

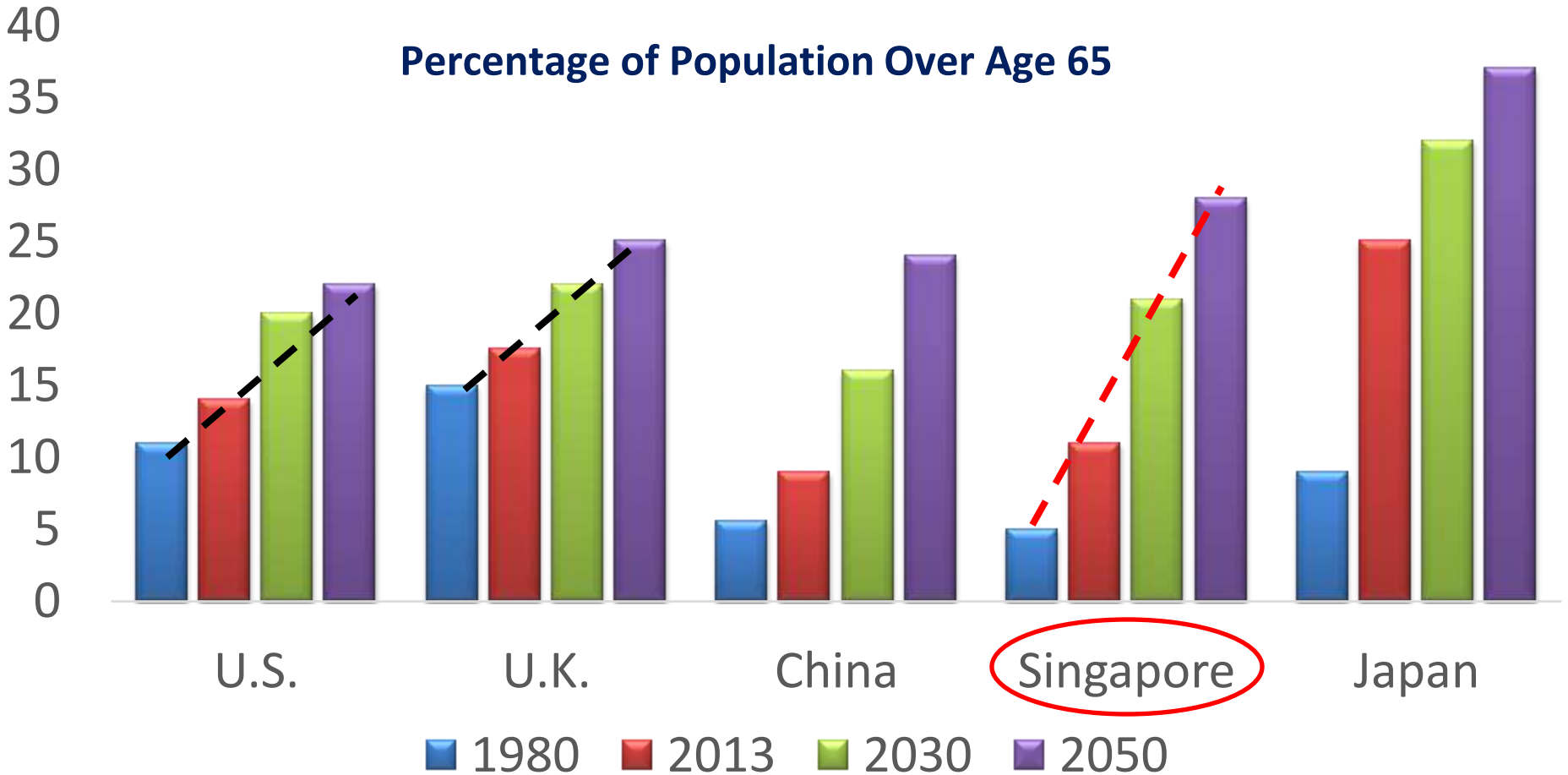
# Active Ageing – the TaRA Way

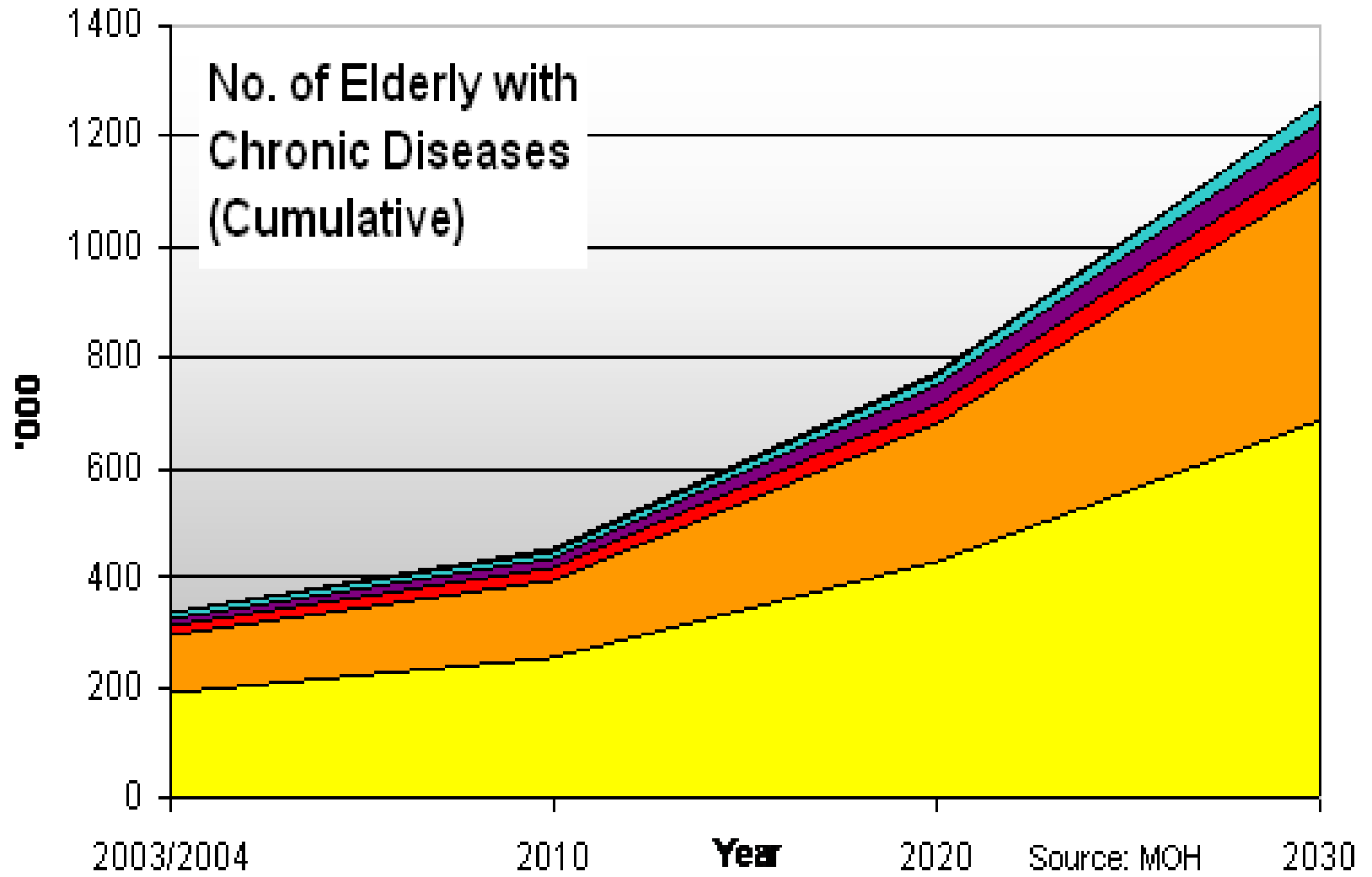
SG50 Scientific Conference on Ageing

Rathi Mahendran  
19 March 2015

# Singapore's Ageing Population

Percentage of Population Over Age 65





■ Hypertension

■ Diabetes Mellitus

■ Stroke

■ Dementia

■ Heart Failure

■ End Stage Renal Disease

# Mental Health of the Elderly

Cognitive Decline

Dementia

Depressive Symptoms

Anxiety Symptoms



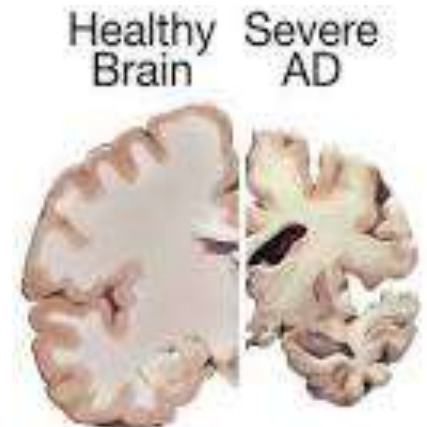
# Rates of Cognitive Decline and Dementia

Mild Cognitive Impairment: 7.2%

Hilal et al 2013

Higher conversion rates up to 59% with multiple domains

Dementia: recent study 4.6%



# Rates of Subsyndromal Mood Symptoms



5% to 16% of primary care patients  
have depressive symptoms

Rucci et al 2003

15% to 52.3% have anxiety symptoms in  
community samples

Bryant et al 2008

# The Impact of Subsyndromal Symptoms



Illness progression

Quality of life

Suicide risks

Disability

Use of medical services



# Elderly in the Jurong area



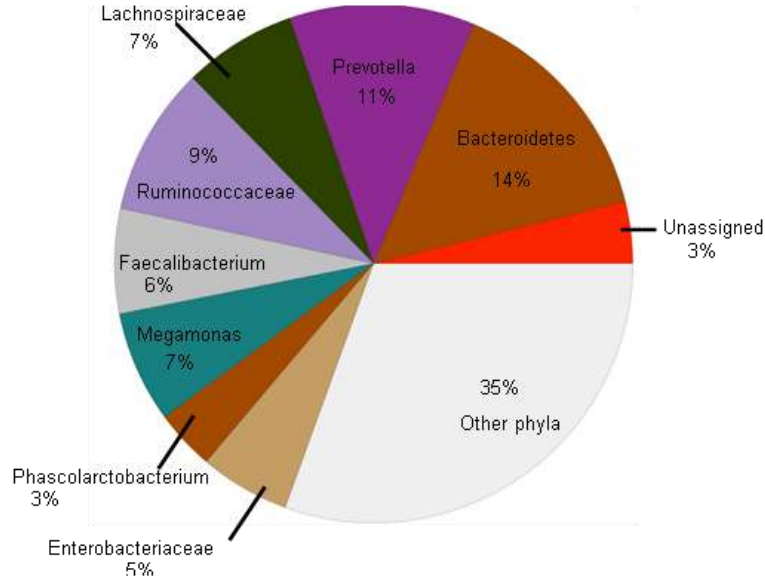
minimal disabilities,  
high on medical co-morbidities,  
little leisure time activities



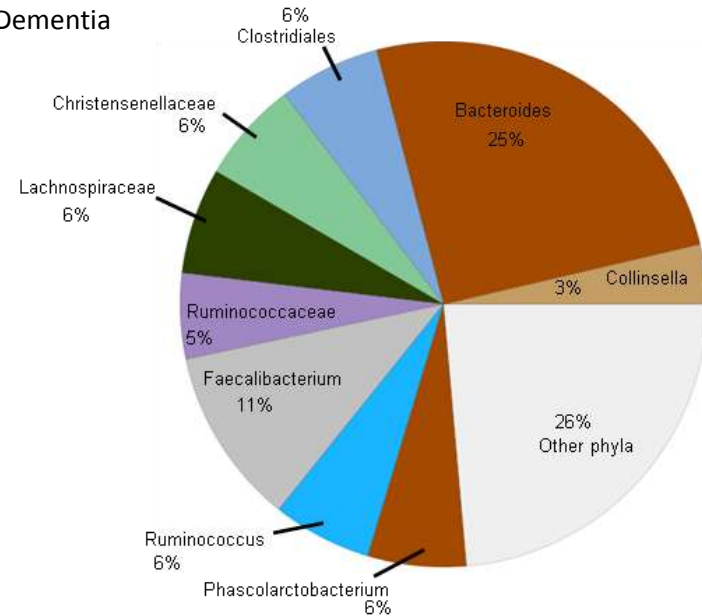
# Changes with Cognitive Decline

## Gut bacteria

(A) Control



(B) Dementia





# Potentially modifiable factors for Cognitive Decline and Dementia

Cardiovascular Risk factors: hypertension  
diabetes  
obesity

Psychosocial Factors: emotional symptoms

Health Behaviors: low level of physical /mental activity  
smoking  
diet

# Non-Pharmacological Therapies: *Psychosocial Interventions*

Maintain cognitive function or help the brain compensate for impairments

Improve Quality of Life

Reduce emotional symptoms (such as depression)

Reduce behavioral symptoms (such as wandering, sleep disturbances, agitation and aggression).

# Greatest Success in Psychosocial Interventions



Cognitive stimulation

Cognitive training

Training in Activities of Daily Living



# The Jurong Ageing Study

Evaluation of a Mental Health Promotion Program  
for Community Living Elderly Singaporeans

R Mahendran, Feng L, EH Kua

# Psychosocial Interventions at TaRA

- Mindfulness Practice
- Art Therapy
- Tai Chi Exercise
- Music Reminiscence Activity

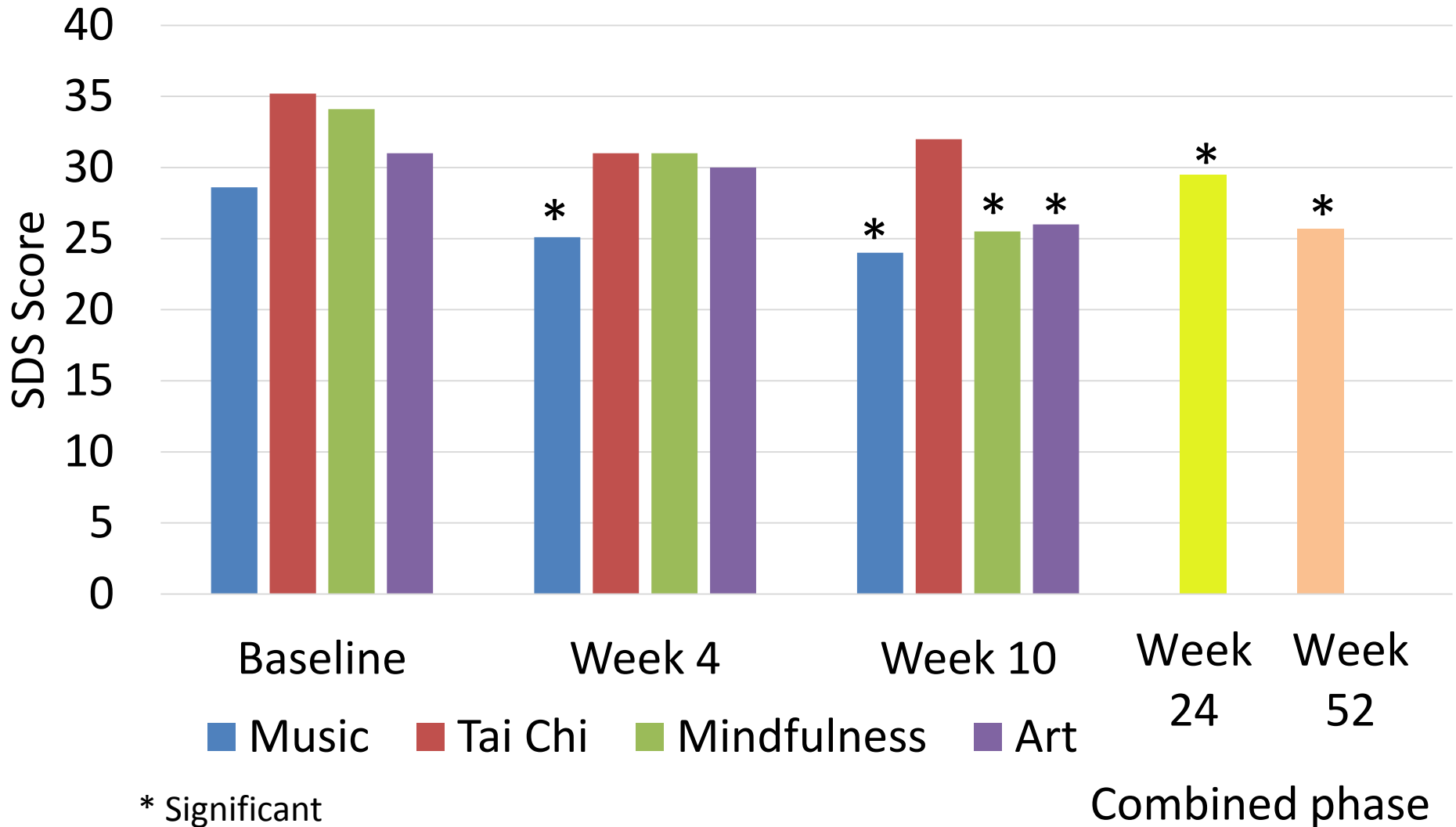
Health Education

First Cohort ( $N = 103$ )

Second Cohort ( $N = 100$ )

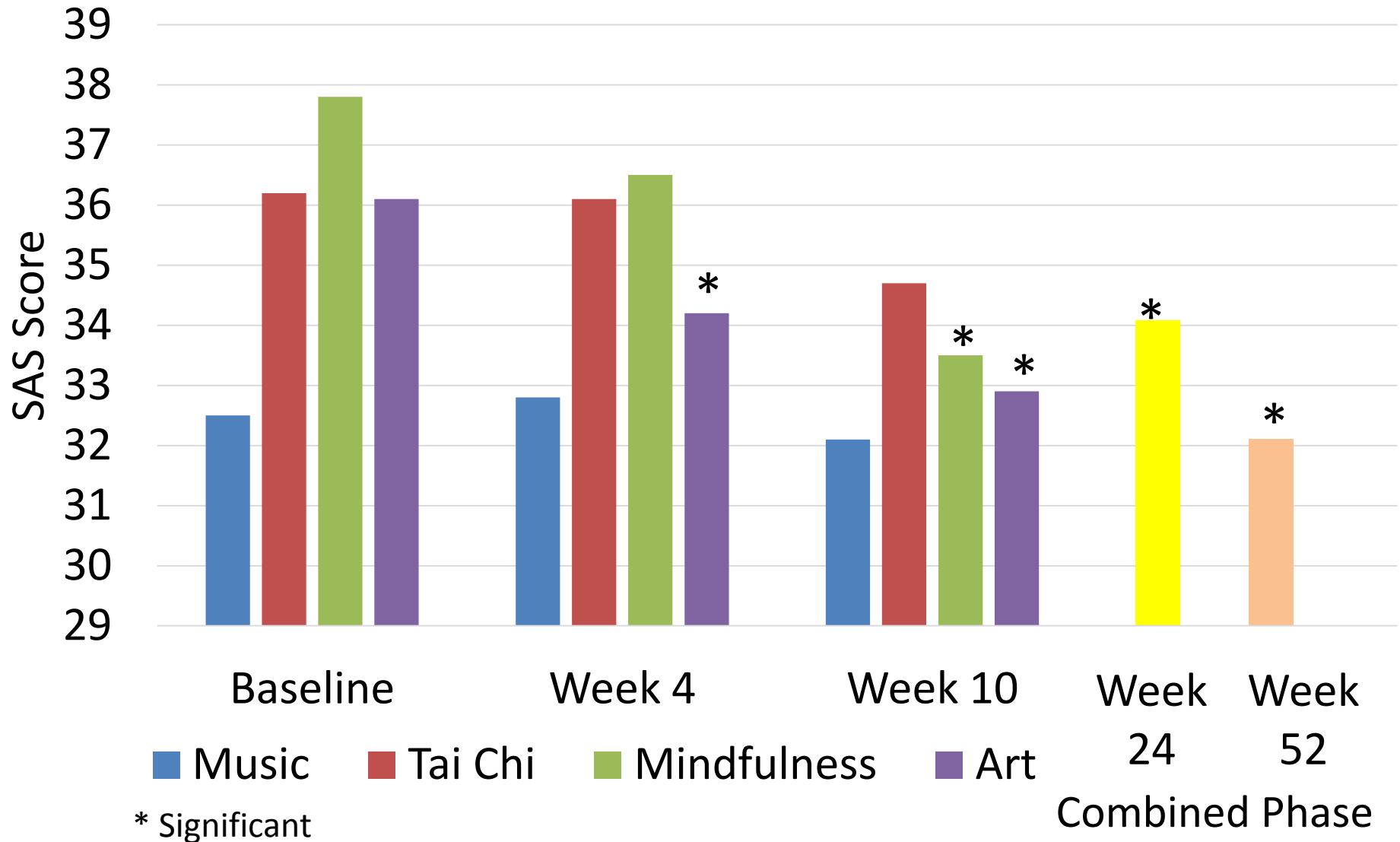
One Year Results

# Impact on Subsyndromal Depression





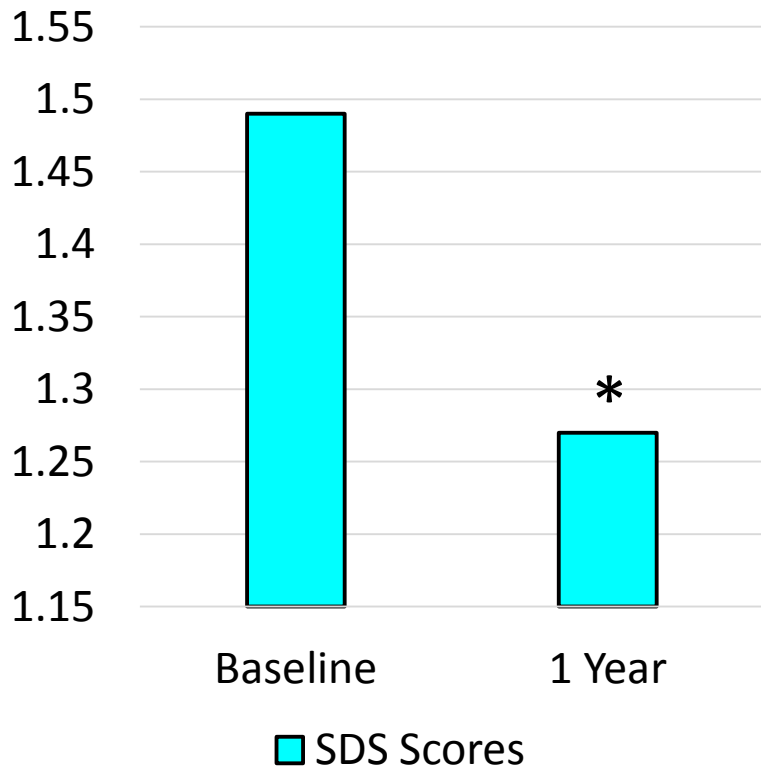
# Impact on Subsyndromal Anxiety



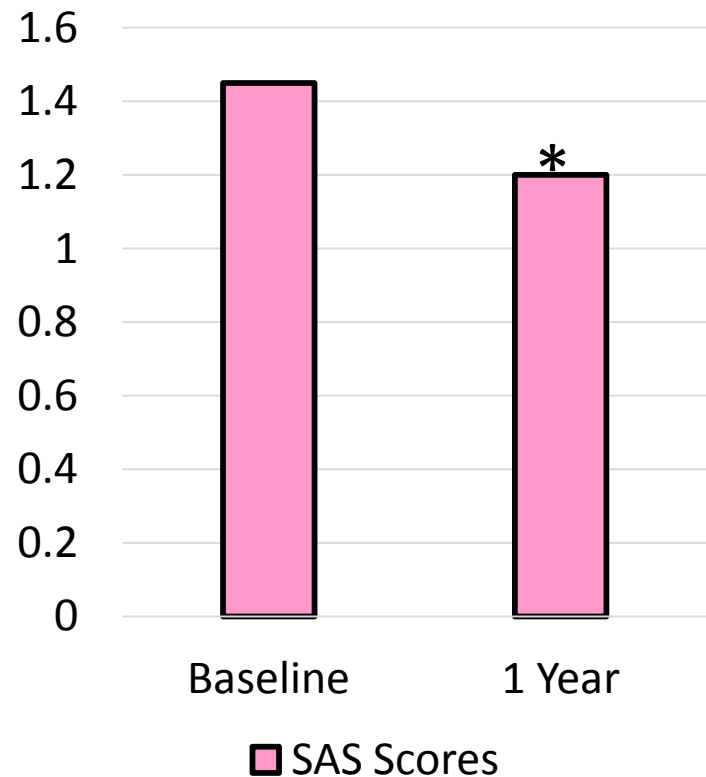
# Psychosocial Interventions at TaRA

## Impact on Mood (Subsyndromal Depression and Anxiety)

Second Cohort  
Subsyndromal Depression



Second Cohort  
Subsyndromal Anxiety



\* Significant

# Impact on Sleep

Improvements in:

- Subjective sleep quality
- Objective Pittsburgh Sleep Quality Index (PSQI)
- Sleep duration (more than 6 hours of sleep)



# The MAP-RCT

Mindfulness Awareness Program for the  
Prevention of Dementia – a Randomized Control  
Trial

(NCT02286791)

R Mahendran, Feng L, J Fam, I Rawtaer, Alan P Kumar, G Rane, I Cheah, R  
Mahendran, YK Lee, EC Tan, EH Kua

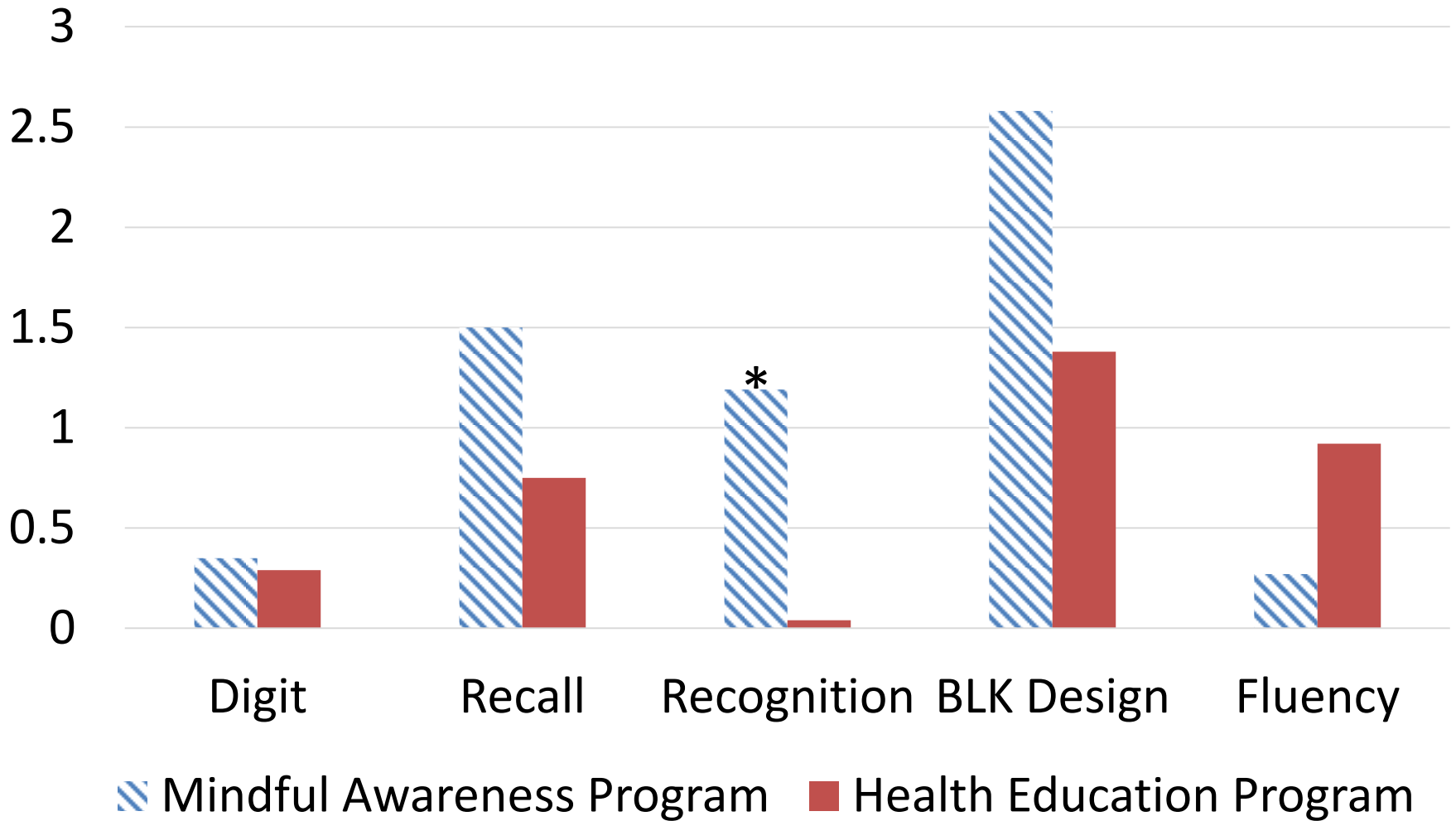
# MAP-RCT

1. Study Mindful Awareness Program (MAP) in comparison with a Health Education Program (HEP) in delaying or reversing further cognitive decline amongst elderly adults with MCI.
2. Evaluate the influence of MAP on: neurological,  
cellular and  
biochemical factors  
psychological well-being

# MAP-RCT Participants

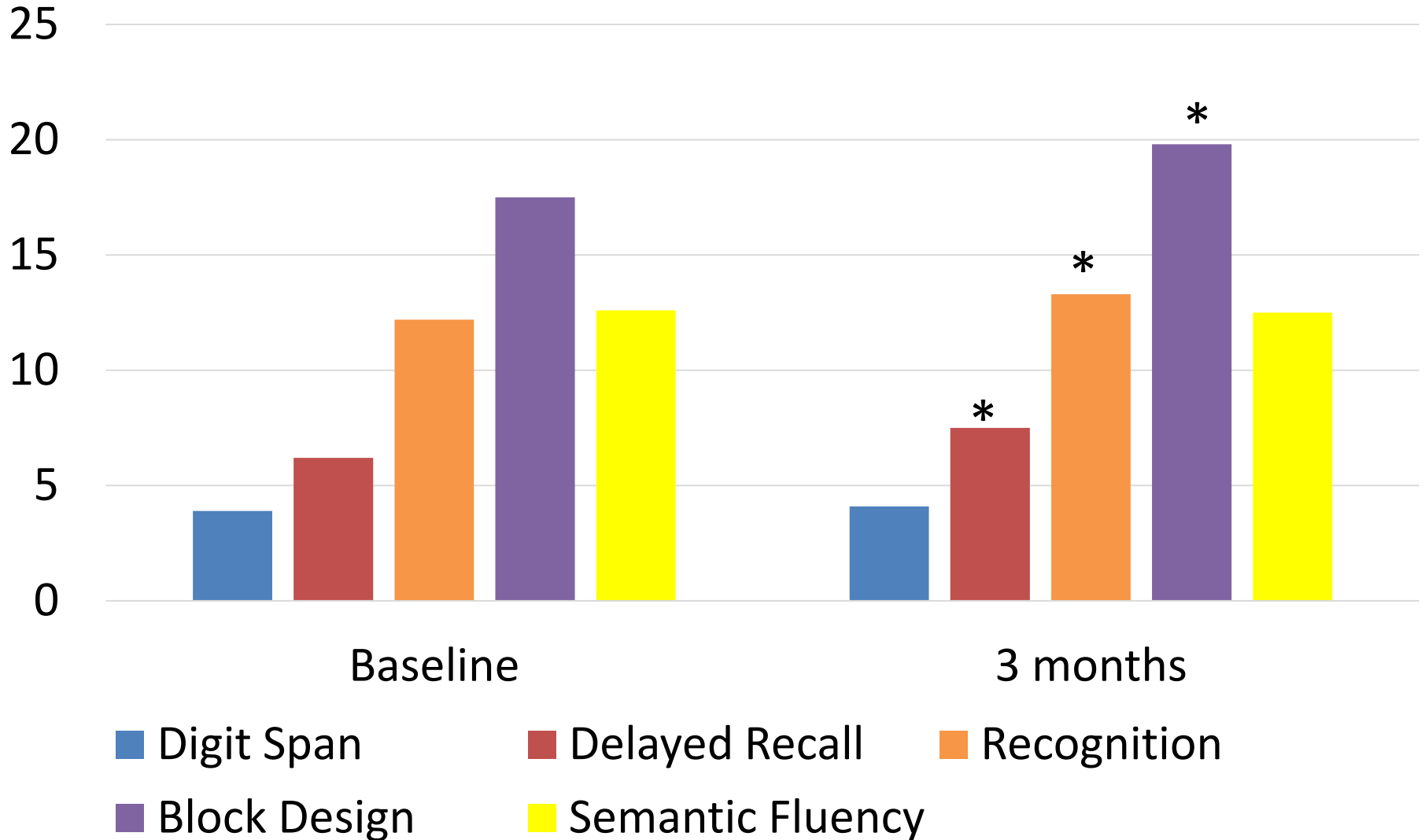
- Elderly with MCI, N=54
- Female: Male 3:1
- Age range: 65 to 77 years
- 45% retired; 29% homemakers; 6% part-time work

# MAP-RCT: Neuropsychological Test results (3 months)



\* Significant

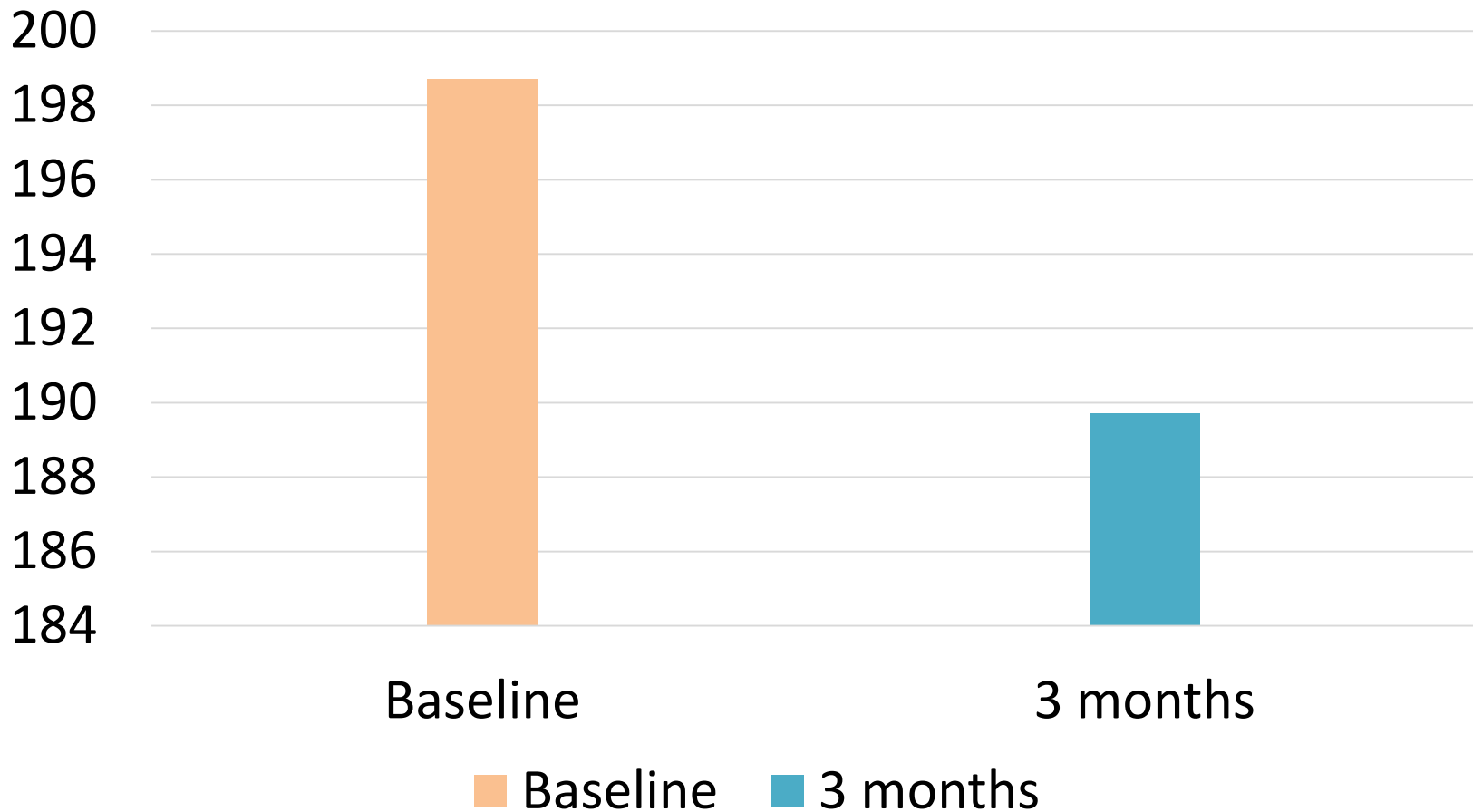
# MAP-RCT: Neuropsychological Test results in the MAP group



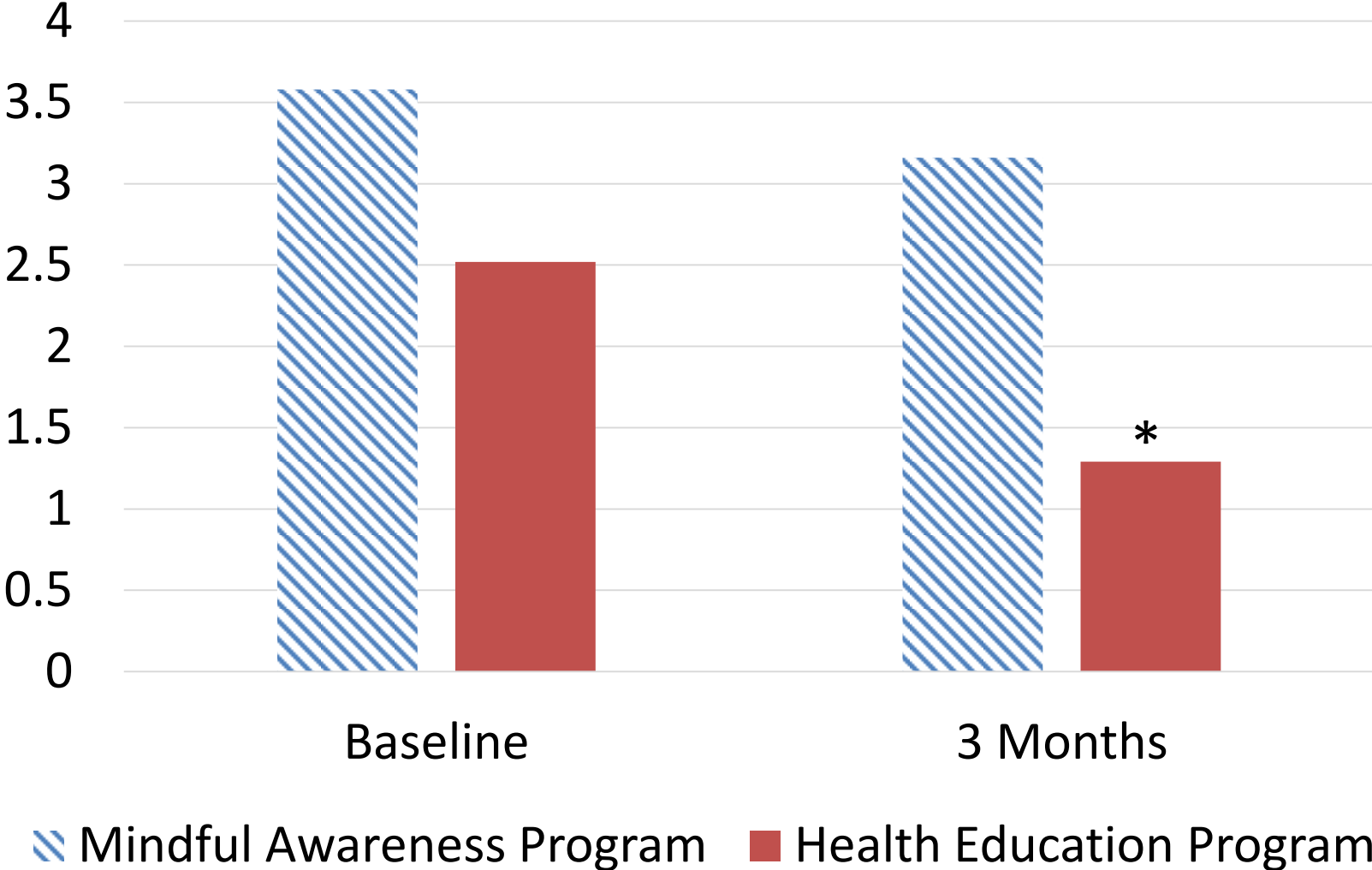


# MAP-RCT: Neuropsychological test results in the MAP group

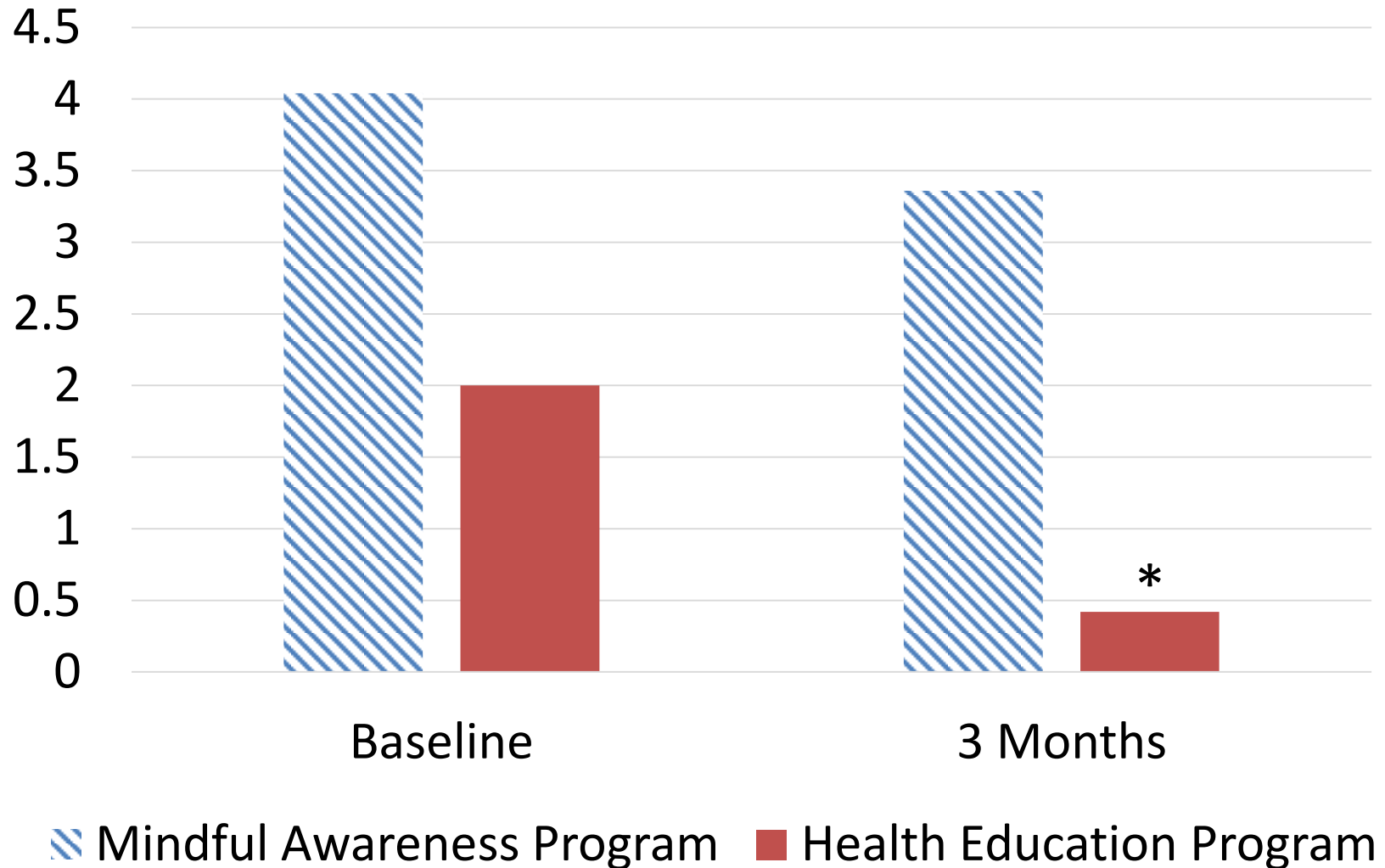
## Colour Trails



# MAP-RCT: Impact on Subsyndromal Depression (3 months)



# MAP-RCT: Impact on Subsyndromal Anxiety Symptoms (3 months)



# Research in 2015

Effects of Horticultural Therapy on Asian Elderly Mental Health:  
A Randomized Controlled Trial

Roger Ho, I Rawtaer, Tan CH, A Sia, M Hg KW, Feng L, EH Kua

Choral Singing for the Prevention of Dementia: A Randomized  
Controlled Trial

Feng Lei, M Tsakok, B Lanskey, Tan CH, I Cheah, I Rawtaer, R Mahendran, A Larbi, S  
Wang, K-H Chuang, JL Li, SL Collinson, J Car, EH Kua

Ageing in a Community Environment Study (ACES)

Feng Lei, YS Chong, S KH Tay, R Mahendran, EH Kua

# Acknowledgements

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Lee Kim Tah Holdings

Thank you