Creative Cities

The Importance of Arts, Culture & Community to Population Health

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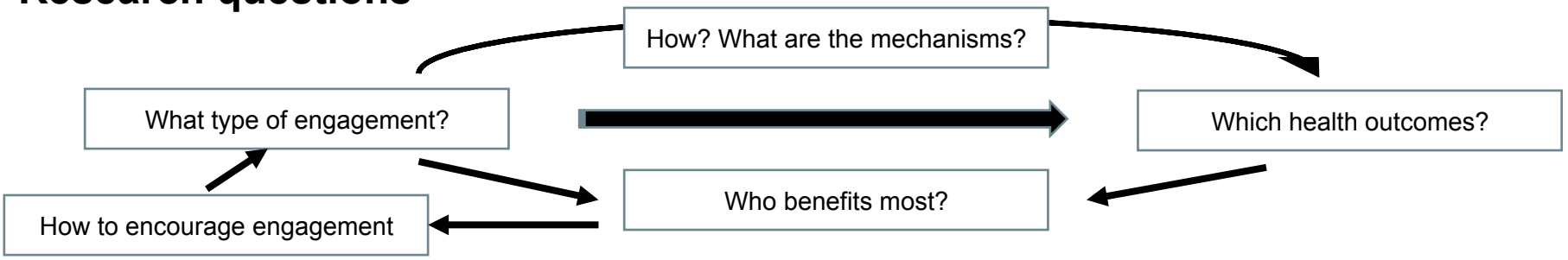
wellcome
The Leverhulme Trust
UK Research and Innovation

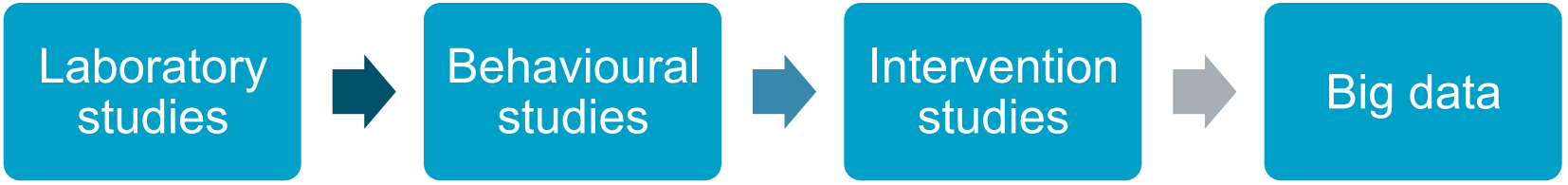
Social engagement

Overview of research at UCL

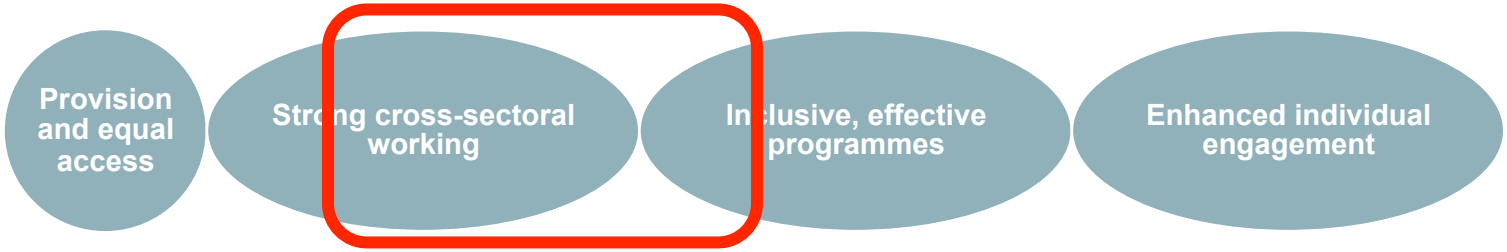
Research questions



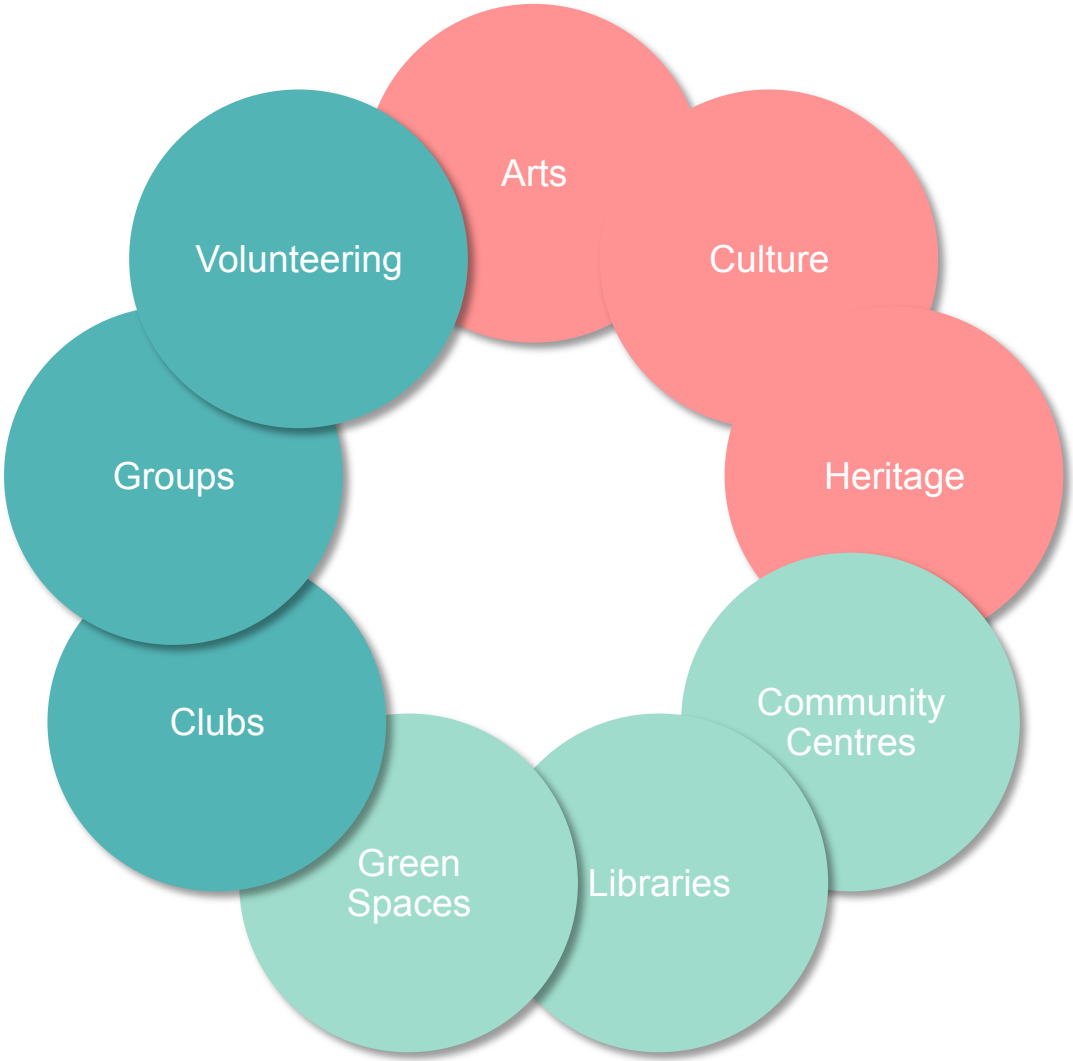
Research methods



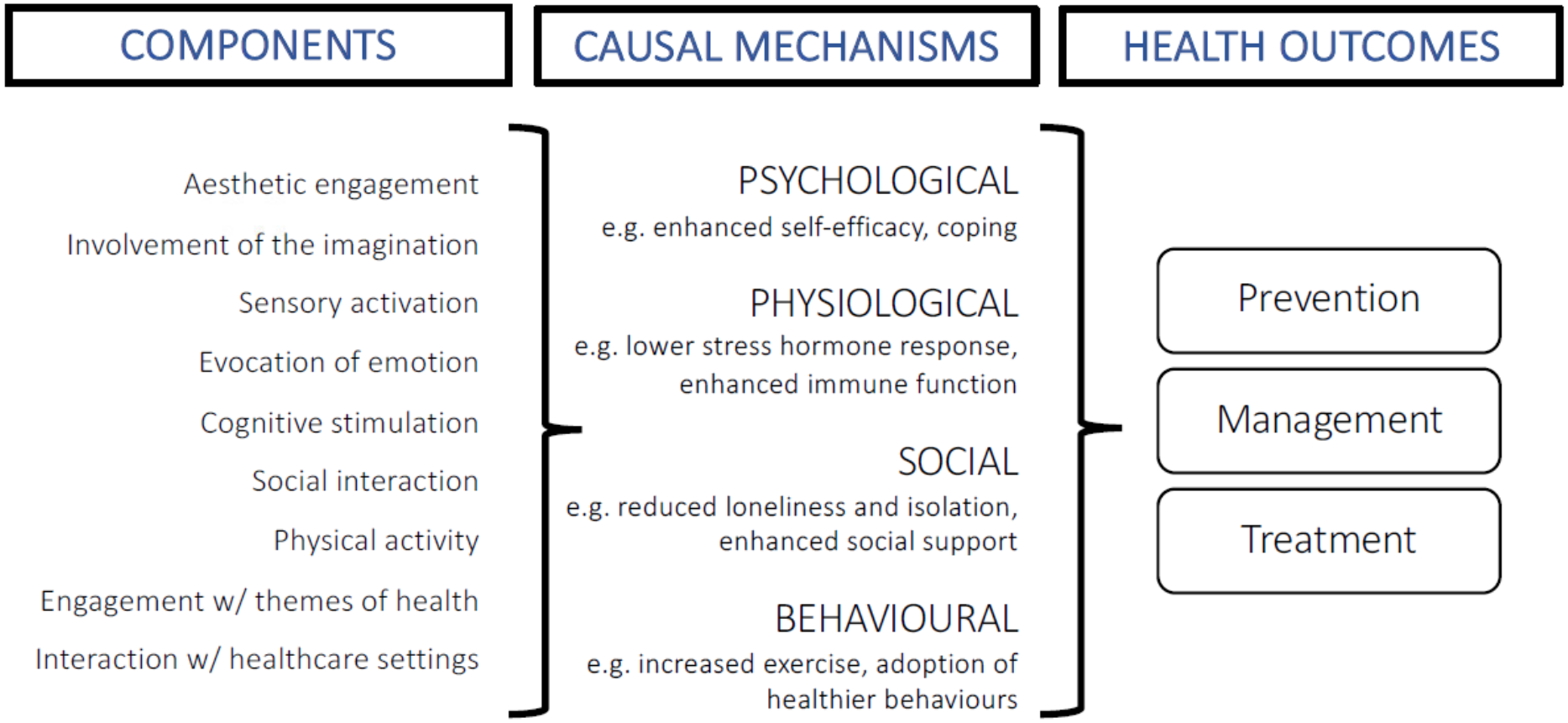
Research outcomes



Social engagement

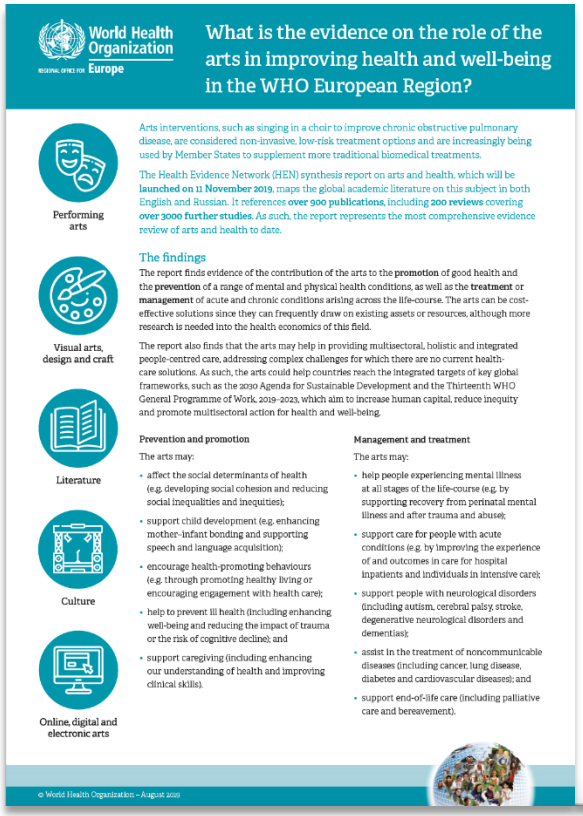


Arts as multi-modal interventions



WHO Report on Arts & Health

- 3,000 studies
- Full report coming out 4 November



World Health Organization
REGIONAL OFFICE FOR Europe

What is the evidence on the role of the arts in improving health and well-being in the WHO European Region?

Performing arts

Visual arts, design and craft

Literature

Culture

Online, digital and electronic arts

Arts interventions, such as singing in a choir to improve chronic obstructive pulmonary disease, are considered non-invasive, low-risk treatment options and are increasingly being used by Member States to supplement more traditional biomedical treatments.

The Health Evidence Network (HEN) synthesis report on arts and health, which will be **launched on 11 November 2019**, maps the global academic literature on this subject in both English and Russian. It references **over 900 publications**, including **200 reviews** covering **over 3000 further studies**. As such, the report represents the most comprehensive evidence review of arts and health to date.

The findings

The report finds evidence of the contribution of the arts to the **promotion** of good health and the **prevention** of a range of mental and physical health conditions, as well as the **treatment** or **management** of acute and chronic conditions arising across the life-course. The arts can be cost-effective solutions since they can frequently draw on existing assets or resources, although more research is needed into the health economics of this field.

The report also finds that the arts may help in providing multisectoral, holistic and integrated people-centred care, addressing complex challenges for which there are no current health-care solutions. As such, the arts could help countries reach the integrated targets of key global frameworks, such as the 2030 Agenda for Sustainable Development and the Thirteenth WHO General Programme of Work, 2019–2023, which aim to increase human capital, reduce inequity and promote multisectoral action for health and well-being.

Prevention and promotion

The arts may:

- affect the social determinants of health (e.g. developing social cohesion and reducing social inequalities and inequities);
- support child development (e.g. enhancing mother–infant bonding and supporting speech and language acquisition);
- encourage health-promoting behaviours (e.g. through promoting healthy living or encouraging engagement with health care);
- help to prevent ill health (including enhancing well-being and reducing the impact of trauma or the risk of cognitive decline); and
- support caregiving (including enhancing our understanding of health and improving clinical skills).

Management and treatment

The arts may:

- help people experiencing mental illness at all stages of the life-course (e.g. by supporting recovery from perinatal mental illness and after trauma and abuse);
- support care for people with acute conditions (e.g. by improving the experience of and outcomes in care for hospital inpatients and individuals in intensive care);
- support people with neurological disorders (including autism, cerebral palsy, stroke, degenerative neurological disorders and dementias);
- assist in the treatment of noncommunicable diseases (including cancer, lung disease, diabetes and cardiovascular diseases); and
- support end-of-life care (including palliative care and bereavement).

What the HEN report will consider

The evidence synthesized in the report provides suggestions for integrating the culture, social care and health sectors to support health and well-being throughout the life course.

Acknowledging the growing evidence base for the role of the arts in improving health and well-being, the HEN report:

- highlights arts interventions for which there is particularly promising evidence;
- shares knowledge and practice from the WHO European Region and around the world using case studies; and
- identifies areas within the arts and health where further research is still needed.

Recognizing the added health value of engagement with the arts, the HEN report:

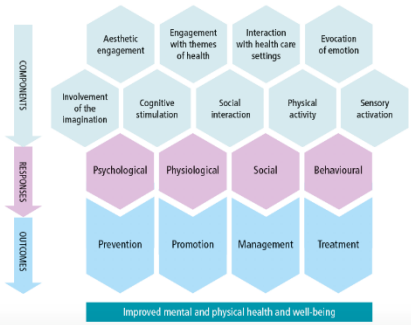
- examines the health benefits of ensuring affordable and accessible provision of art to everyone across the life course;
- considers the benefits for arts and cultural organizations of making health and well-being an integral and strategic part of their work; and
- promotes public awareness of the potential health benefits of engaging with the arts.

Noting the cross-sectoral nature of the arts and health fields, the HEN report:

- reviews structures and mechanisms for collaboration between the culture, social care and health sectors, including co-financing between sectors;
- examines referral mechanisms from health and social care to community arts programmes (such as social prescribing schemes); and
- considers evidence for the benefit of including arts and humanities within the training of health care professionals.

Evidence for health and well-being in context

The WHO Regional Office for Europe and its Member States recognize the importance of culture in shaping health and well-being throughout the life course. Operating under the Evidence for Health and Well-being in Context initiative, the Cultural Contexts of Health and Well-being (CCH) project has been established as a cross-cutting initiative within the Regional Office and sets out to take a more systematic approach to research into how culture affects perceptions, access and experiences of health and well-being. By supplementing quantitative data with qualitative studies from the social sciences and broader health humanities, the CCH project aims to enhance our understanding of people's needs, values, perceptions and experience of the world around them in order to improve the health and well-being of all. The HEN report on arts and health was developed as part of this work. For more information, please visit: **www.euro.who.int/en/cch**



Synergy between sectors: supporting health through the arts

Summary

The Health 2020 policy framework has been adopted by all Member States of the WHO European Region to address Europe's great social and health challenges, calling upon the health sector to reach out to and work with all the various sectors and parties in the continuing work of improving people's health and well-being.

A recently published WHO Health Evidence Network synthesis report (The role of the arts in improving health and well-being in the WHO European Region) demonstrates how arts interventions can help improve health and well-being, contribute to the prevention of a variety of mental and physical illnesses and support in the treatment or management of a range of acute and chronic conditions arising across the life-course. As such, arts interventions are often low-risk, highly cost-effective, integrated and holistic treatment options for complex health challenges to which there are no current solutions.

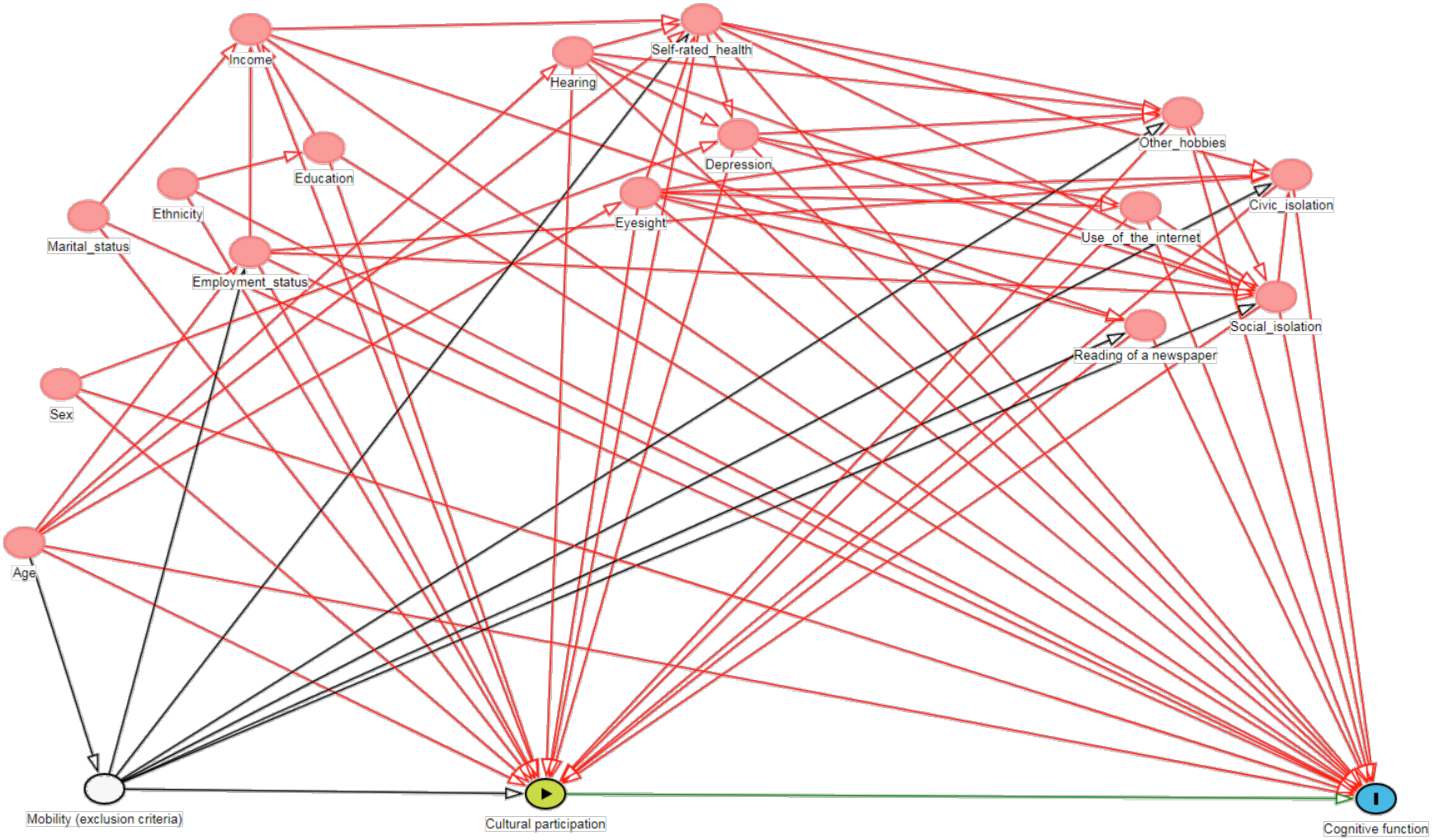
Nevertheless, the positive potential impact arts interventions can have on the health and well-being of individuals and communities is not being fully realized, because opportunities for collaboration between the arts and health sectors are not being properly developed. This publication summarizes the evidence for the multiple ways in which it has been demonstrated that arts programmes can benefit the health agenda, from reducing social inequalities to increasing health equity and from providing better training for health professionals to improving resilience and coping among informal caregivers.

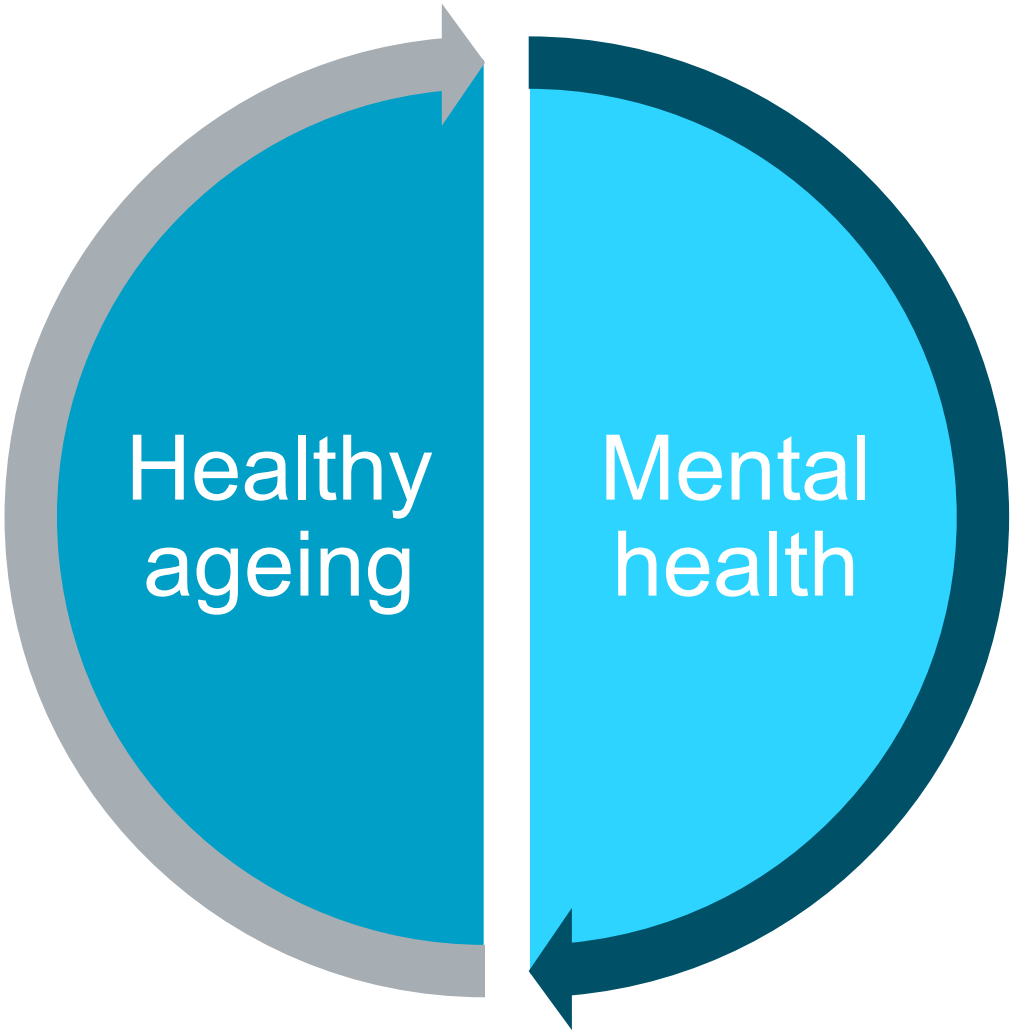
Stronger pathways between the arts, health and social care can provide creative solutions to help to achieve the Health 2020 targets and the Sustaina-ble Development Goals. Further, more collaboration between sectors can also enrich cultural capital by ensuring that everyone has equitable access to the arts in community and health-care settings across the Region.

"upon" "study"

epidemiology

"people"

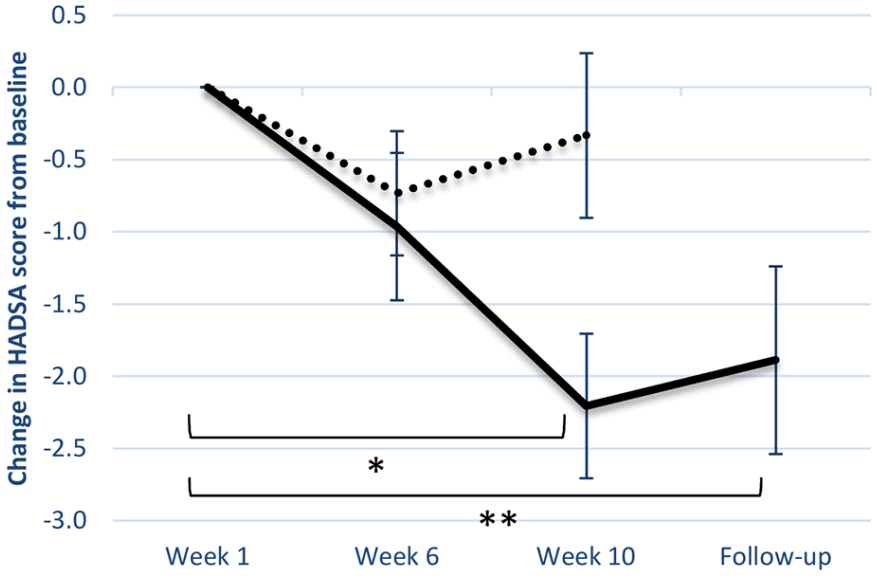



Healthy ageing
Mental health

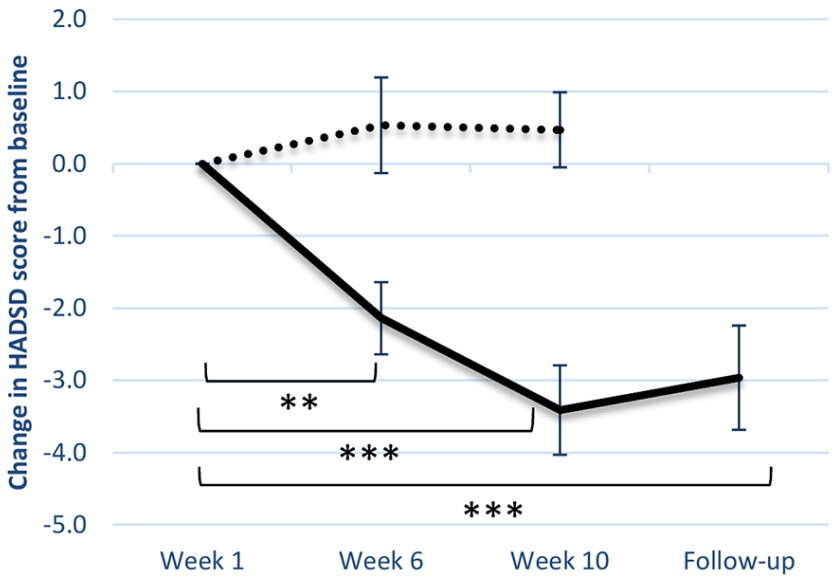
Does community arts participation help people recover from depression?

Drumming for Mental Health

Anxiety

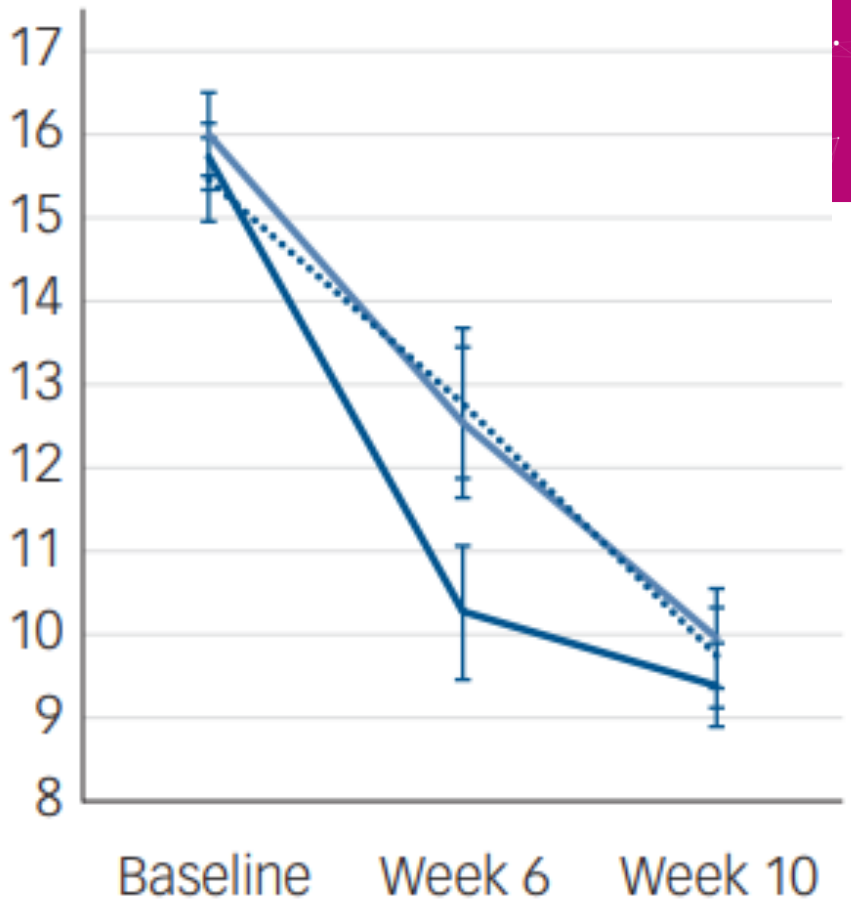


Depression



Fancourt, Perkins, Ascenso, Carvalho, Steptoe, & Williamon (2016). PLoS One
Fancourt, Perkins, Ascenso, Carvalho, Steptoe, & Williamon (2015). Psychotherapy & Psychosomatics

Singing for postnatal depression



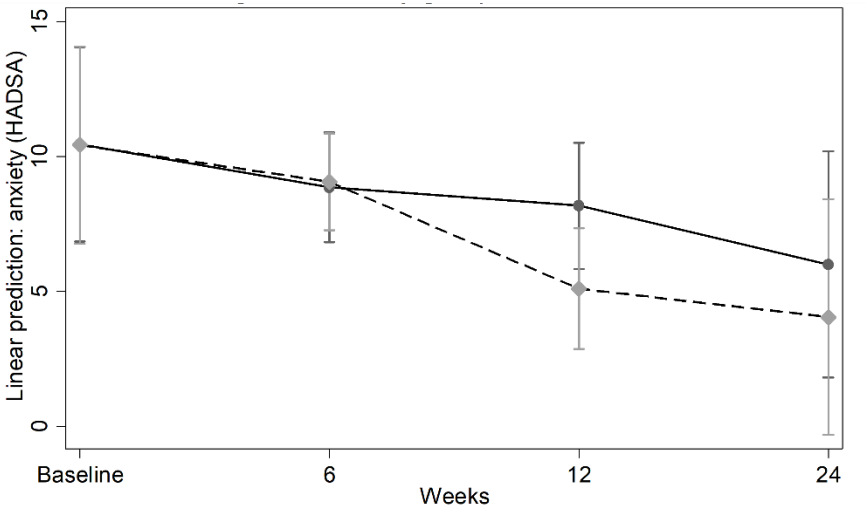
MELODIES FOR MUMS

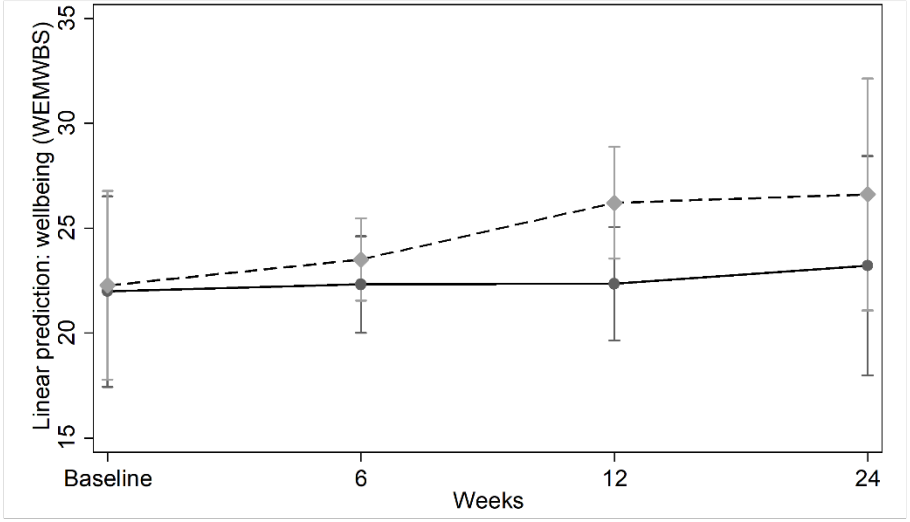
Culturally diverse songs to encourage bonding with the baby and engagement with others

A GROUND-BREAKING NEW SERVICE FOR MOTHERS WITH POST-NATAL DEPRESSION

Fancourt & Perkins (2018) The British Journal of Psychiatry

Mental health in cancer choirs





Anxiety

Control Group _____

Choir Group _ _ _ _ _ _ _ _ _ _ _ _

Wellbeing

Fancourt, Finn, Warran, & Wiseman, (2019) BMJ Open

Fancourt, Warran, Finn, & Wiseman, (2019) BMJ SPC

Mental health **recovery**

Hobbies and depression

	Depressive symptoms (continuous)			Depression (binary)		
	Coef	95%CI	p	OR	95%CI	p
Free from depression at baseline, no hobby	-0.26	-0.34 to -0.17	<.001	0.68	0.56 to 0.83	<.001
Total observations (individuals)	13,754 (2,008)			5,530 (803) [a]		
With depression at baseline, no hobby	-0.49	-0.69 to -0.28	<.001	2.72 [c]	2.09 to 3.53	<.001
Total observations (individuals)	4,154 (613)			4,049 (596) [a]		

272% more likely to recover from depression when they take up a hobby

Analysis
Fixed effects models on full dataset (using MICE)
+ time-effects and sandwich estimators
Arellano-Bond estimators used to confirm direction of lagged effects

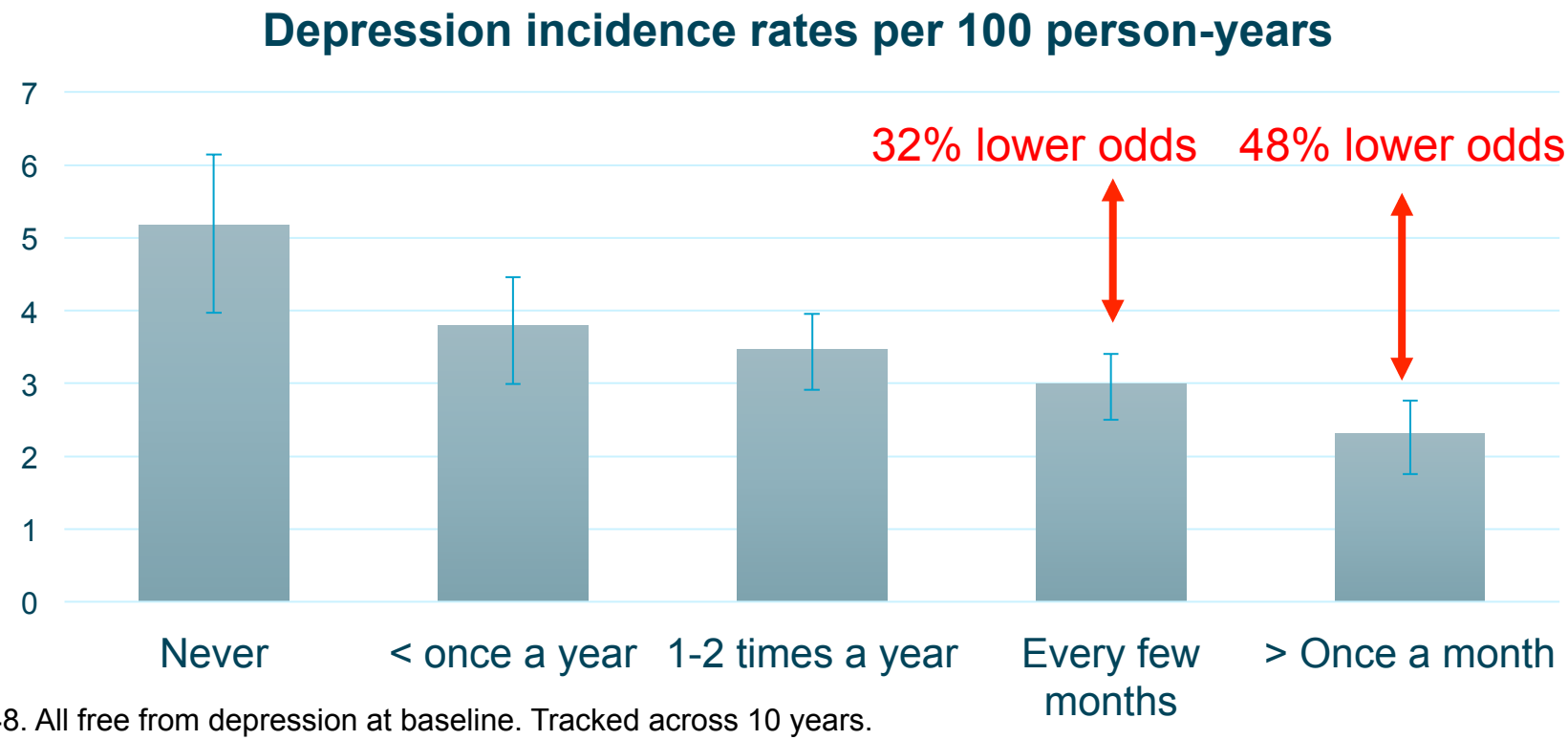
Model 1: Time invariant E.g. sex, age, ethnicity, educational attainment
Adjusted for time-varying: Marital status, occupational status, sensory decline, alcohol consumption, smoking, chronic health conditions, chronic pain, sedentary activities, cognitive stimulation and social interactions

Fancourt, Opher, & de Oliveria, (2019) Psychotherapy & Psychosomatics

Does engagement in arts activities reduce the risk of developing depression?

Mental health **prevention**

Cultural engagement and depression



N=2,148. All free from depression at baseline. Tracked across 10 years.
Adjusted for age, gender, ethnicity, marital status, education, employment, wealth, longstanding illness, CVD, eyesight, hearing, chronic pain, alcohol consumption, freq of social contact, civic group, neighbourhood group, church, charity involvement, evening classes, social club, exercise class, sports group, society, having a hobby, reading

Fancourt & Tymoszuk (2019) The British Journal of Psychiatry

Mental health **prevention**

Hobbies and depression

	Depressive symptoms (continuous)			Depression (binary)		
	Coef	95%CI	p	OR	95%CI	p
Model 1	-0.45	-0.50 to -0.39	<.001	0.57	0.52 to 0.62	<.001
Model 2	-0.33	-0.39 to -0.28	<.001	0.66	0.60 to 0.72	<.001
Model 3	-0.28	-0.34 to -0.23	<.001	0.70	0.64 to 0.76	<.001
Total observations (individuals)	61,460 (8,780)			27,020 (3,860)[a]		

30% lower odds of developing depression amongst individuals who take up hobbies

N=8,780, tracked across 12 years.

Analysis
Fixed effects models on full dataset (using MICE)
+ time-effects and sandwich estimators
Arellano-Bond estimators used to confirm direction of lagged effects

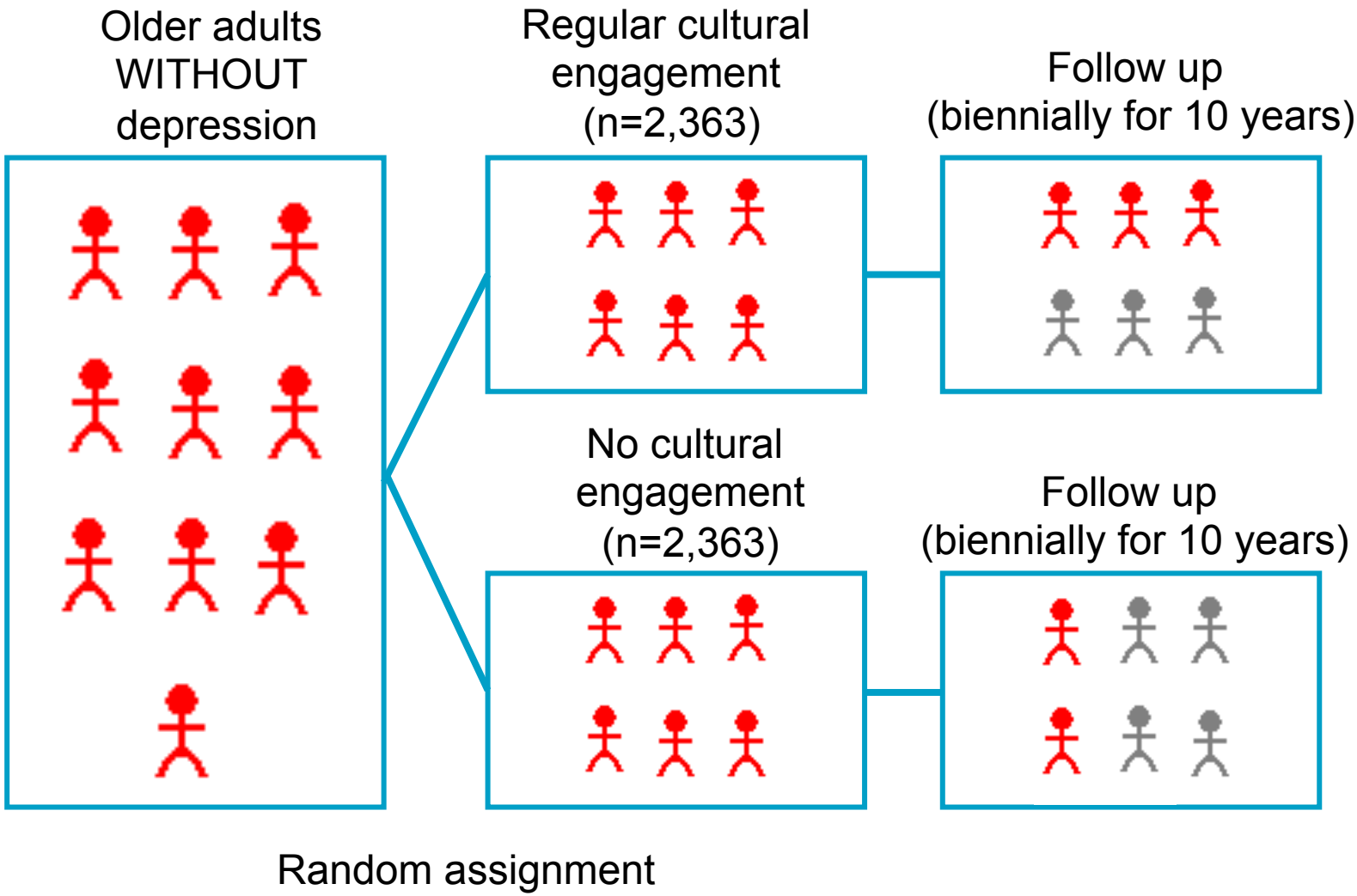
Independent of:
Time invariant E.g. sex, age, ethnicity, educational attainment
Time variant: Marital status, occupational status, sensory decline, alcohol consumption, smoking, chronic health conditions, chronic pain, sedentary activities, cognitive stimulation and social interactions

Fancourt, Opher, & de Oliveria, (2019) Psychotherapy & Psychosomatics.

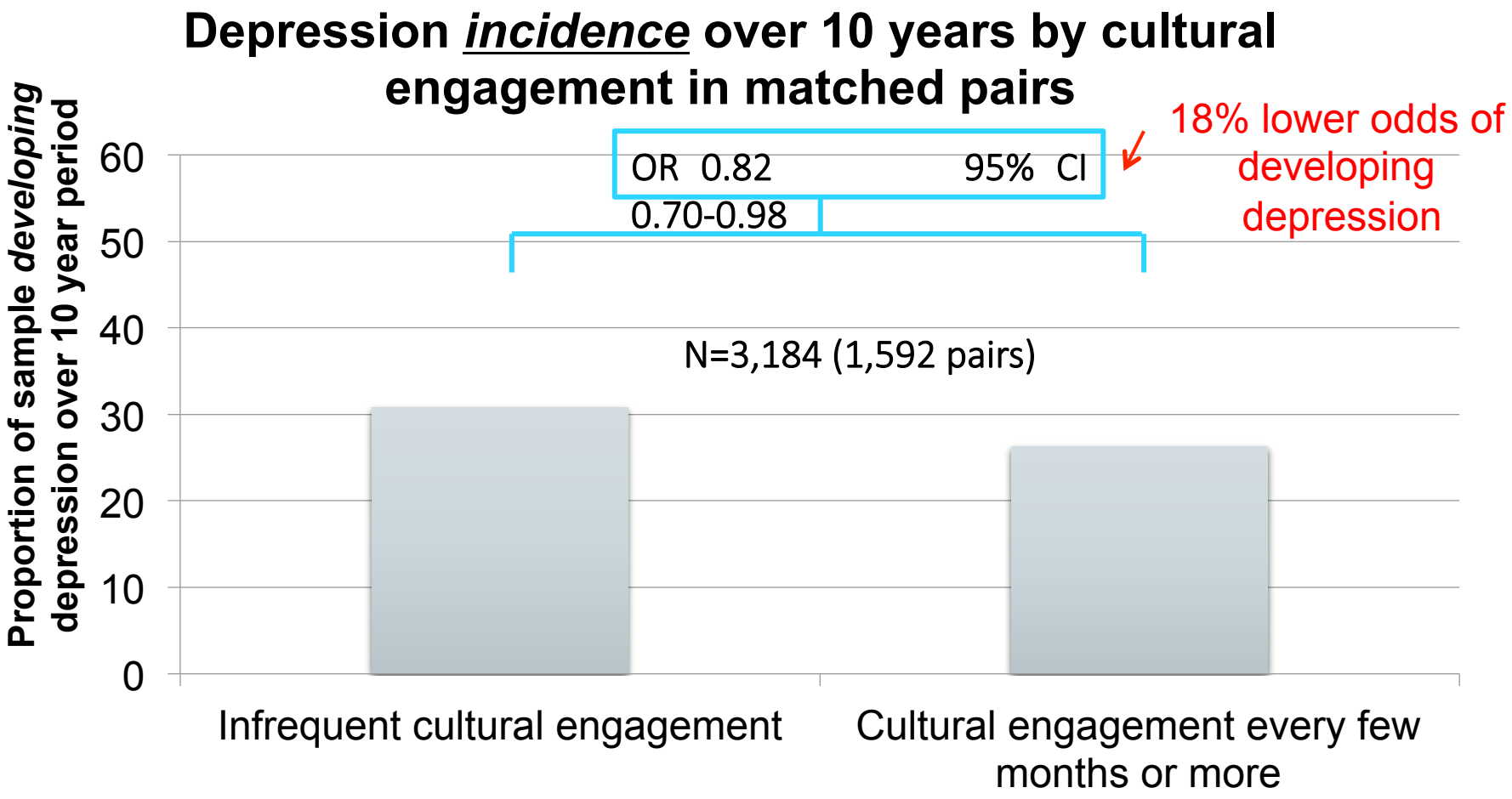
Simulated experiment:

Could prescribing the arts help to prevent depression?

Mental health **prevention**

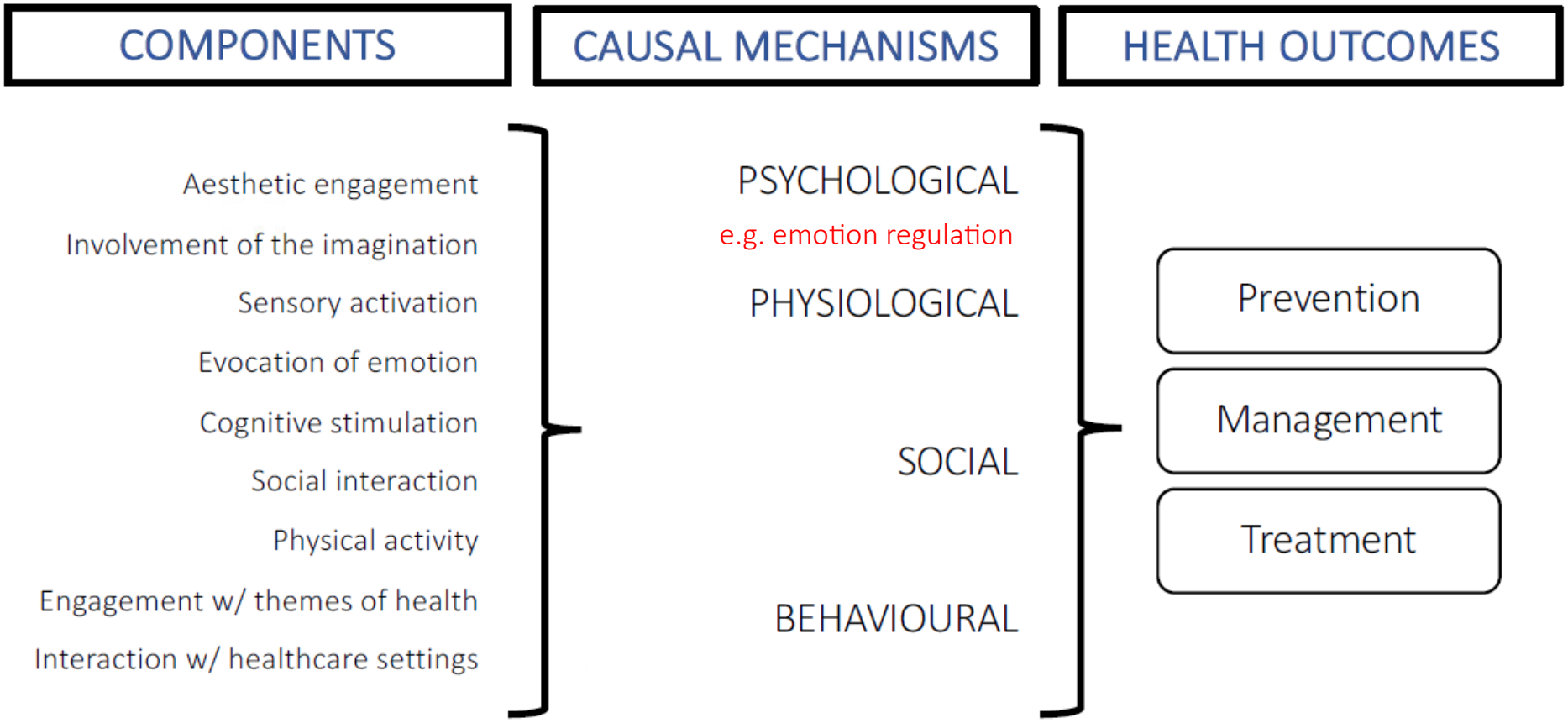


Mental health **prevention**

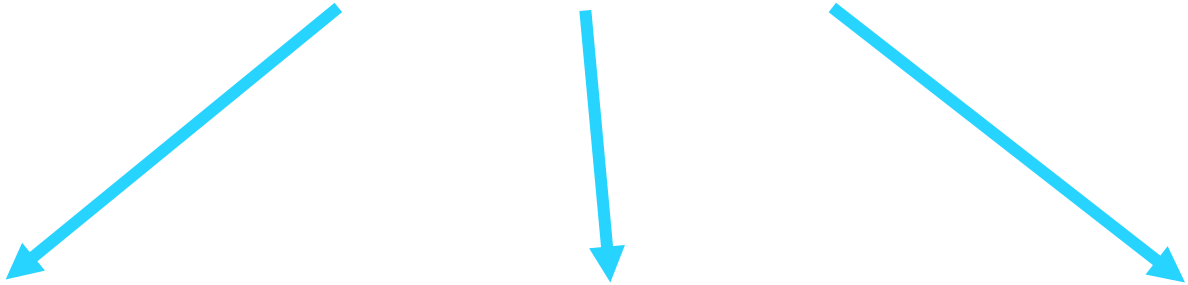


Fancourt & Steptoe (2019). Social Science & Medicine

Potential underlying mechanisms



Emotion regulation strategies when engaging in creative activities



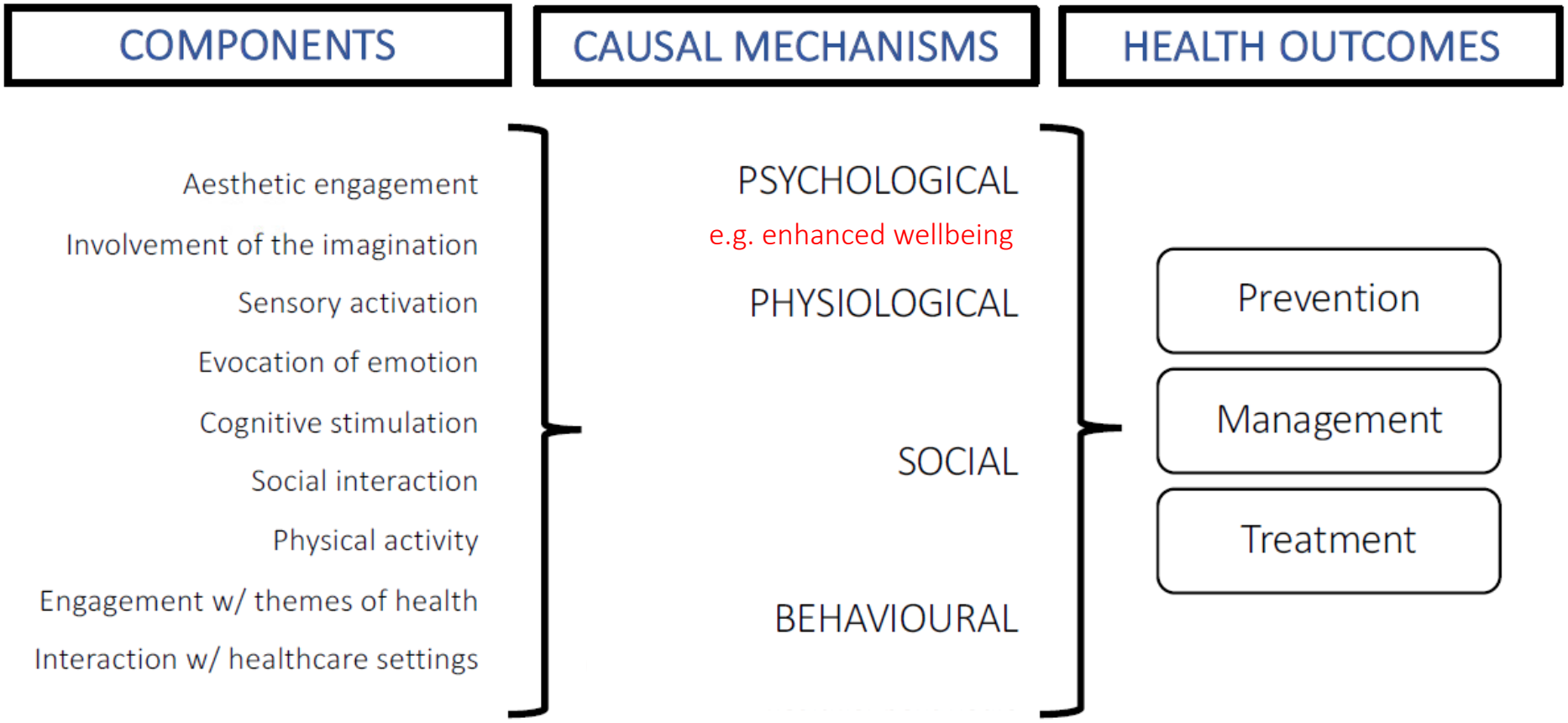
Avoidance
Distraction
Suppression
Avoidance
Detachment
Mindfulness

Approach
Acceptance
Discharge
Problem solving
Reappraisal
Rumination

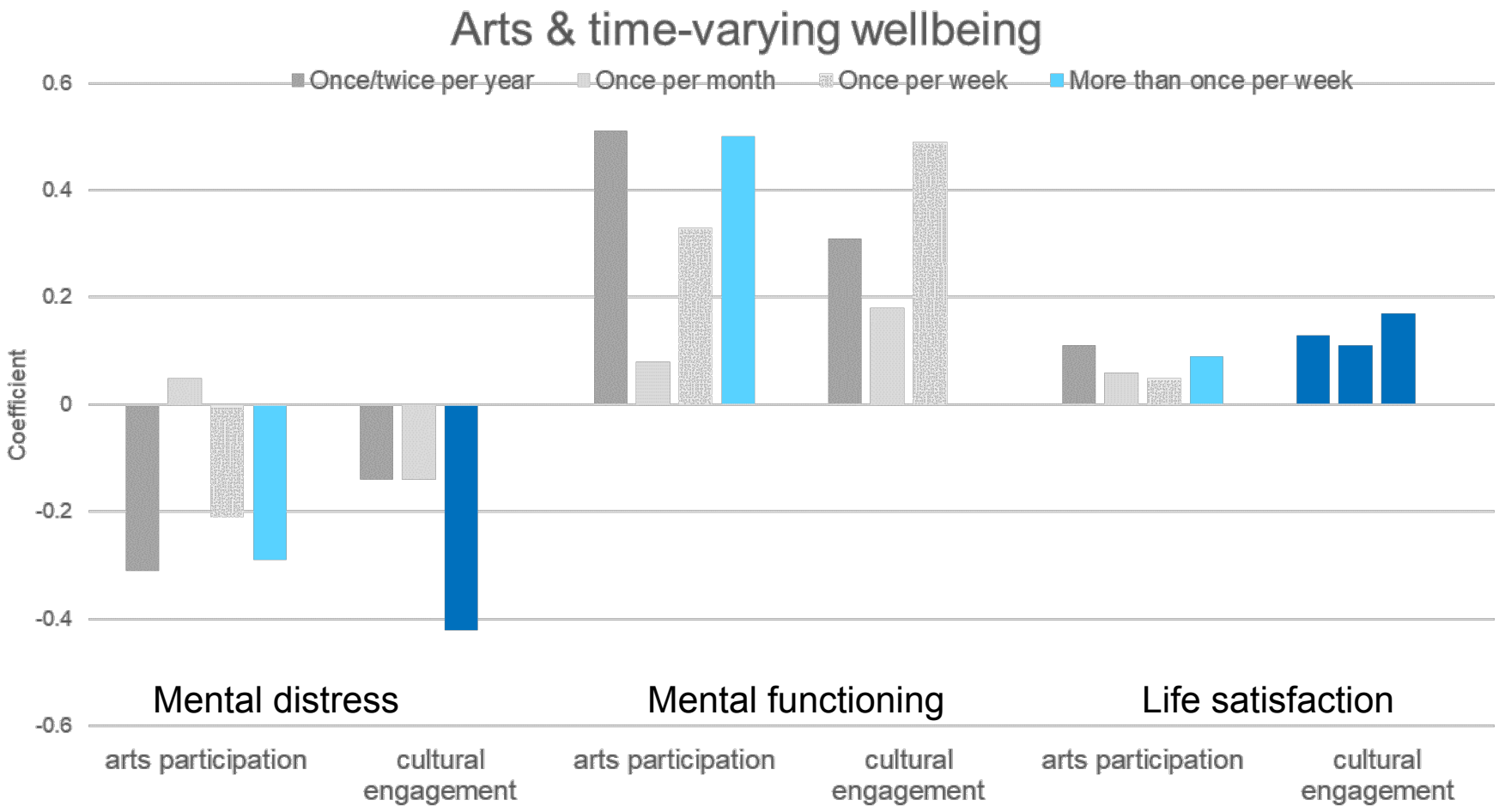
Self development
Sense of self
Confidence
Agency
Purpose
Self-esteem

Fancourt, Garnett, Spiro, West, & Müllensiefen, (2019). PLoS One

Potential underlying mechanisms



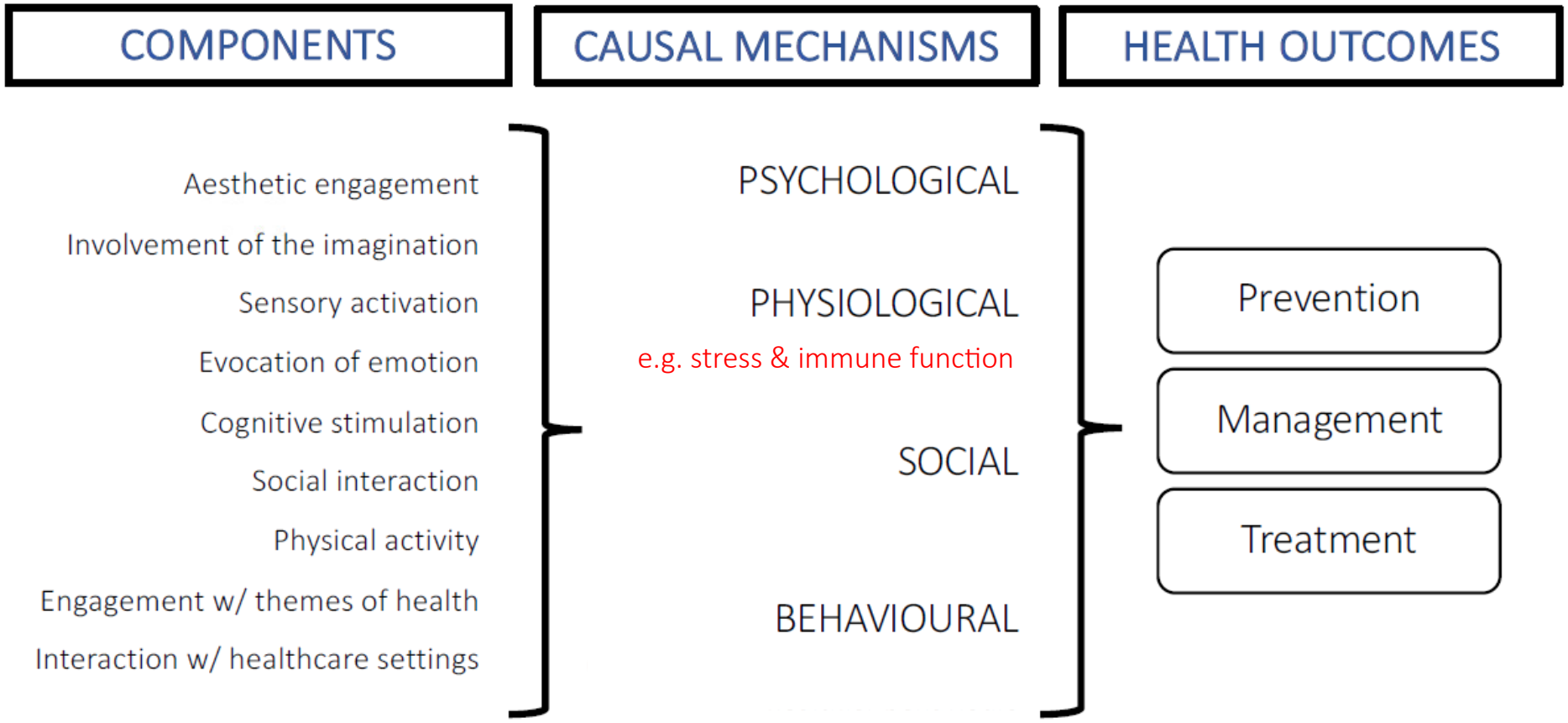
Wellbeing



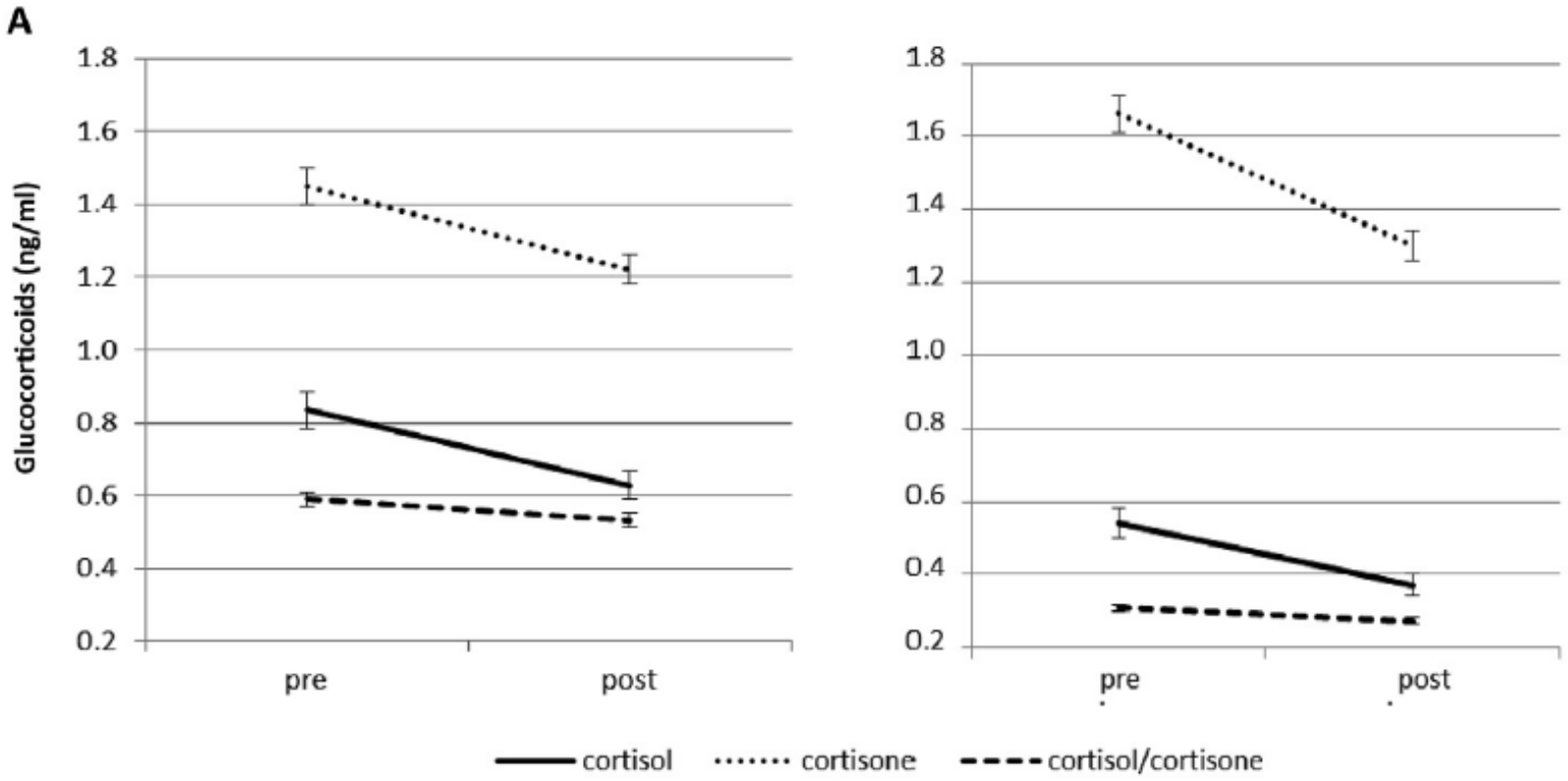
N=23,660. FE Regression (4-year interval) Adjusted for all time-constant variables, age, age squared, marital status, presence of children, employment status, number of people in household, household income, wave, extent to which health limits moderate activities, portions of fruits or vegetables eaten per day, smoking behavior, drinking frequency, sporting frequency, family support and friend support.

Wang, Mak & Fancourt (under review)

Potential underlying mechanisms

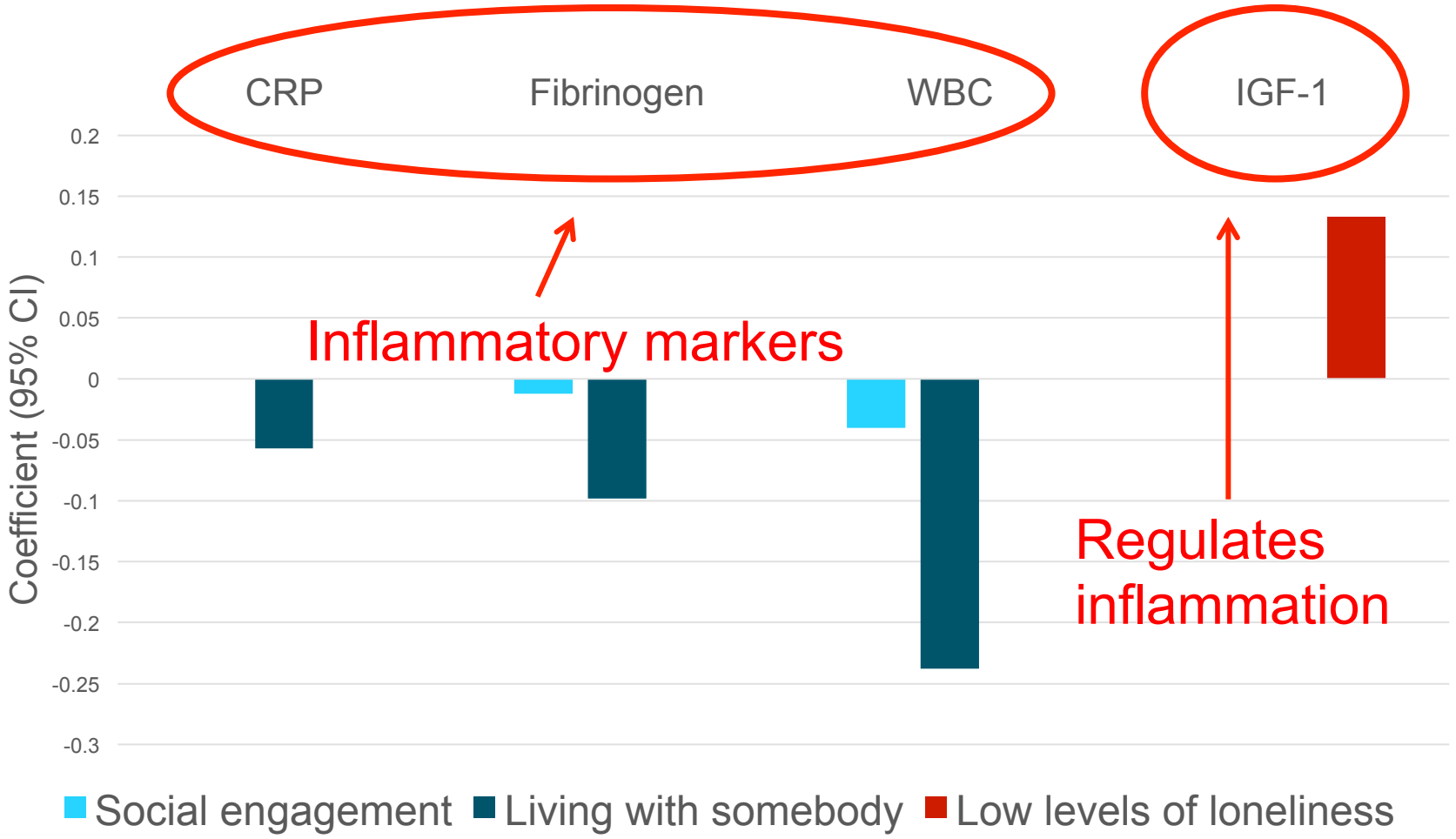


Attending concerts and biological stress response



Fancourt & Williamon (2016). Public health

Social connections and biomarkers

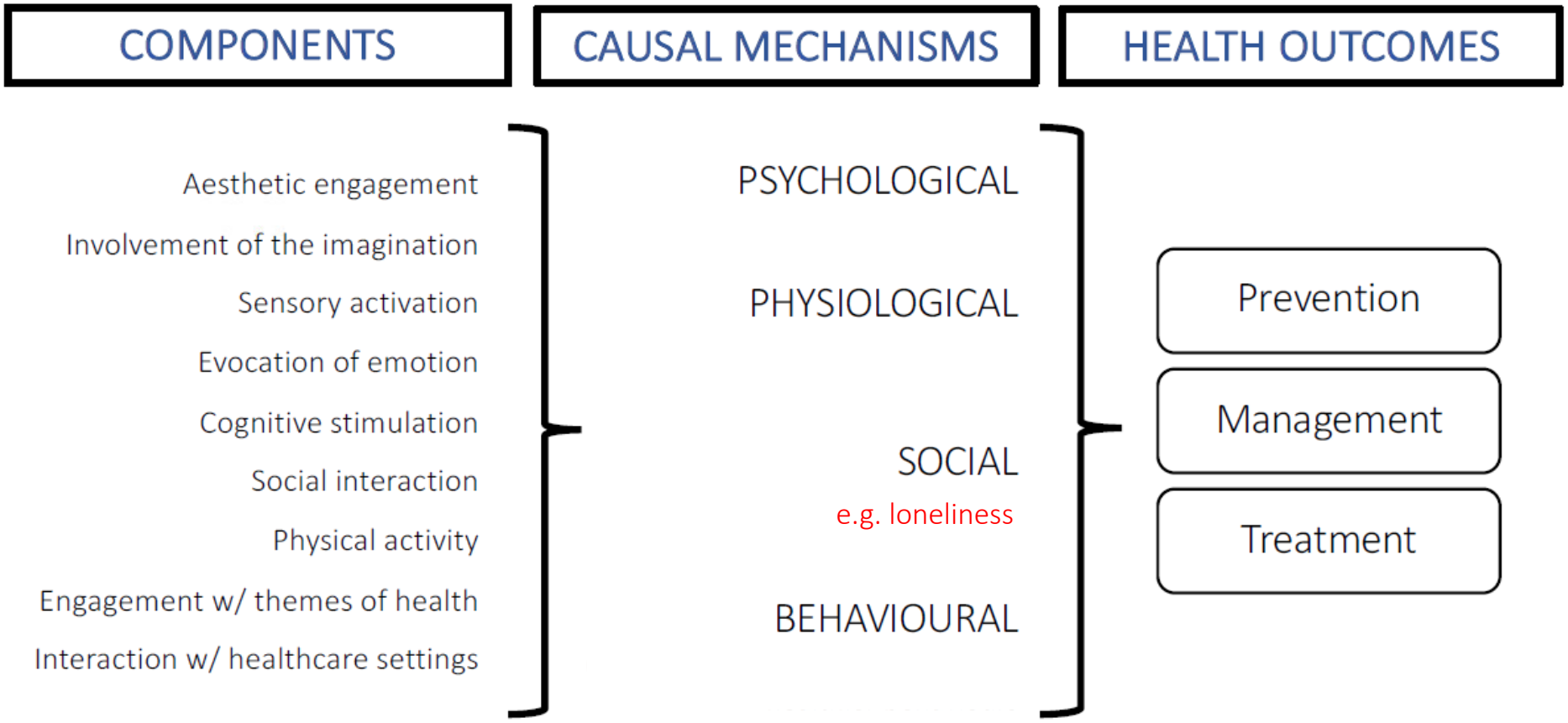


Analyses

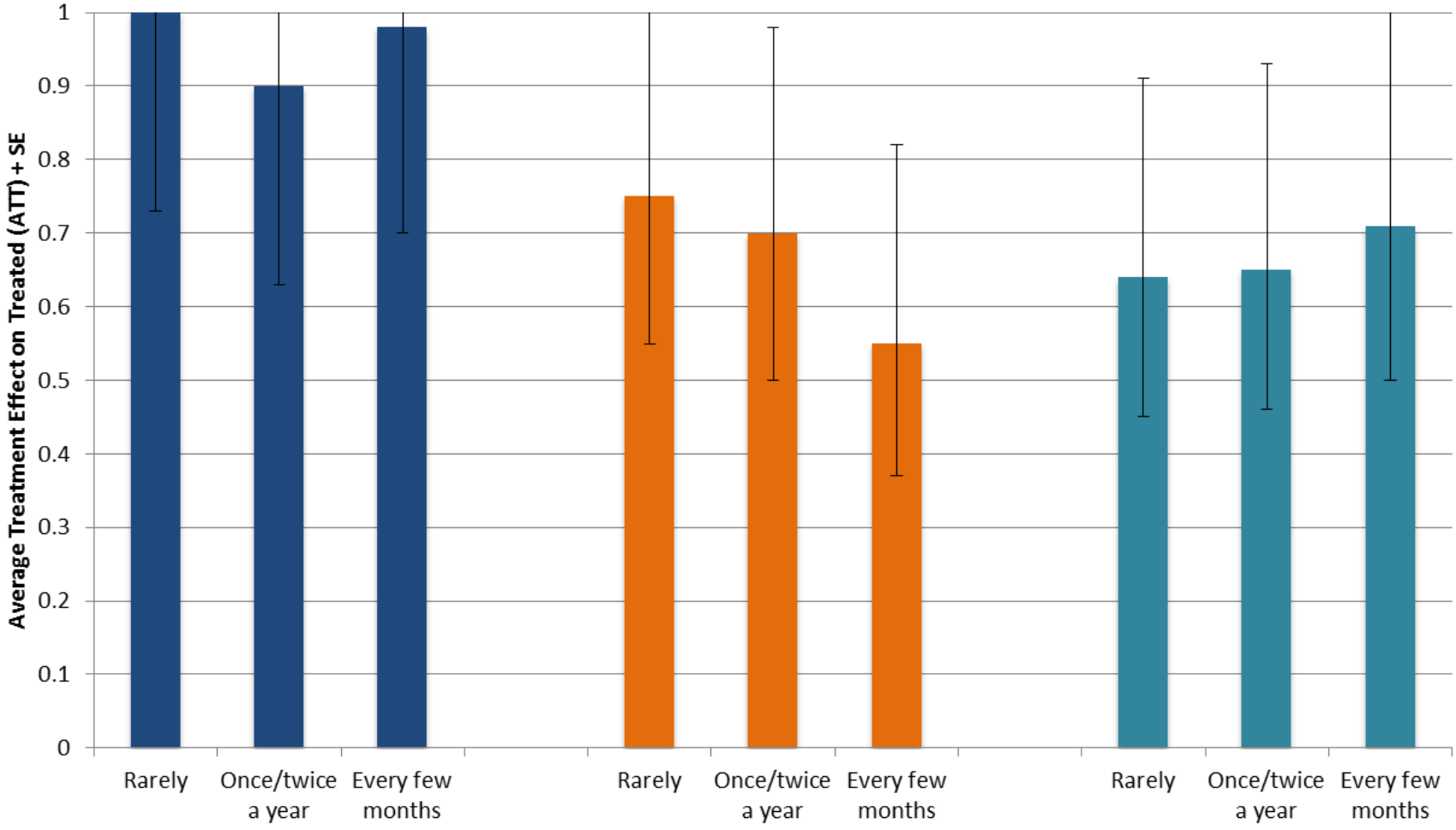
Fixed effects analysis with time-fixed effects and sandwich estimators.

accounted for all time-invariant factors, time-varying demographic covariates (marital status, employment status, wealth) & health-related factors (presence of a long standing illnesses, long term pain, alcohol consumption, smoking status, sedentary behaviours, depression).

Potential underlying mechanisms

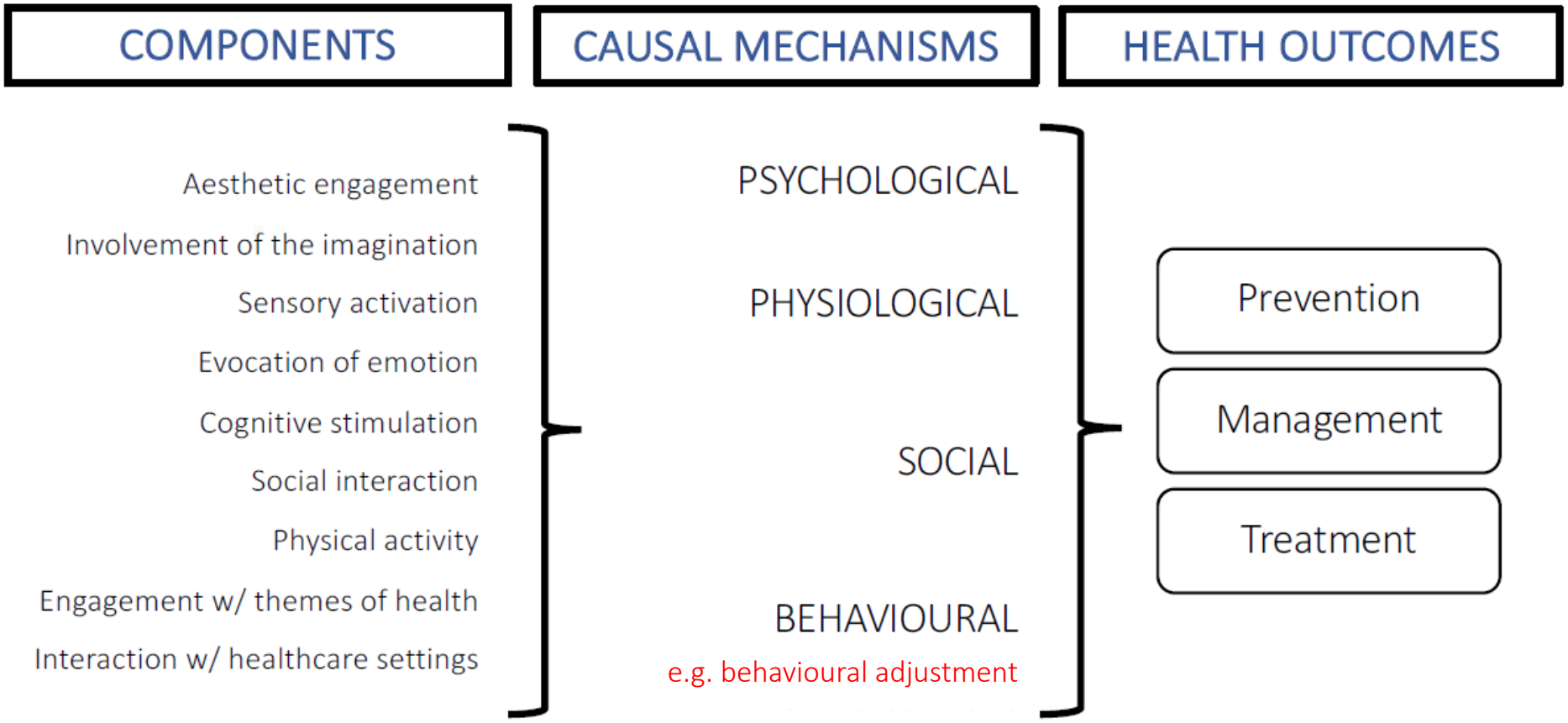


Arts & Loneliness



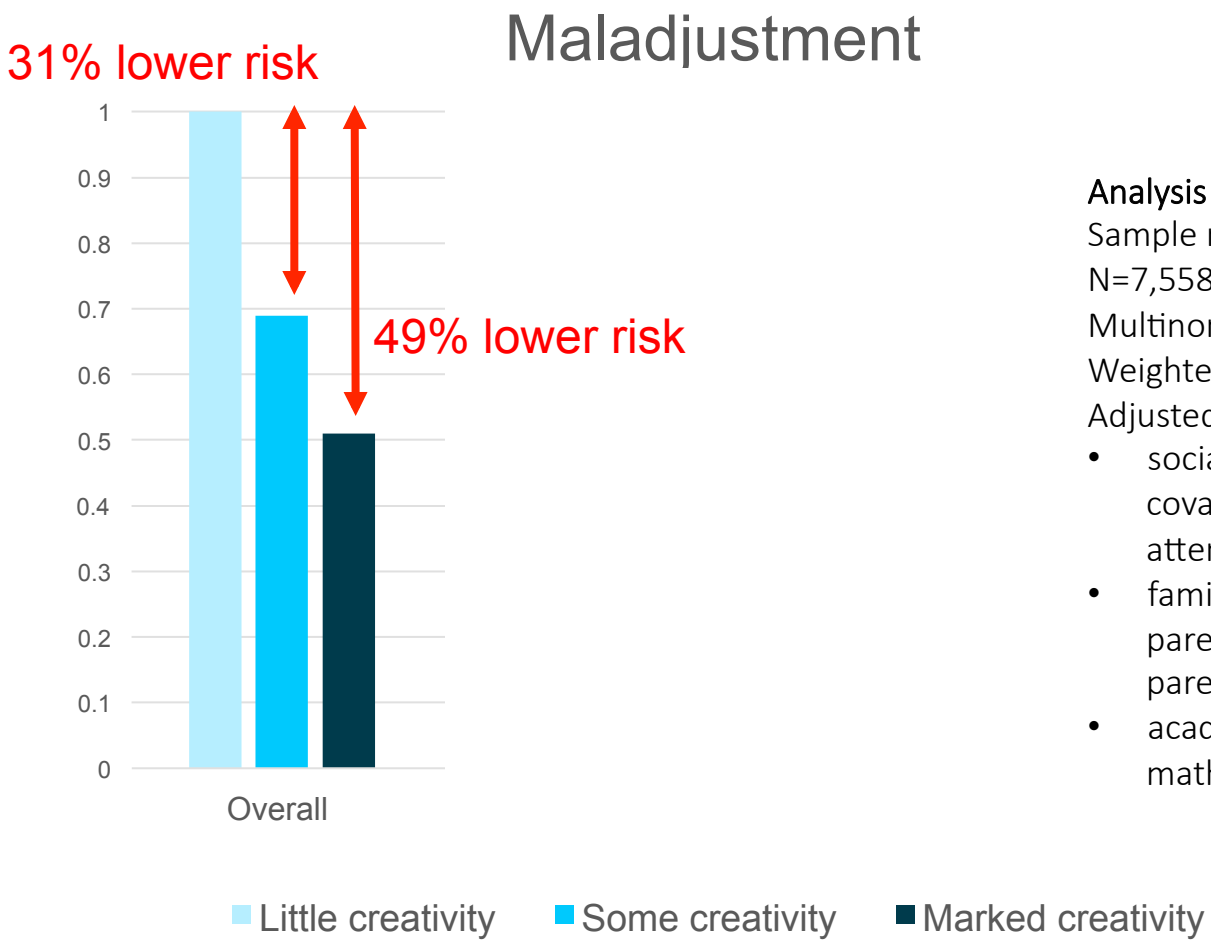
Tymoszuk, U, Fancourt D, Perkins R, Williamon, A (2019) SPPE

Potential underlying mechanisms



Behavioural adjustment

Creative activities at age 7 & child adjustment at age 11



Analysis

Sample reduced to those "settled" at age 7

N=7,558

Multinomial logistic regression analyses (RRR)

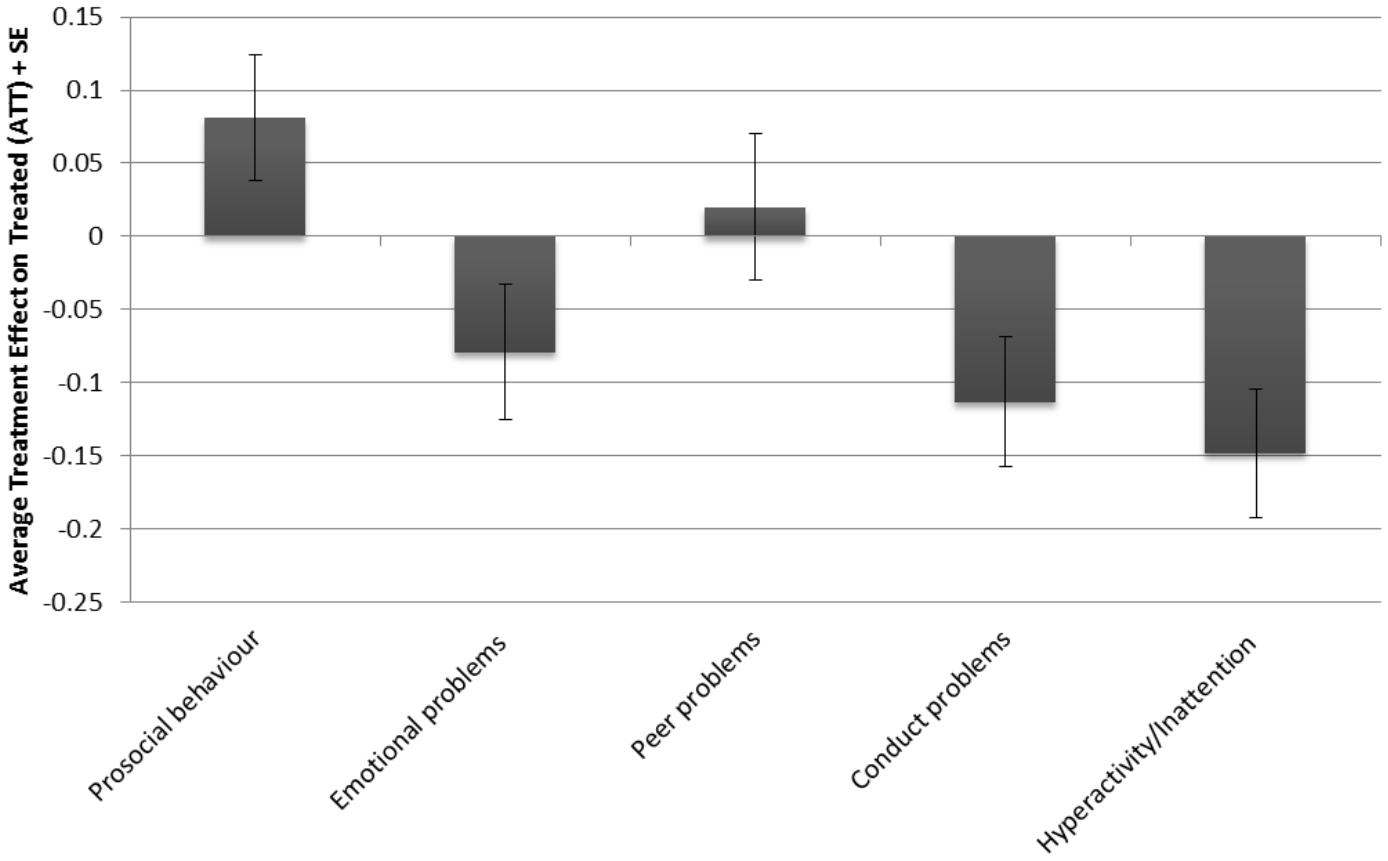
Weighted (IPW)

Adjusted for

- social, demographic and educational covariates (sex, social class, school attendance and educational stability)
- family covariates (family mental illness, parental interest in schooling and parental time reading with the child).
- academic ability (reading and mathematics scores).

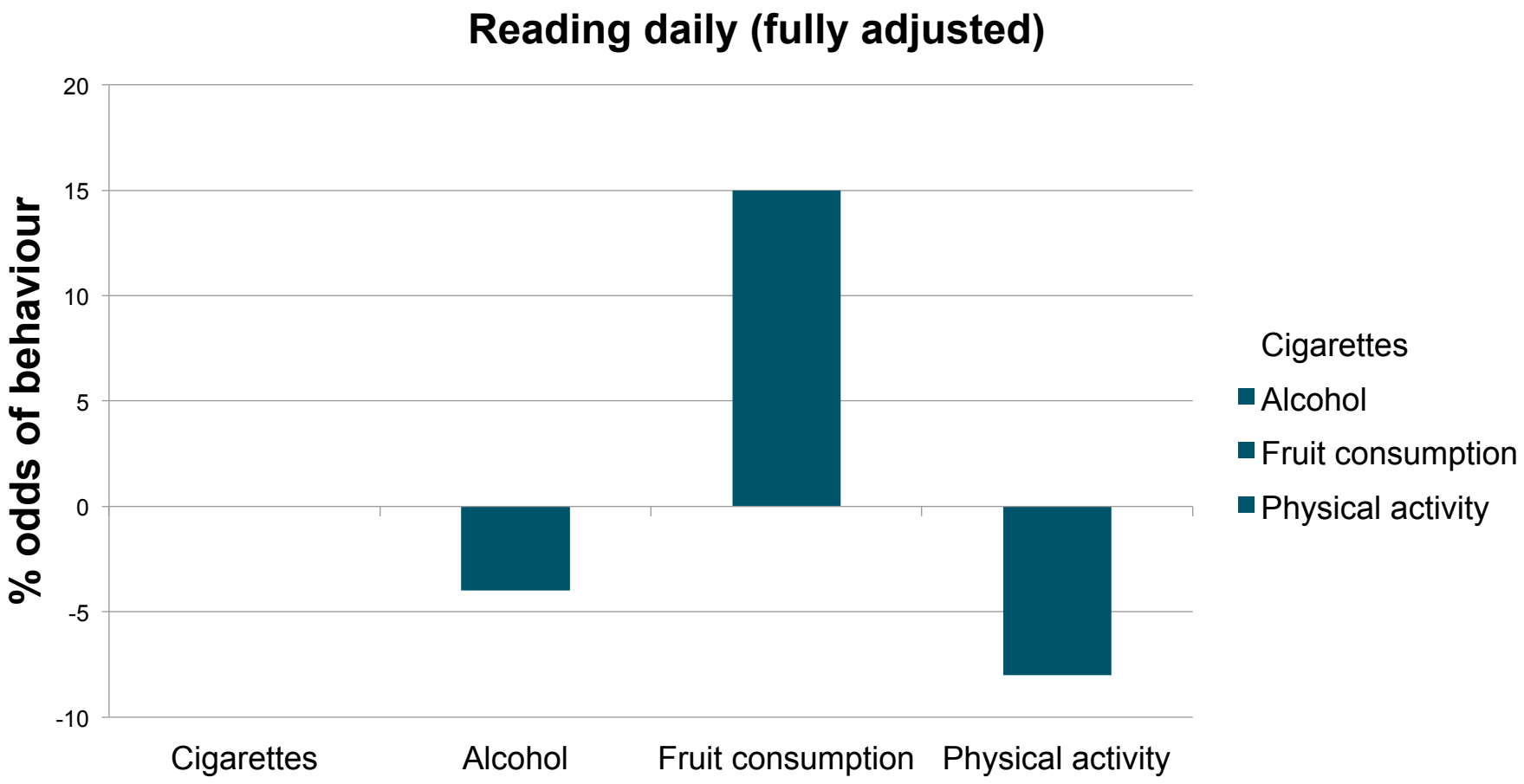
Fancourt & Steptoe (2018) Annals of the New York Academy of Sciences

Reading fiction and behavioural problems



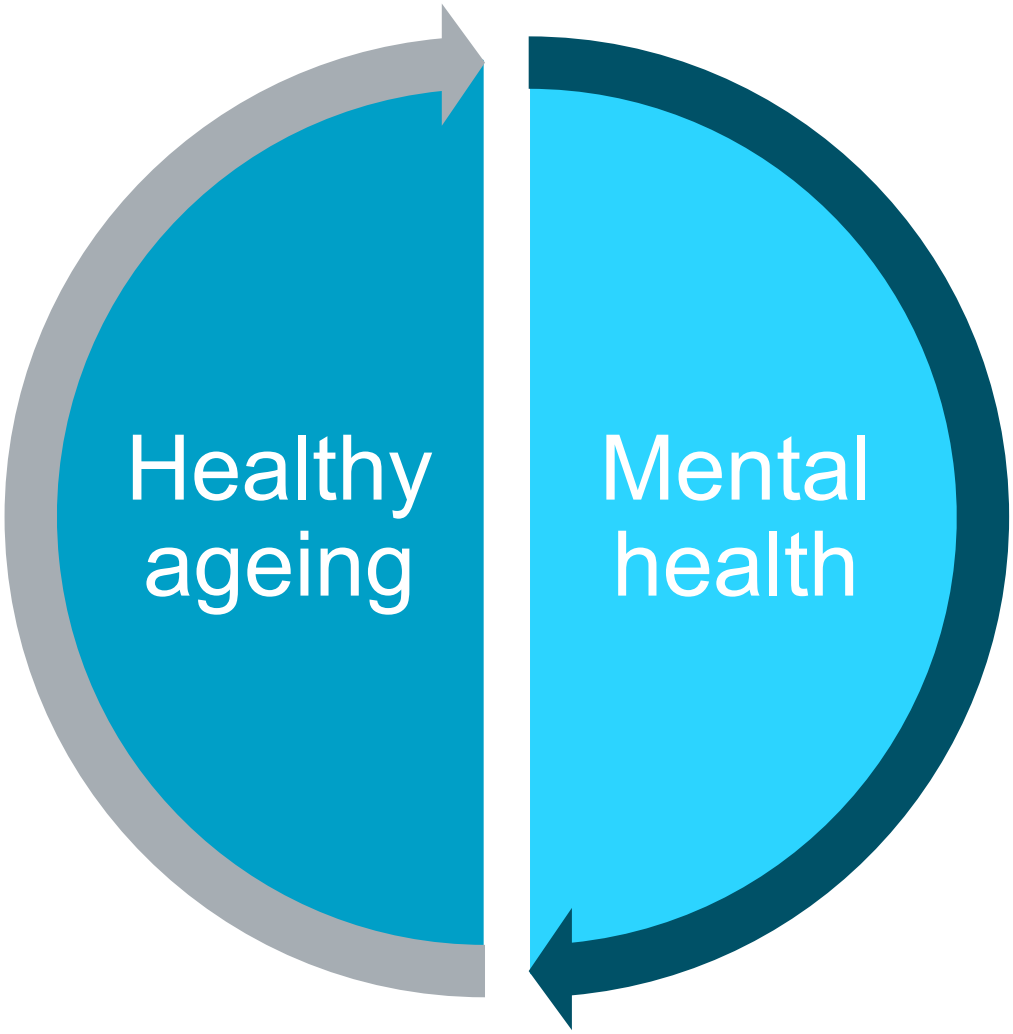
Analysis – reading at age 7 followed up at age 11
Propensity score matching using Epanechnikov kernel matching with 0.05 bandwidths
Bootstrapping with 100 replications N=8,936
Matching: gender, baseline behaviours, parental SES, parental marital status, ethnicity, family relationship

Mak & Fancourt (under review)



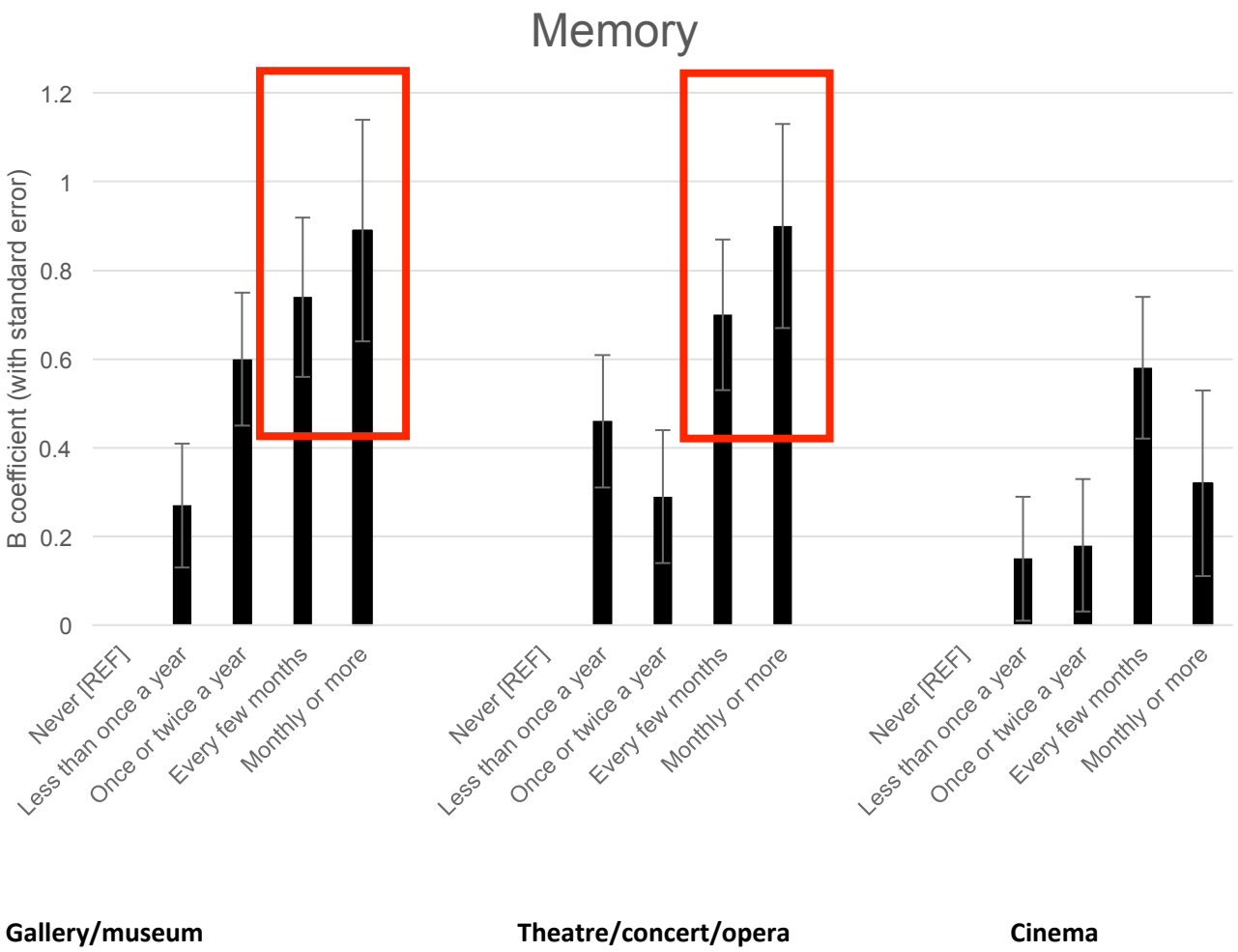
Logistic regression models. Reading at age 11 and behaviours aged 14. N=11,108.

Fully-adjusted model adjusted for gender, ethnicity, children's baseline fruit consumption/physical activity (in the models estimating later fruit consumption and physical activity), parents' education, household income, parents' employment status, parents' marital status, closeness of parent-child relationship, frequency of arguments between parents and children, frequency of playing active games with parents, frequency of parents' reading for pleasure, and parents' and peers' cigarette use and alcohol use (in the smoking and drinking models)


Healthy ageing
Mental health

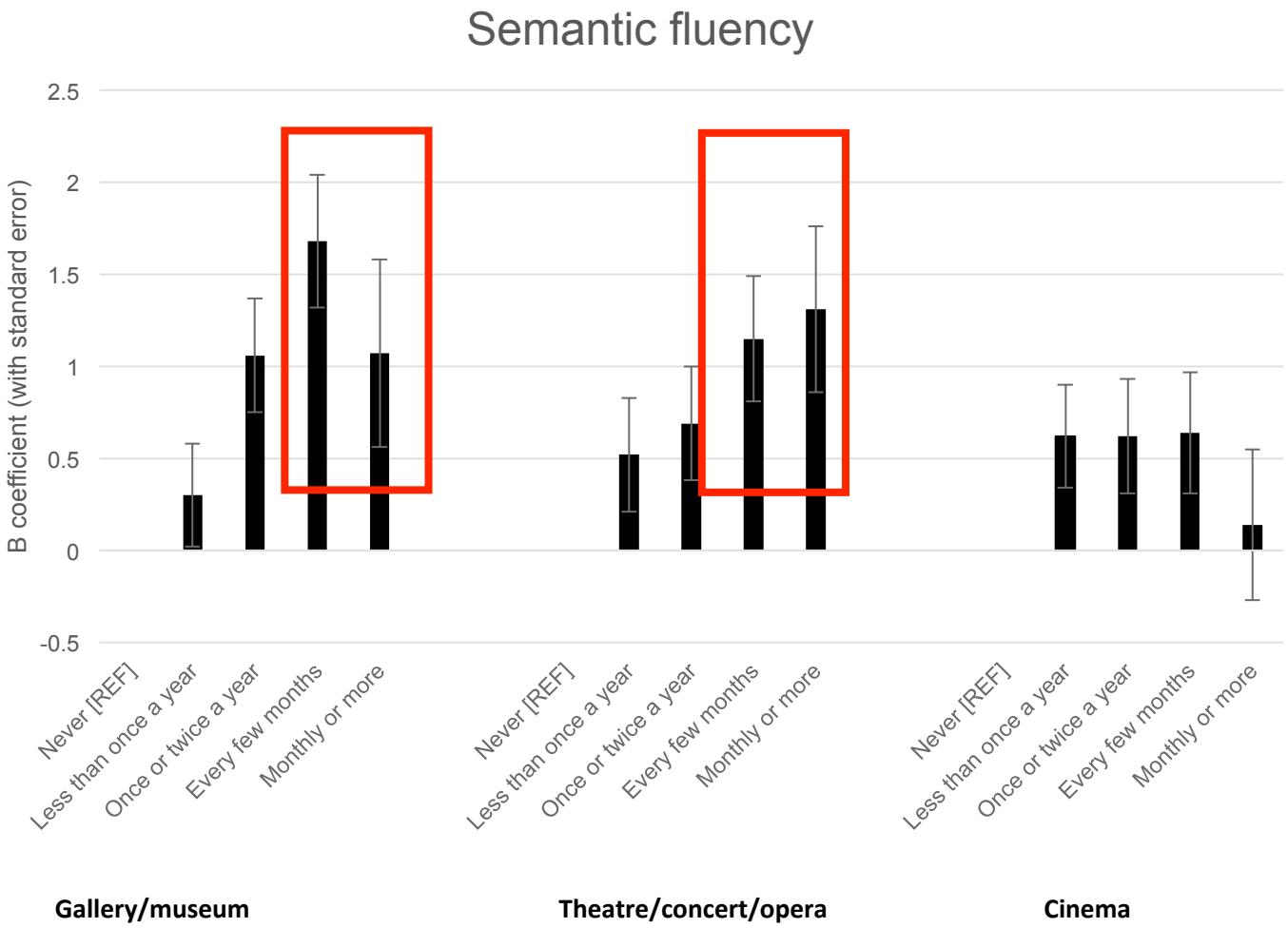
Could cultural engagement reduce cognitive decline in older age?

Cultural engagement and cognitive decline



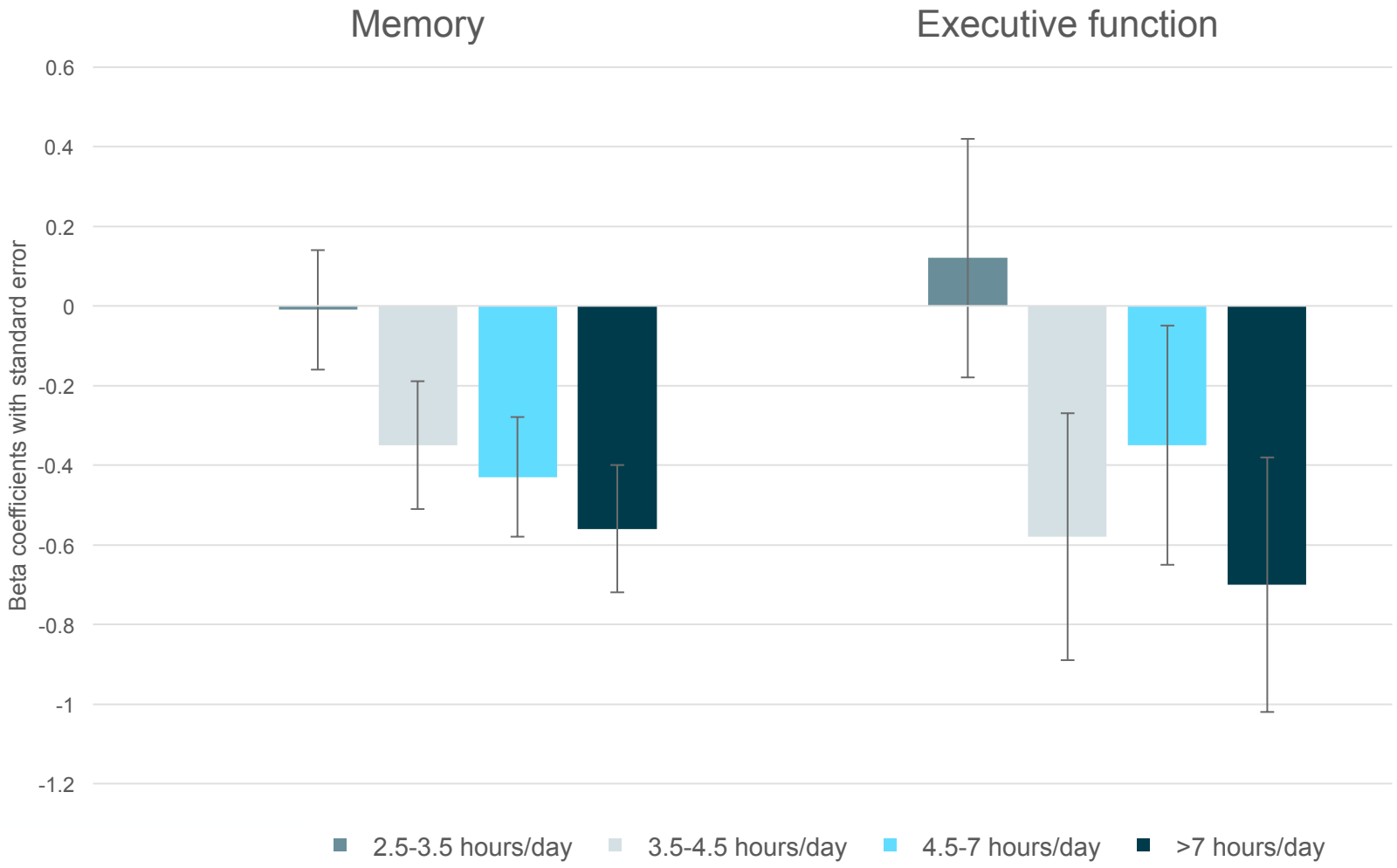
Fancourt, D., Steptoe, A. (2018). Cultural engagement predicts changes in cognitive function in older adults over a 10 year period: Findings from the English Longitudinal Study of Ageing. Scientific Reports, 8 (1)

Cultural engagement and cognitive decline



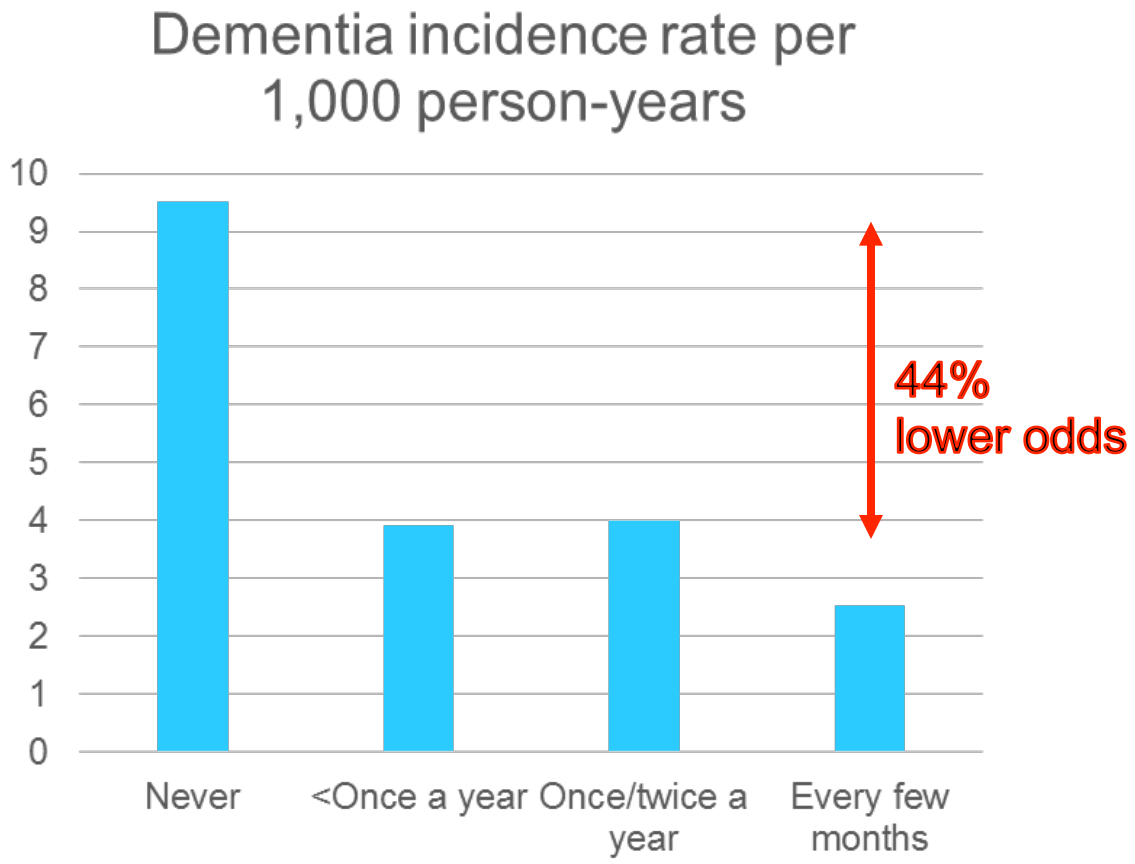
Fancourt, D., Steptoe, A. (2018). Cultural engagement predicts changes in cognitive function in older adults over a 10 year period: Findings from the English Longitudinal Study of Ageing. Scientific Reports, 8 (1)

Television and cognitive decline



Fancourt, D., & Steptoe, A. (2019). Television viewing and cognitive decline in older age: findings from the English Longitudinal Study of Ageing. Scientific reports, 9(1), 2851.

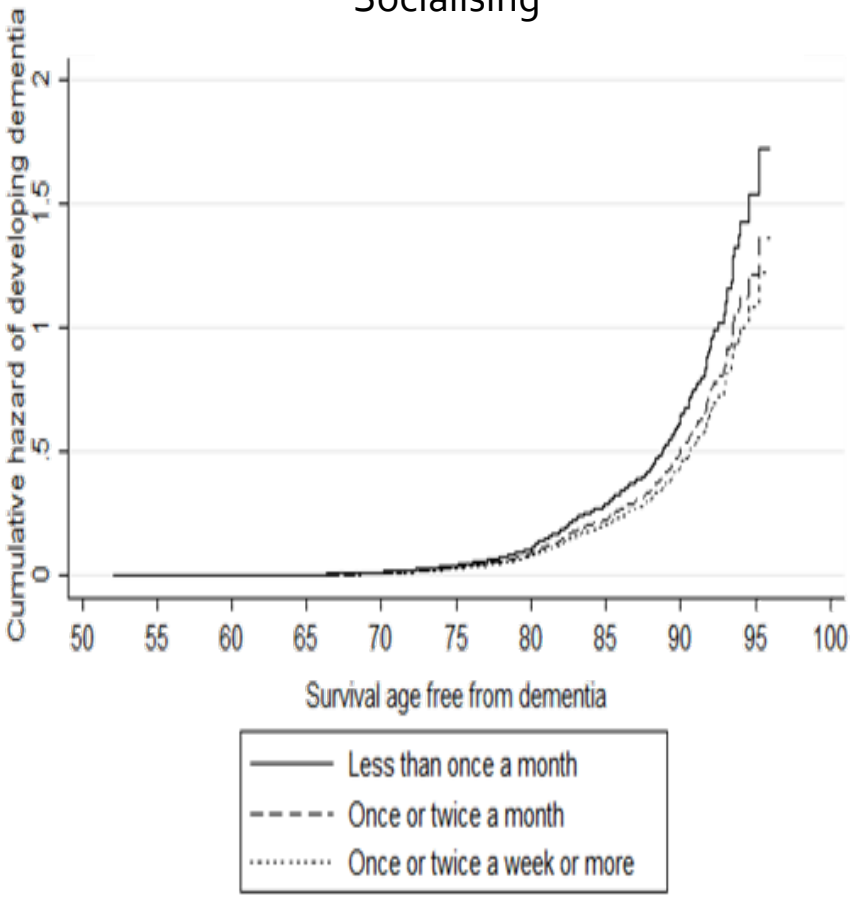
Museums and dementia development



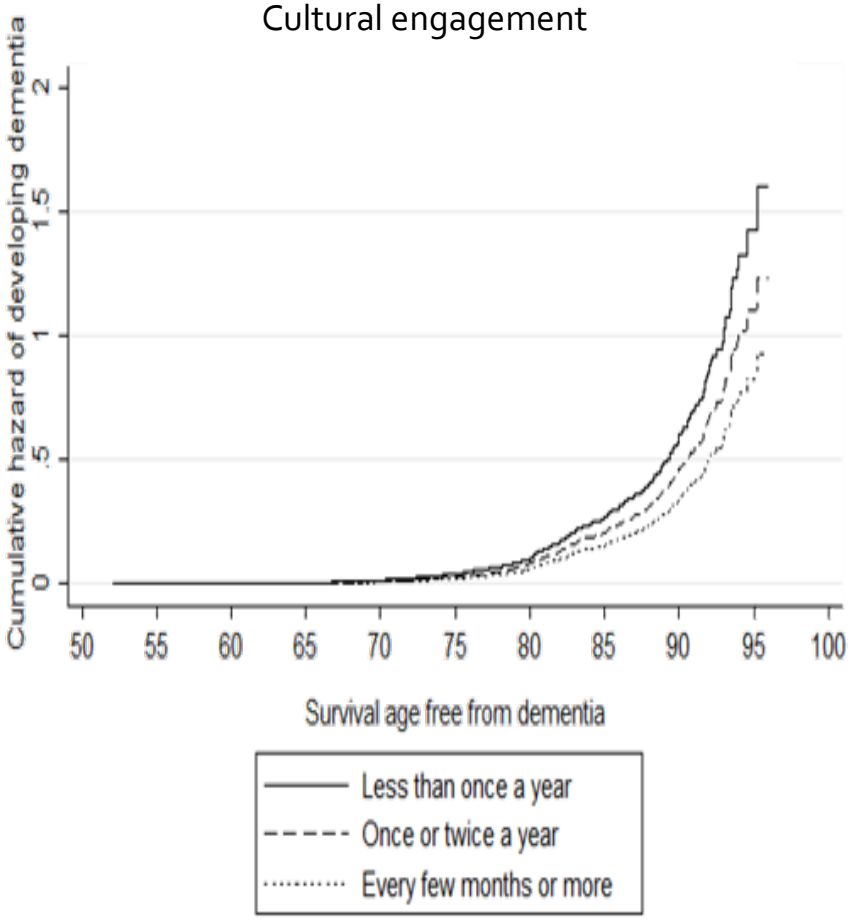
Fancourt, D., Steptoe, A., Cadar, D. (2018). Cultural engagement and cognitive reserve: museum attendance is inversely associated with dementia incidence over a 10-year period. British Journal of Psychiatry

Museums and dementia incidence (competing risks)

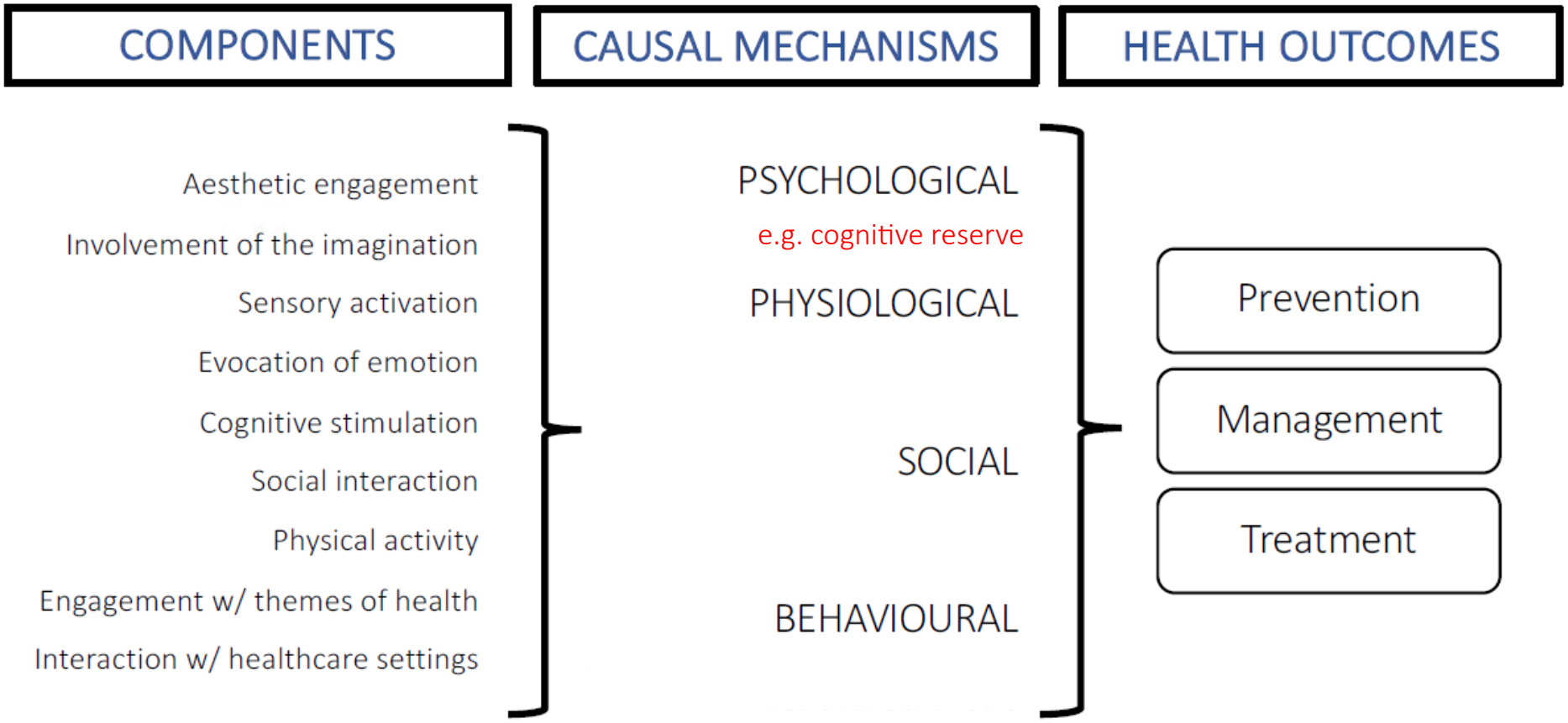
Socialising

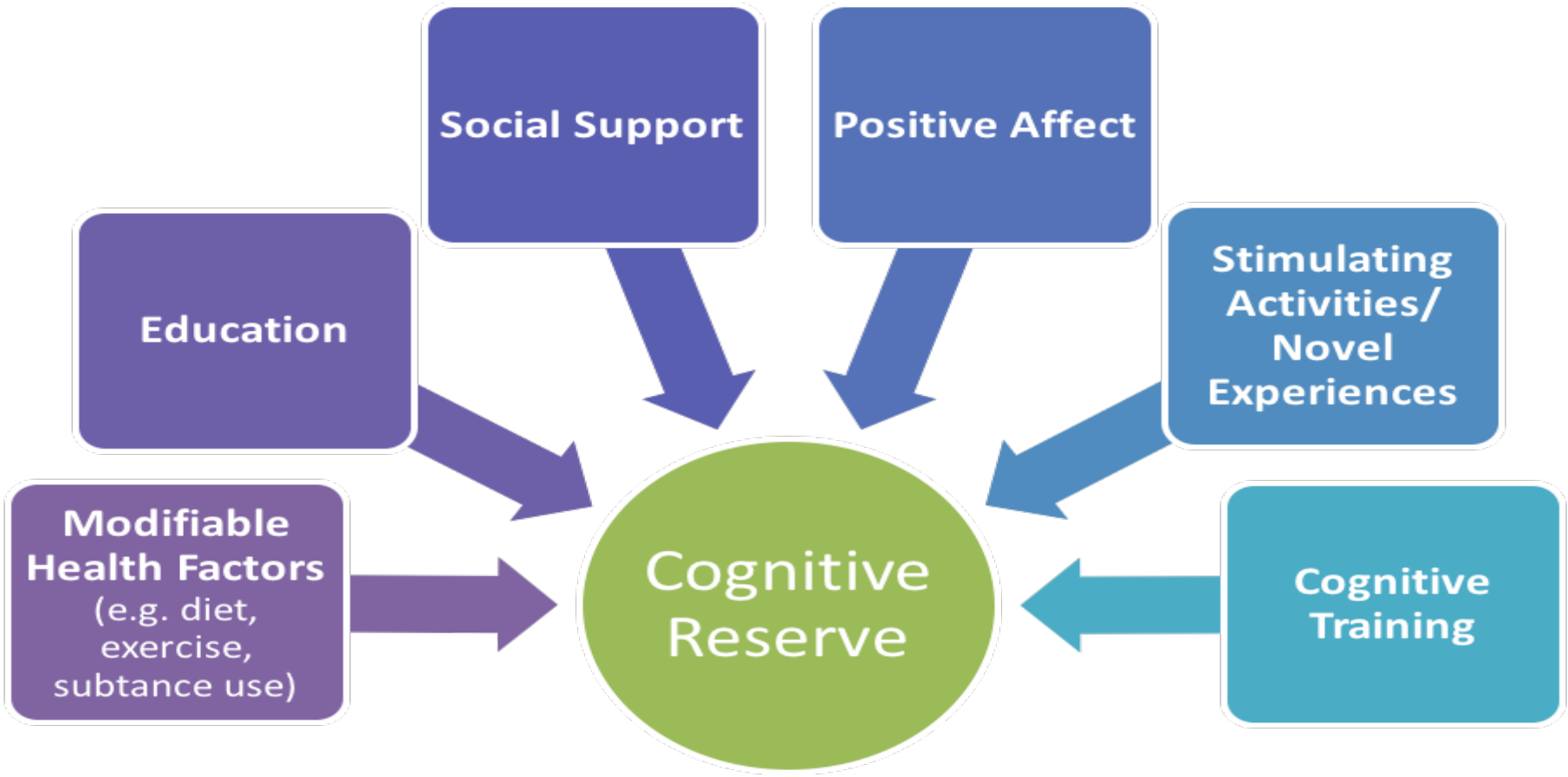


Cultural engagement

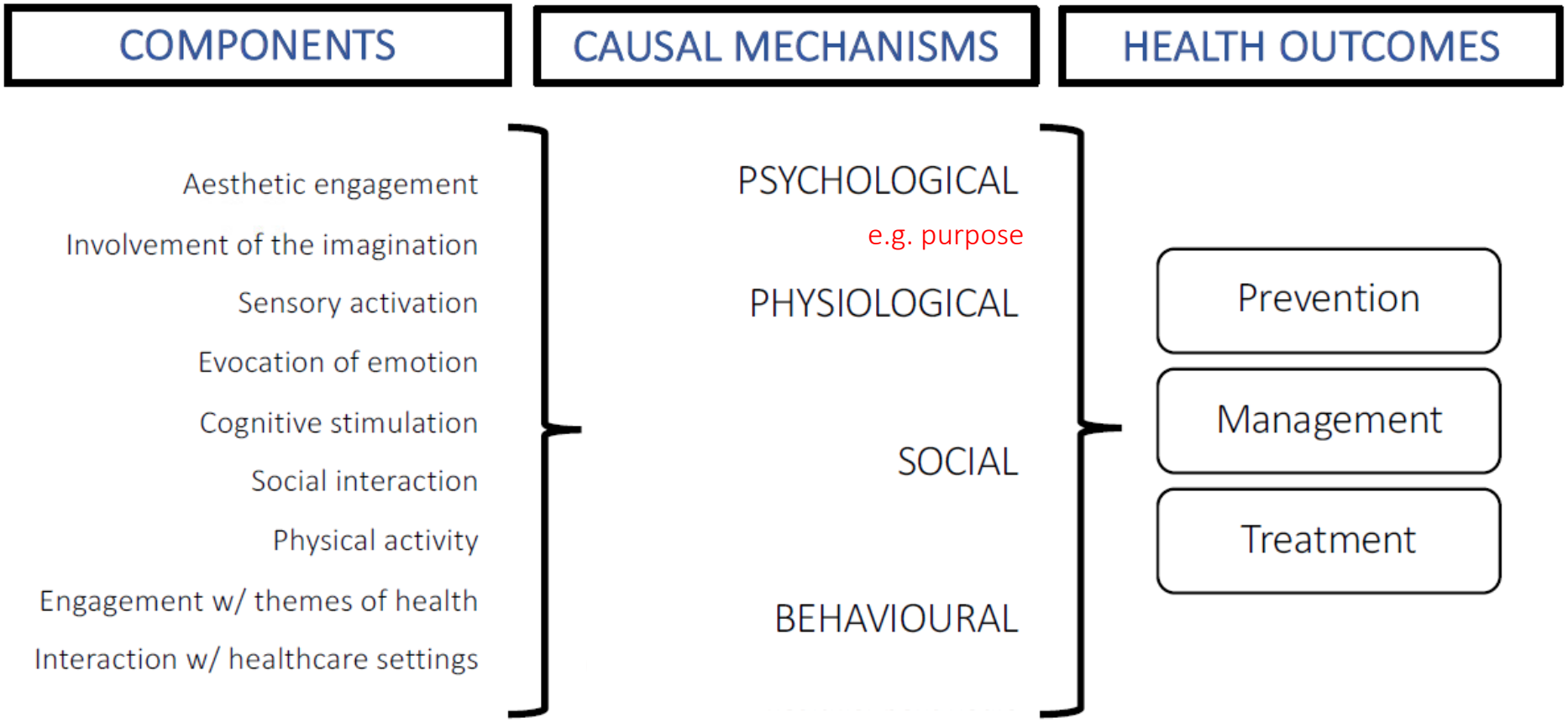


Potential underlying mechanisms




Social Support
Positive Affect
Education
Stimulating Activities/ Novel Experiences
Modifiable Health Factors (e.g. diet, exercise, subtance use)
Cognitive Reserve
Cognitive Training

Potential underlying mechanisms



Purpose & health

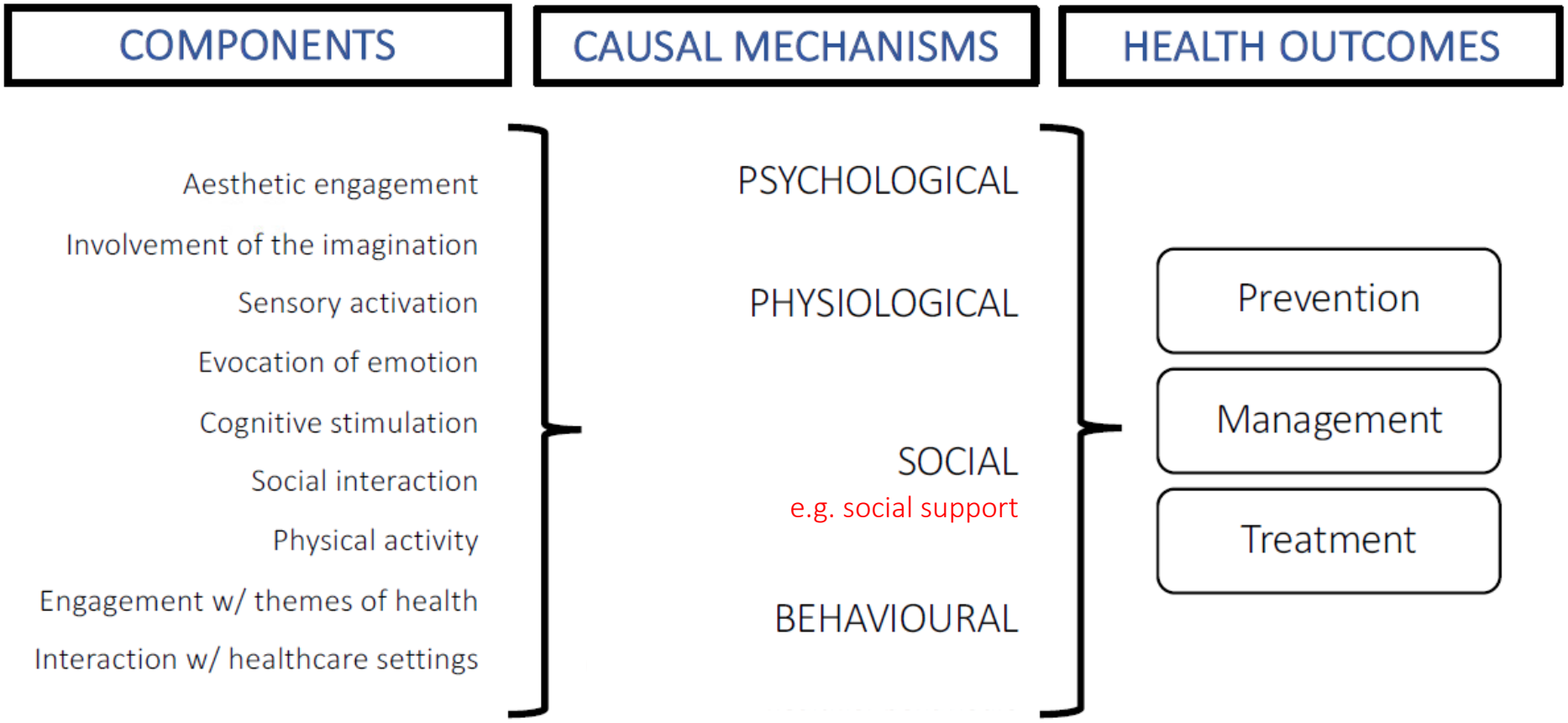
Steptoe, A., & Fancourt, D. (2019). Leading a meaningful life at older ages and its relationship with social engagement, prosperity, health, biology, and time use. *Proceedings of the National Academy of Sciences*, *116*(4), 1207-1212.

Table 1. Living a worthwhile life: Cross-sectional associations with social, economic, health, and time use measures

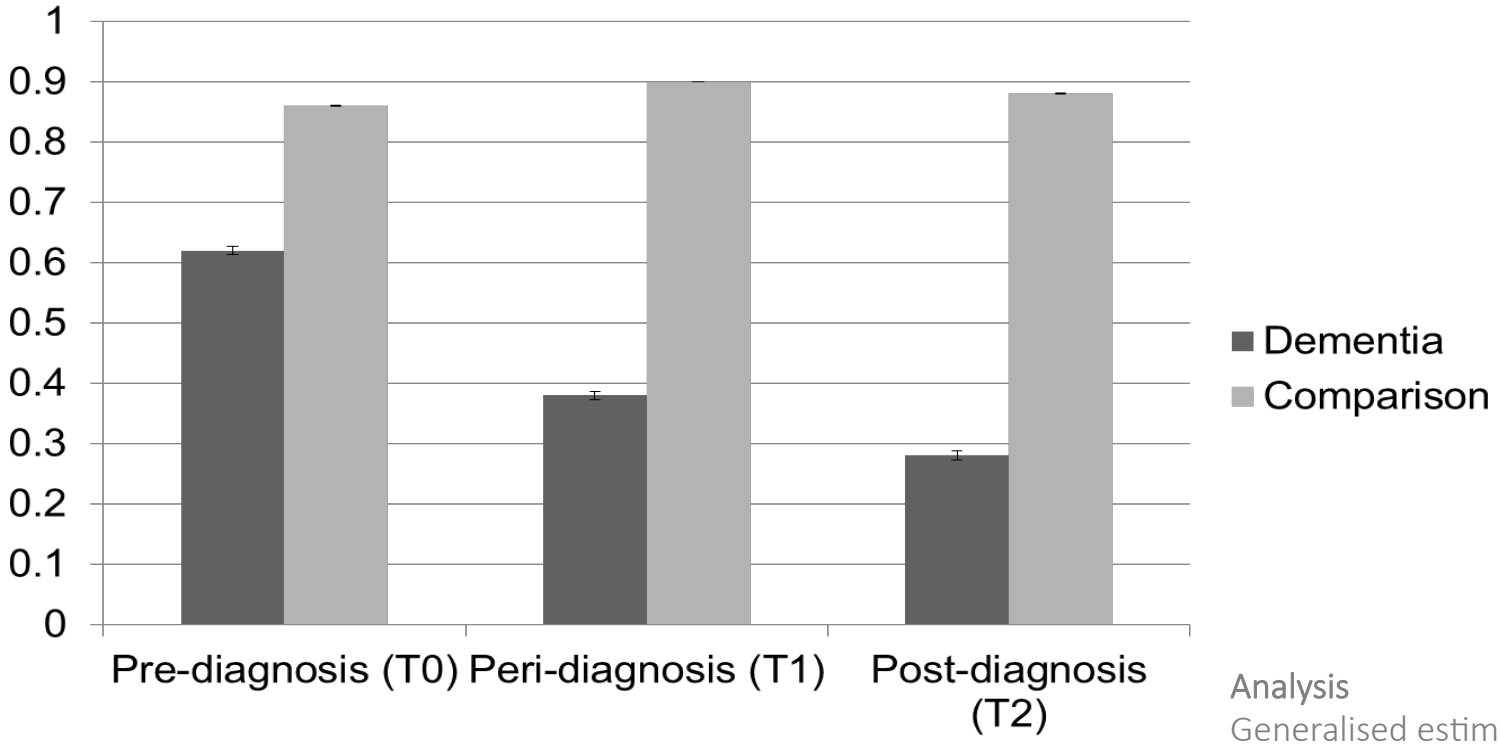
Factor	OR	β	95% CI	SE	P	E (CI)
Social variables						
Married (%)	1.16		1.14–1.19		<0.001	1.59 (1.54)
Living alone (%)	0.87		0.85–0.89		<0.001	1.56 (1.5)
Close relationships (n)		0.242		0.011	<0.001	2.47 (2.34)
Contact with friends ≥ 1/wk (%)	1.13		1.10–1.15		<0.001	1.32 (1.28)
Organizations (n)		0.140		0.011	<0.001	1.9 (1.79)
Volunteer ≥ monthly (%)	1.15		1.12–1.18		<0.001	1.35 (1.31)
Loneliness		0.427		0.011	<0.001	2.77 (2.59)
Cultural activity ≥ every few months (%)	1.11		1.09–1.14		<0.001	1.46 (1.4)
Economic variables						
Wealth highest tertile (%)	1.11		1.08–1.14		<0.001	1.29 (1.24)
Income highest tertile (%)	1.10		1.07–1.13		<0.001	1.28 (1.22)
Paid employment (%)	1.12		1.08–1.15		<0.001	1.31 (1.24)
Health variables						
Poor/fair self-rated health (%)	0.79		0.77–0.81		<0.001	1.85 (1.77)
Limiting longstanding illness (%)	0.83		0.81–0.85		<0.001	1.43 (1.39)
Chronic disease (%)	0.93		0.91–0.95		<0.001	1.23 (1.19)
Depressive symptoms (%)	0.65		0.63–0.67		<0.001	1.79 (1.74)
Impaired ADL (%)	0.83		0.81–0.85		<0.001	1.43 (1.39)
Impaired IADL (%)	0.80		0.78–0.82		<0.001	1.48 (1.44)
Chronic pain (%)	0.87		0.85–0.89		<0.001	1.35 (1.31)
Biomarkers and physical capability						
Hand-grip: men		0.072		0.016	<0.001	1.54 (1.37)
Hand-grip : women		0.078		0.015	<0.001	1.57 (1.40)
Obesity (%)	0.95		0.93–0.97		<0.001	1.19 (1.14)
Central obesity (%)	0.97		0.95–0.99		0.003	1.14 (1.08)
Gait speed (m/s)		0.121		0.012	<0.001	1.79 (1.67)
Vitamin D (nmol/L)		0.093		0.014	<0.001	1.64 (1.51)
C-reactive protein ≥3 mg/L	0.95		0.92–0.98		<0.001	1.29 (1.16)
Fibrinogen (g/L)		−0.042		0.014	0.003	1.36 (1.21)
HDL-cholesterol below threshold (%)	0.94		0.91–0.98		0.004	1.32 (1.16)
White cell count (10^9/L)		−0.086		0.014	<0.001	1.6 (1.46)
Health behavior						
MVPA ≥1/wk (%)	1.16		1.14–1.19		<0.001	1.37 (1.34)
Sedentary behavior (%)	0.79		0.75–0.82		<0.001	1.5 (1.44)
Fruit and vegetables ≥ 5/d (%)	1.14		1.11–1.16		<0.001	1.34 (1.29)
Alcohol (units/week)		−0.004		0.011	0.70	1.11 (1.00)
Sleep rating good/very good (%)	1.20		1.17–1.23		<0.001	1.42 (1.38)
Smoking (%)	0.92		0.89–0.95		<0.001	1.39 (1.28)
Time use yesterday						
Time with friends (min)		0.089		0.012	<0.001	1.62 (1.49)
Time alone (min)		−0.181		0.011	<0.001	2.12 (2.00)
Time TV (min)		−0.093		0.011	<0.001	1.63 (1.56)
Time walk/exercise (min)		0.115		0.012	<0.001	1.76 (1.64)
Time work/volunteer (min)		0.035		0.011	<0.001	1.34 (1.16)

Adjusted for age, sex, educational attainment, and social class. ADL = activities of daily living; IADL = instrumental ADL; HDL = high-density lipoprotein; MVPA = moderate/vigorous physical activity; TV = television.

Potential underlying mechanisms



Social behaviours surrounding dementia



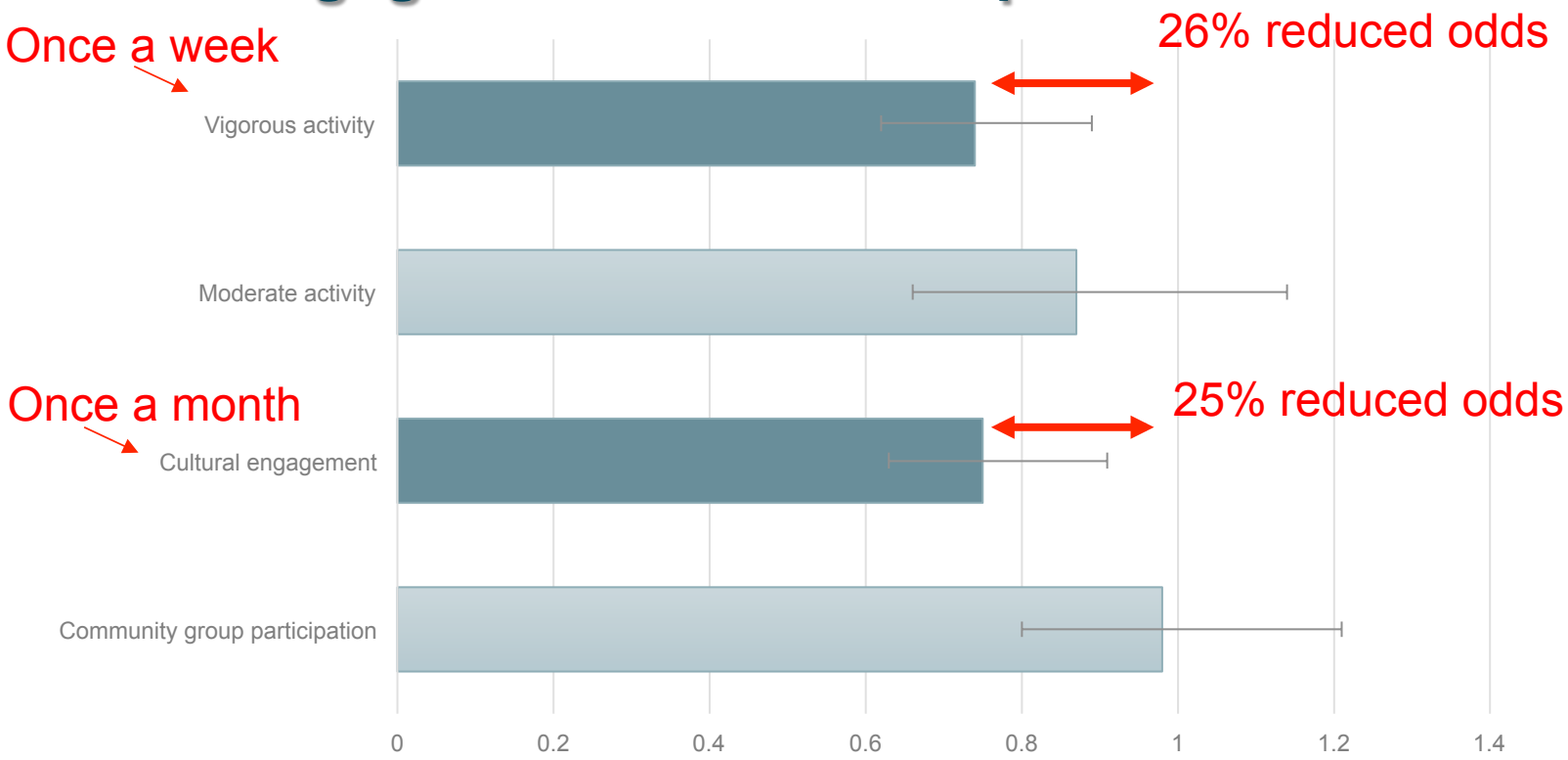
Analysis
Generalised estimating equations (GEE) – group-by-time
T0 = 2 yrs before, T2 = 2 yrs after
Covariates age, sex, education, wealth
Weighted IPW | N=4,171
Unstructured correlation matrix,

Hackett, Steptoe & Fancourt (2019) Plos One

Is cultural engagement protective against age-related physical decline?

Physical health

Cultural engagement and chronic pain



Analysis: Weighted logistic regression models
Free from pain at baseline. Follow-up of 12 years. N=3,358
Adjusted for age, gender, ethnicity, educational qualifications, wealth, cohabitation, employment, physical illnesses, arthritis, alcohol consumption, depression, sedentary behaviors, and social isolation

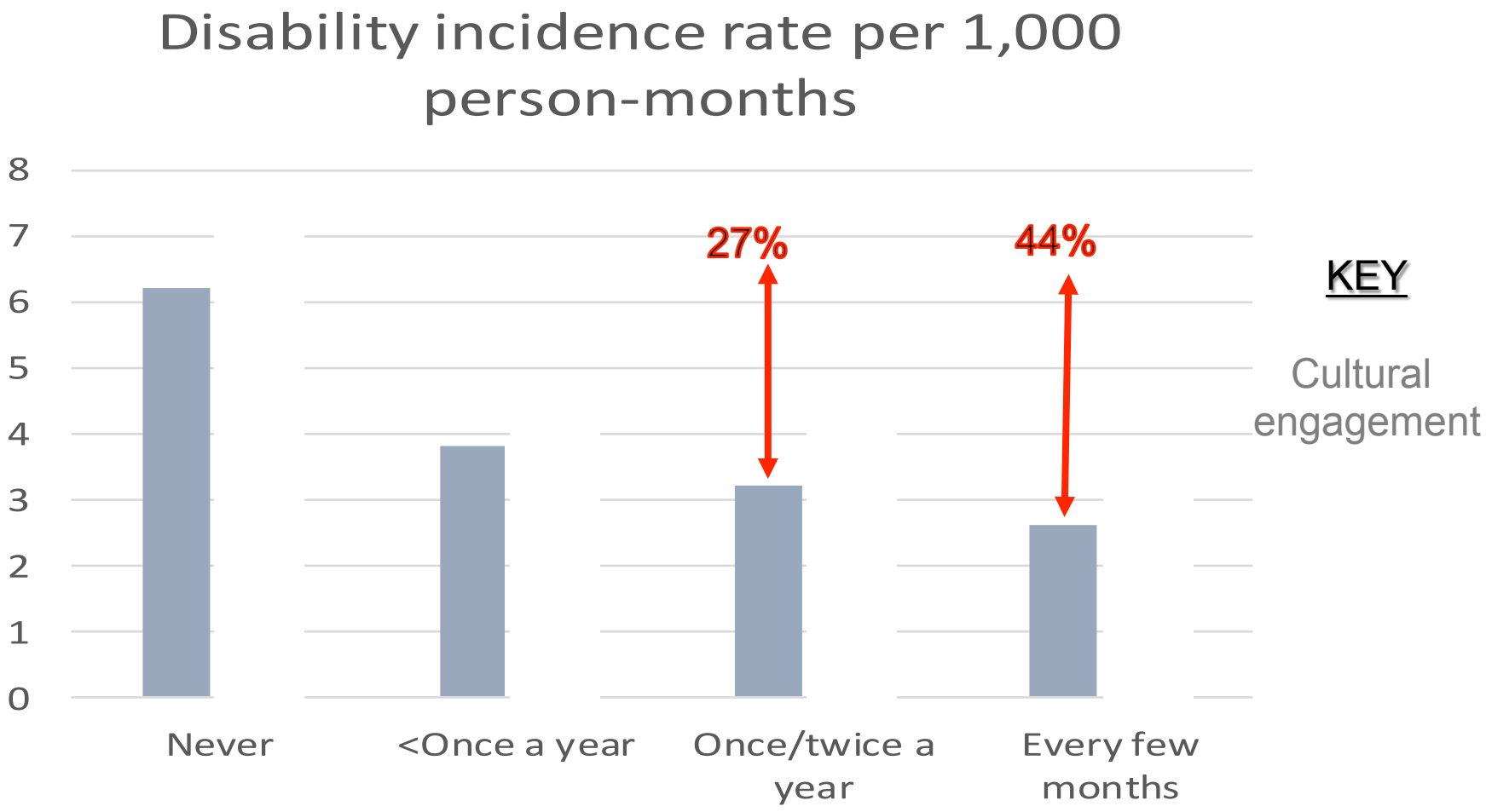
Fancourt & Steptoe (2018) The Lancet
Fancourt & Steptoe (2018) The Journal of Pain

What is disability?

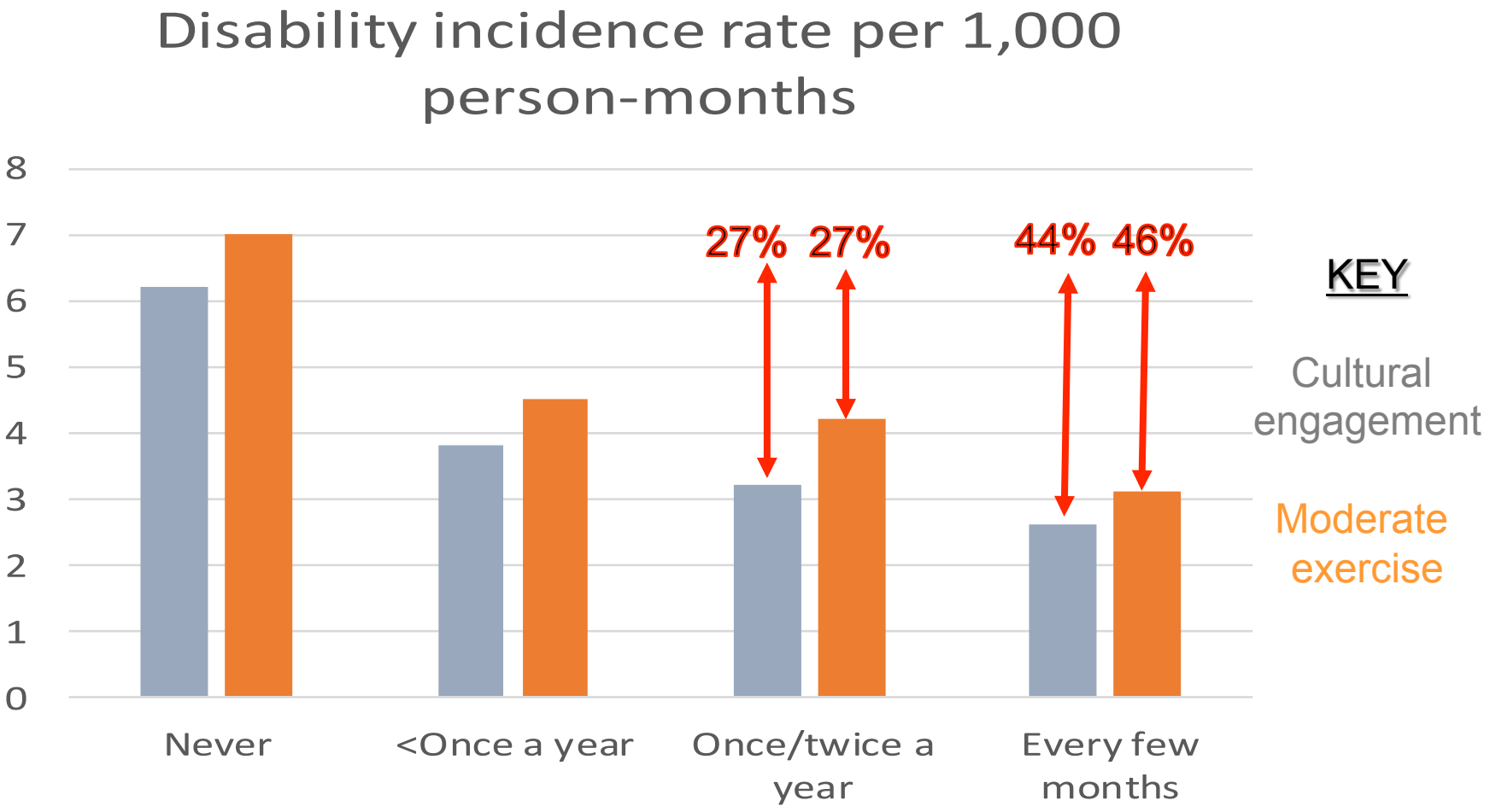
Activities of Daily Living

Instrumental Activities of Daily Living

Fancourt & Steptoe (under review) A comparison of physical and social risk-reducing factors for the development of disability in older adults: a population-based cohort study

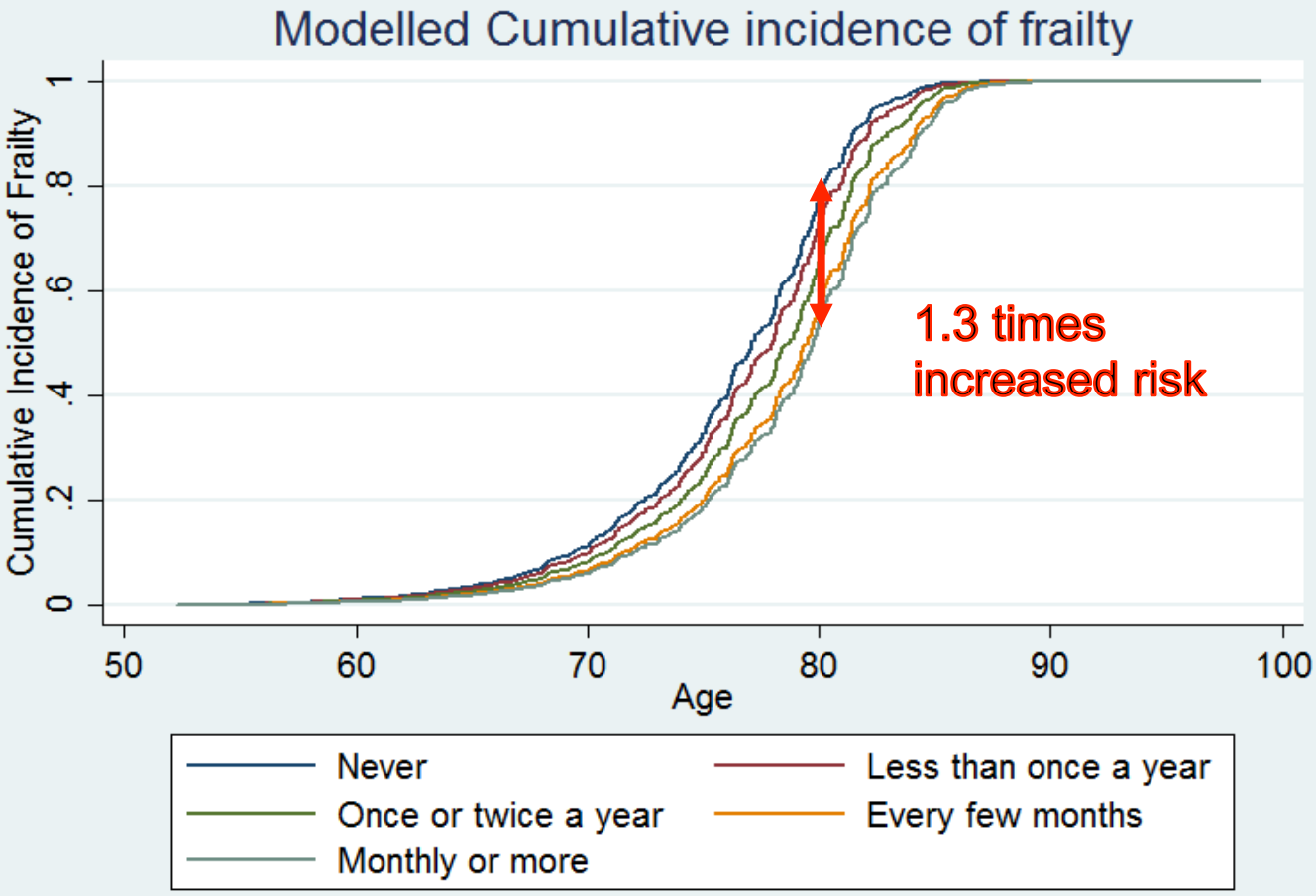


Analysis: Weighted Cox proportional hazards regression models & Weibull proportional hazards models
Follow-up of 12 years. N=5,434
Adjusted for demographics (sex, age, marital status, ethnicity, education, employment, wealth), health (eyesight, pain, smoking, alcohol), stratified by depression and cancer



Analysis: Weighted Cox proportional hazards regression models & Weibull proportional hazards models
Follow-up of 12 years. N=5,434
Adjusted for demographics (sex, age, marital status, ethnicity, education, employment, wealth), health (eyesight, pain, smoking, alcohol), stratified by depression and cancer

Physical health



Rogers N and Fancourt D (2019) Journal of Gerontology Series B.

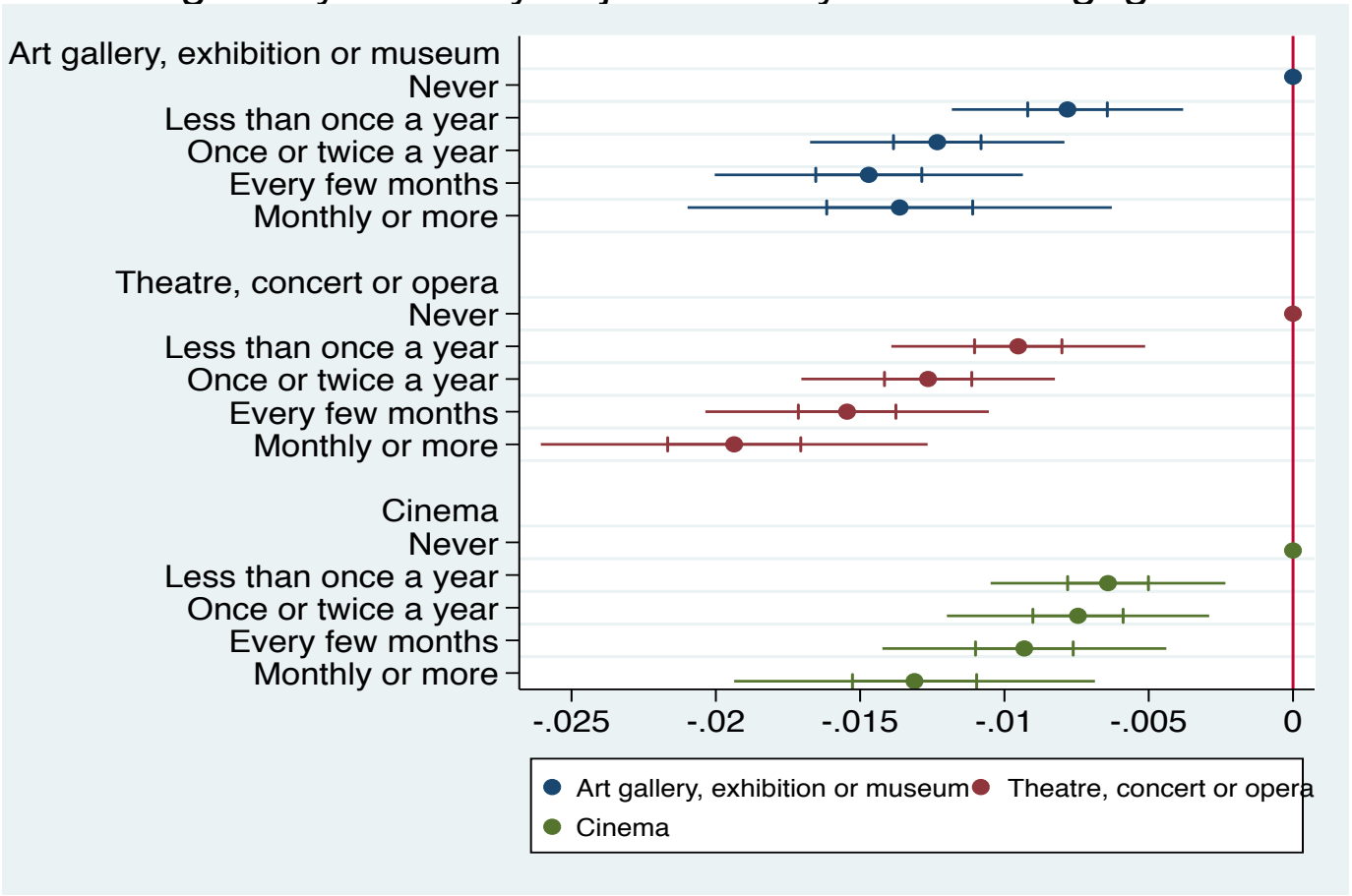
Analysis: 56-item frailty index comprising chronic conditions, eyesight, hearing, general health, disability, mobility, depression & cognitive function. Frailty threshold score=0.25+

Cumulative incidence function models with death as competing event

Follow-up of 12 years. N=4,575

Adjusted for age, gender, education, wealth, marital status, physical activity, social activity and civic engagement

Average 10-year frailty trajectories by cultural engagement



Rogers N and Fancourt D (2019) Journal of Gerontology Series B.

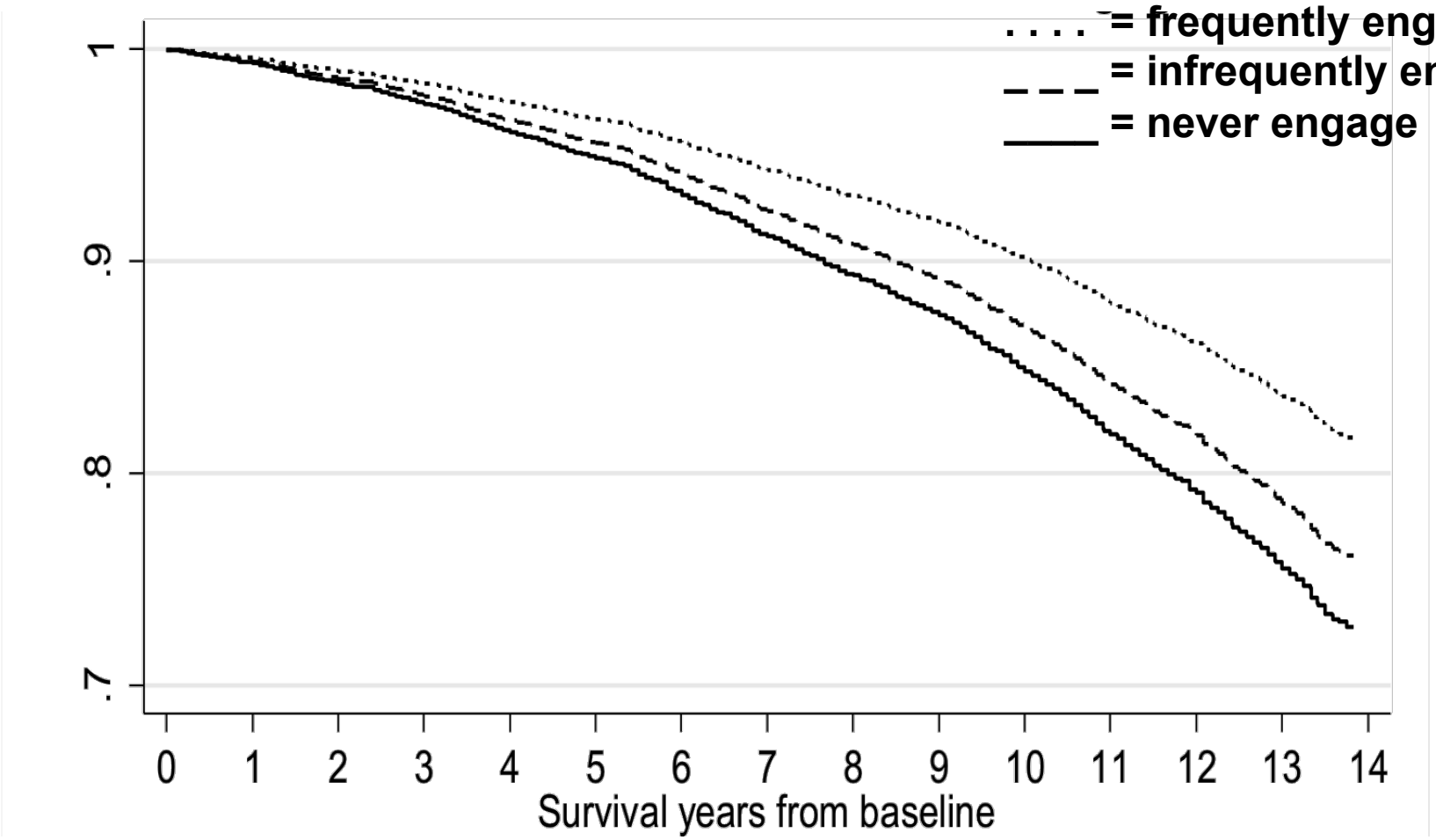
Analysis: 56-item frailty index comprising chronic conditions, eyesight, hearing, general health, disability, mobility, depression & cognitive function. Frailty threshold score=0.25+

Multilevel growth curve models

Follow-up of 12 years. N=4,575

Adjusted for age, gender, education, wealth, marital status, physical activity, social activity and civic engagement

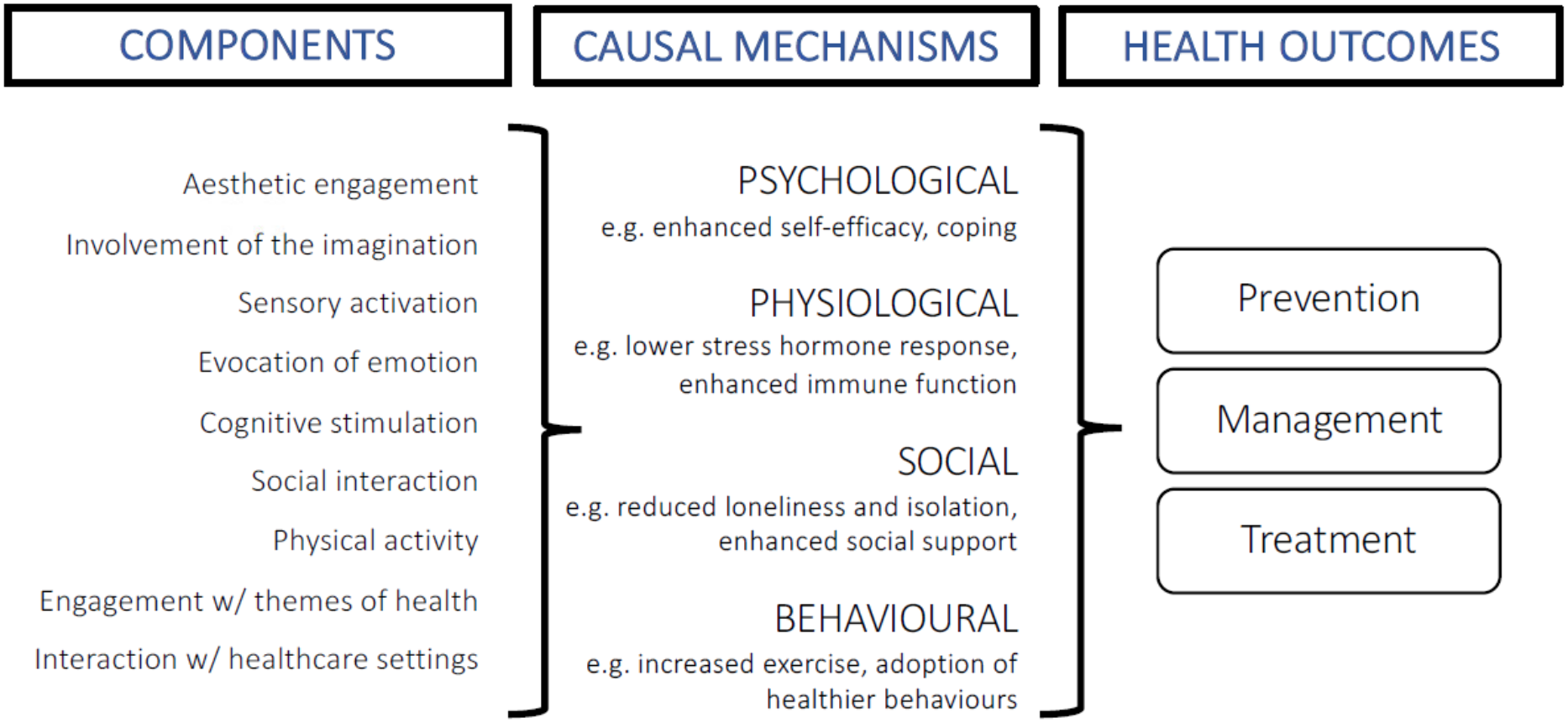
Fancourt D & Steptoe A (2019) BMJ



Analysis: Weighted Cox proportional hazards regression models & Weibull proportional hazards models. Follow-up of 14 years. N=6,710

adjusted for demographic variables (sex, age, marital status, educational attainment, employment status, wealth and social status), health-related variables (depression, eyesight, hearing, cancer, lung disease, CVD, other health condition or chronic disease, sedentary lifestyle, alcohol consumption, smoking and cognition) and social covariates (number of friends, loneliness, living alone, civic engagement, social engagement and having a hobby).

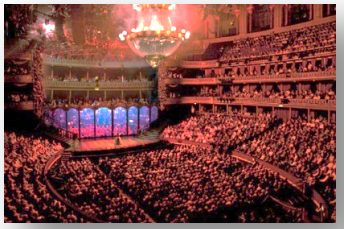
Potential underlying mechanisms



Arts & Cultural engagement

40,000 choirs
11,000 amateur orchestras
50,000 amateur arts groups
5,000 amateur theatre societies
3,000 dance groups
2,500 museums
400 historic places
4,000 libraries
1,300 theatres
50,000 book clubs
27,000 public parks
1,000 community gardens
6,500 leisure centres
10,000 village halls
330,000 allotments
161,000 voluntary associations
160,000 community groups

=c.1 million in the UK















Factors affecting participation

- Socio-economic status
- Education
- Ethnicity
- Mental illness
- Disability
- Living in deprived areas
- Living in the north of England
- Living in suburban or rural areas
- Living in industrial areas

We need healthy city development to stay creative!





MARCH Network



UK Research and Innovation

Transforming our understanding of how social, cultural & community assets can support mental health

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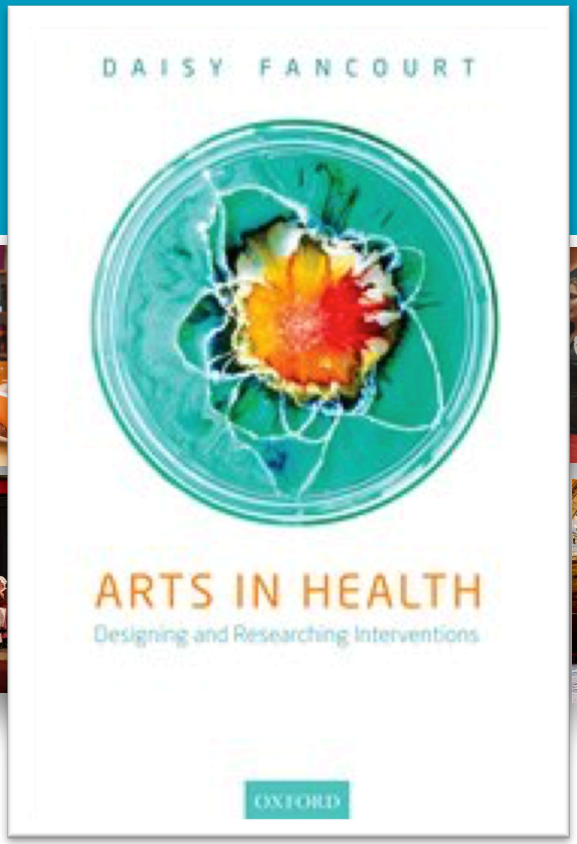

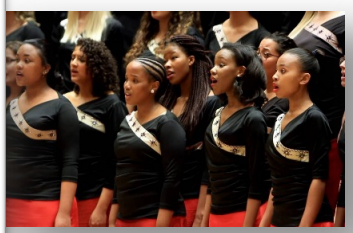

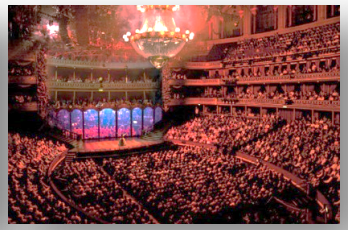

Creative Cities

The Importance of Arts, Culture & Community to Population Health

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