	1.4586096	0.8573889

Table A3. List of Abbreviations

Abbreviation	Full Form
MVPA	Moderate-to-Vigorous Physical Activity
PA	Physical Activity
PE	Physical Exercise
SDT	Self-Determination Theory
I-PACE	Interaction of Person - Affect - Cognition - Execution
PPF	Positive Psychological Functioning
MPAM-R	Motives for Physical Activity Measure - Revised
DEERS-16	Difficulties in Emotion Regulation Scale - 16-item
COFLEX	Coping Flexibility Questionnaire
ERQ-10	Emotion Regulation Questionnaire-10
ERQ	Emotion Regulation Questionnaire
DASS-21	Depression, Anxiety and Stress Scale - 21-item
DASS	Depression, Anxiety and Stress Scales
PANAS	Positive and Negative Affect Schedule
CBF-PI-15	Chinese Big Five Personality Inventory - 15-item
CBF-PI-B	Chinese Big Five Personality Inventory - Brief
BBIS	Brief Barratt Impulsiveness Scale
BSCS	Brief Self-Control Scale
RSES	Rosenberg Self-Esteem Scale
GGM	Gaussian Graphical Model
EBICglasso	Extended Bayesian Information Criterion graphical lasso
EBIC	Extended Bayesian Information Criterion
qgraph	R package for network visualization
mgm	R package for mixed graphical models
bootnet	R package for network accuracy and stability
FDR	False Discovery Rate
BH	Benjamini - Hochberg
CS	Correlation Stability
CI	Confidence Interval
R ²	Coefficient of Determination
SPSS	Statistical Package for the Social Sciences
R	R Statistical Programming Language
SEM	Structural Equation Modeling
NCT	Network Comparison Test

Table A4.STROBE Checklist

Item No.	Checklist Item (STROBE cross-sectional)	Reported?	Location in manuscript/supplement
1a	Indicate the study's design with a commonly used term in the title or the abstract (e.g., cross-sectional study)	Yes	Abstract; 2. Methods 2.1 2.1 Study design
1b	Provide in the abstract an informative and balanced summary of what was done and what was found	Yes	Abstract
2	Explain the scientific background and rationale for the investigation	Yes	1. Introduction 1.1 - 1.4
3	State specific objectives, including any prespecified hypotheses	Yes	1.5 Research Hypotheses
4	Present key elements of study design early in the paper	Yes	2. Methods
5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Yes	2.1 2.1 Participants and study period (Oct - Dec 2024)
6a	Give the eligibility criteria, and the sources and methods of participant selection	Yes	2.1 2.1 Participants (eligibility criteria, convenience sampling)
6b	For matched studies, give matching criteria and number of exposed and unexposed (not applicable for general cross-sectional surveys)	Not applicable	Cross-sectional general population survey
7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers	Partly	2.2 2.2 Measurement instruments; 2.2.1 - 2.2.11;
8	For each variable of interest, give sources of data and details of methods of assessment; describe comparability of assessment methods if there is more than one group	Yes	2.2 Reliability and scoring of instruments
9	Describe any efforts to address	Partly	2.1 2.1 Timing avoided exam

	potential sources of bias		stress; 4.5 4.5 Limitations and bias (Discussion)
10	Explain how the study size was arrived at (including any sample size calculation)	No	Final sample size reported; no a priori sample size calculation
11	Explain how quantitative variables were handled in the analyses; if applicable, describe which groupings were chosen and why	Yes	2.3 Statistical analysis (z-standardization; MVPA calculation formula)
12a	Describe all statistical methods, including those used to control for confounding	Yes	2.3 Statistical analysis; Supplementary materials Fig A1, A2, Table A1
12b	Describe any methods used to examine subgroups and interactions	Yes	2.3 Sensitivity analyses (network re-estimated by sex)
12c	Explain how missing data were addressed	Yes	2.3 Statistical analysis (<3% listwise deletion)
12d	If applicable, explain how complex sampling or loss to follow-up was addressed	Not applicable	Convenience sampling; no complex sampling design
12e	Describe any sensitivity analyses	Yes	2.3; 3.5 Stability/ γ -parameter sensitivity; sex-stratified networks
13a	Report numbers of individuals at each stage of study (e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed)	Yes	2.1 Recruitment and final sample: 6080→6072
13b	Give reasons for non-participation at each stage	Partly	2.1 (exclusion criteria and 8 excluded cases)
13c	Consider use of a flow diagram	No	No flow diagram provided
14a	Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders	Yes	3.1 Table 1 Baseline characteristics
14b	Indicate number of participants with missing data for each variable of interest	Partly	2.3 Mentioned <3% item-level missing; not shown per variable
14c	Summarise follow-up time (e.g., average and total amount) (if	Not applicable	No follow-up (cross-sectional study)

	applicable)		
15	Report numbers of outcome events or summary measures (cross-sectional: distribution or summary of main outcomes)	Yes	3.2 Table 2; MVPA mean = 135.21 min/week
16a	Report unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval); make clear which confounders were adjusted for	Yes	3.3/3.4 Network edge weights; Supplementary materials Fig A1, Table A2
16b	Report category boundaries when continuous variables were categorized	Not applicable	No categorization of key continuous variables
16c	If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not applicable	Not a risk ratio study
17	Report other analyses done (e.g., analyses of subgroups and interactions, and sensitivity analyses)	Yes	3.5 Sensitivity analyses; Supplementary materials Fig A2
18	Summarise key results with reference to study objectives	Yes	4. Discussion (opening section)
19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Yes	4.5 Limitations: selection/info bias, measurement error, confounding, interpretation limits
20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Yes	4. Discussion (conclusion)
21	Discuss the generalisability (external validity) of the study results	Yes	4.5 Cultural/population context and generalisability
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	Yes	Conclusion Funding; declaration of no conflict of interest

	the present article is based		
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