

# Can fear of falling make you unstable on your feet?

**Presentation by Kim Delbaere**

NSW Falls Prevention Network Forum  
Sydney  
19 May 2017

[www.NeuRA.edu.au](http://www.NeuRA.edu.au)

1. Understanding fear of falling

2. Managing fear of falling

# Fear of falling

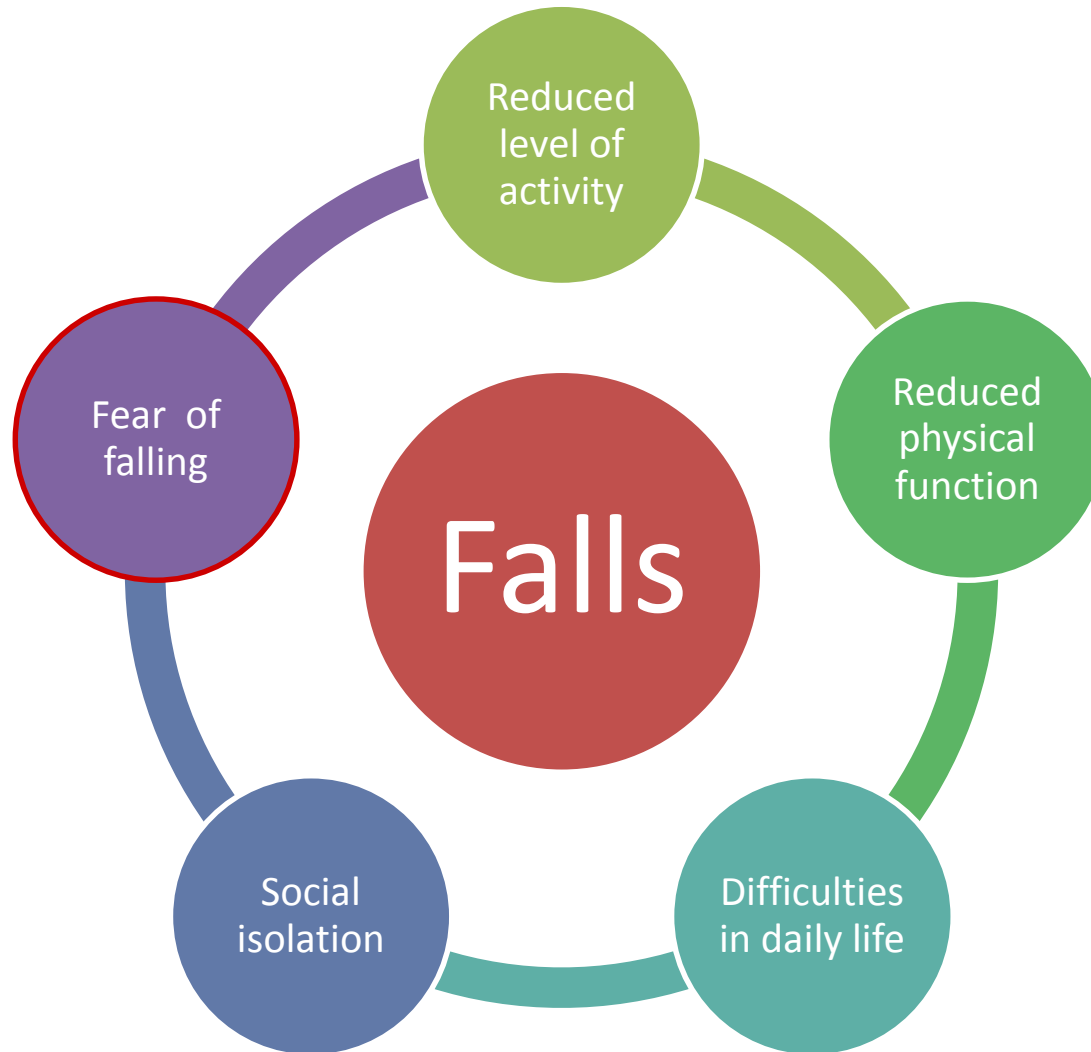
- Important psychological factor associated with falls in older people (since 1982)
  - Fear of falling is a persistent feeling related to the risk of falling during one or more activities of daily living
- Prevalence
  - 29-92% in older people who have already fallen
  - 12-65% in older people who have NOT fallen
  - Women > men
  - Increases with age
- Many associated factors

# Associated factors with fear of falling

based on prospective and retrospective cohort studies

Falls	Physical factors	Psychological factors
<ul style="list-style-type: none"><li>• Previous falls</li><li>• Future falls</li></ul>	<ul style="list-style-type: none"><li>• poor health status</li><li>• functional decline</li><li>• frailty</li><li>• reduced leaning balance</li><li>• poor muscle strength</li><li>• impaired gait</li></ul>	<ul style="list-style-type: none"><li>• restriction and curtailment of activity</li><li>• reduced quality of life</li><li>• fear of pain</li><li>• anxiety</li><li>• depression</li><li>• social isolation</li></ul>

# Mechanisms in relation to falls



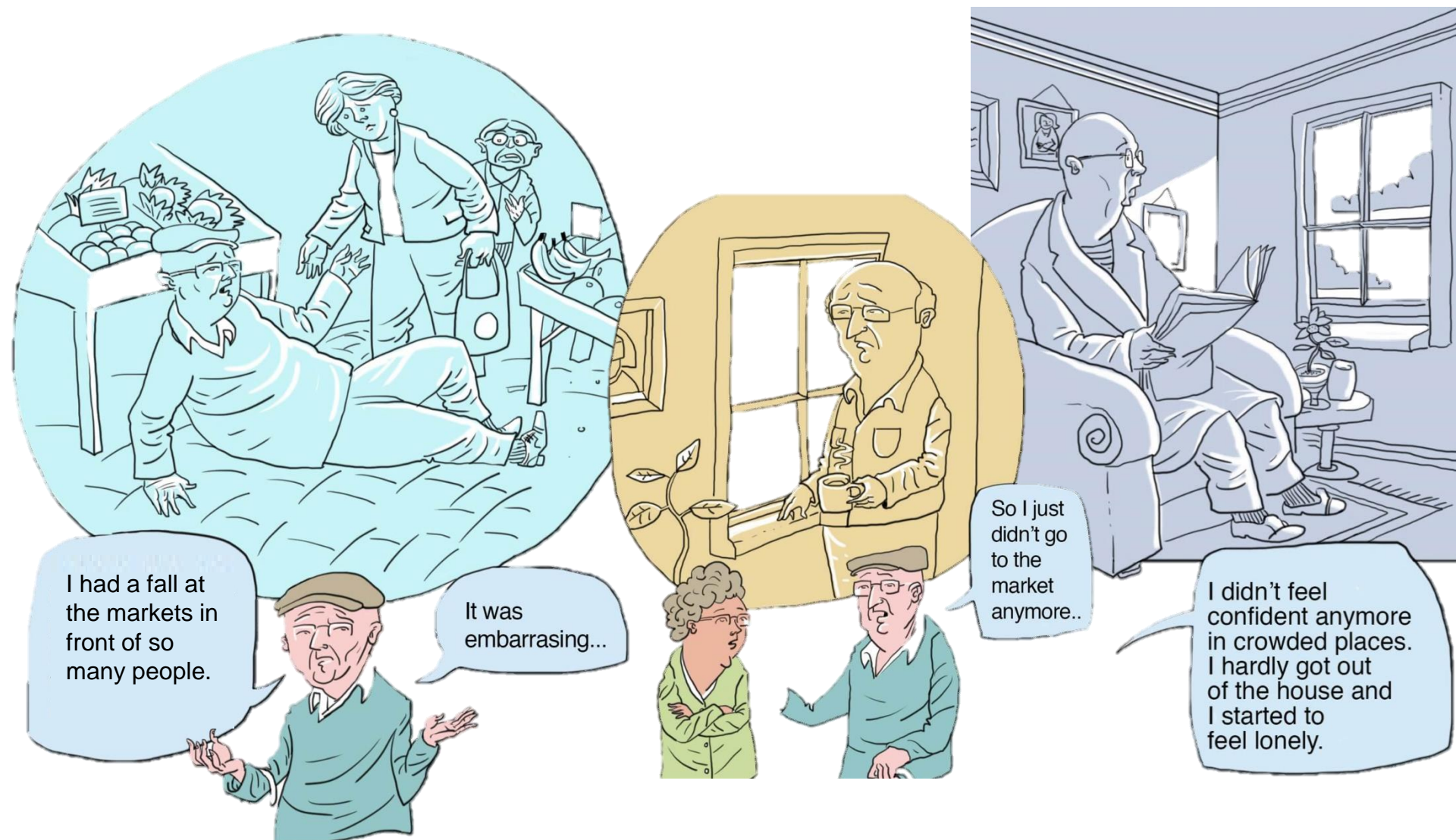
# Fear of falling – its helpful side

- Fear of falling may reflect a realistic appraisal of reduced functional abilities and consequent increased risk of suffering a fall and fall injuries.
- Such a fear may result from
  - First-hand experience, e.g. a near fall or a recent fall that resulted in pain, embarrassment or injury
  - Actual falls risk, as is reflected in the high correlation between objective measures of physiological factors and fear of falling.
- Fear of falling can be a normal adaptive response to challenged equilibrium. Such insight might prevent people from undertaking activities that could expose them to risky situations.

# Fear of falling – its unhelpful side

- Fear of falling can be irrational, excessive or phobic which then results in a persistent and dysfunctional disruption of attention and behaviour.
- Such a fear may result from
  - Catastrophizing or thinking the worst of events
- Fear of falling may then have a detrimental effect upon several domains of life, including the needless restriction of activities of daily living and enjoyable pastimes, which may, then, lead to physical inactivity and social isolation.

# Fear of falling – its unhelpful side

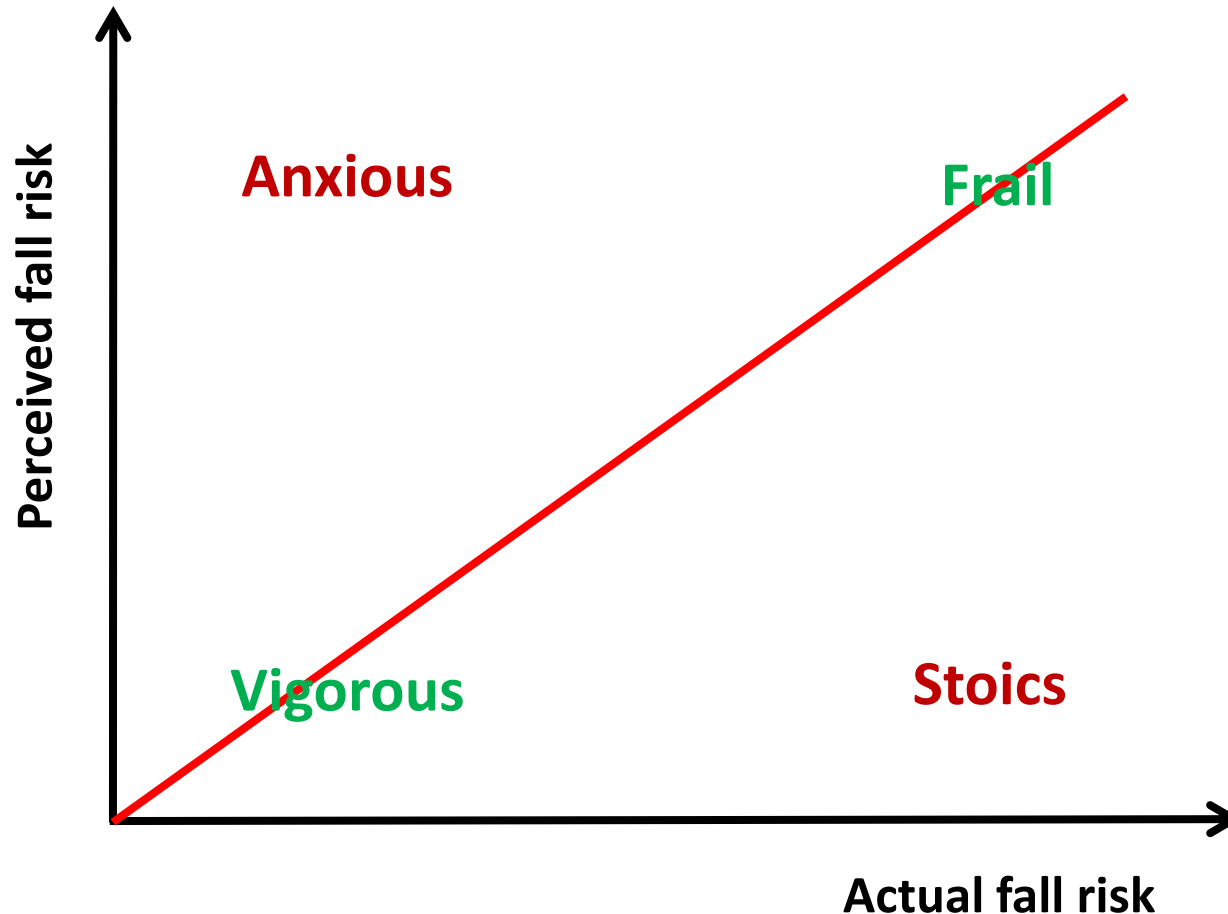




**How would you feel about your risk of falling during these activities?**

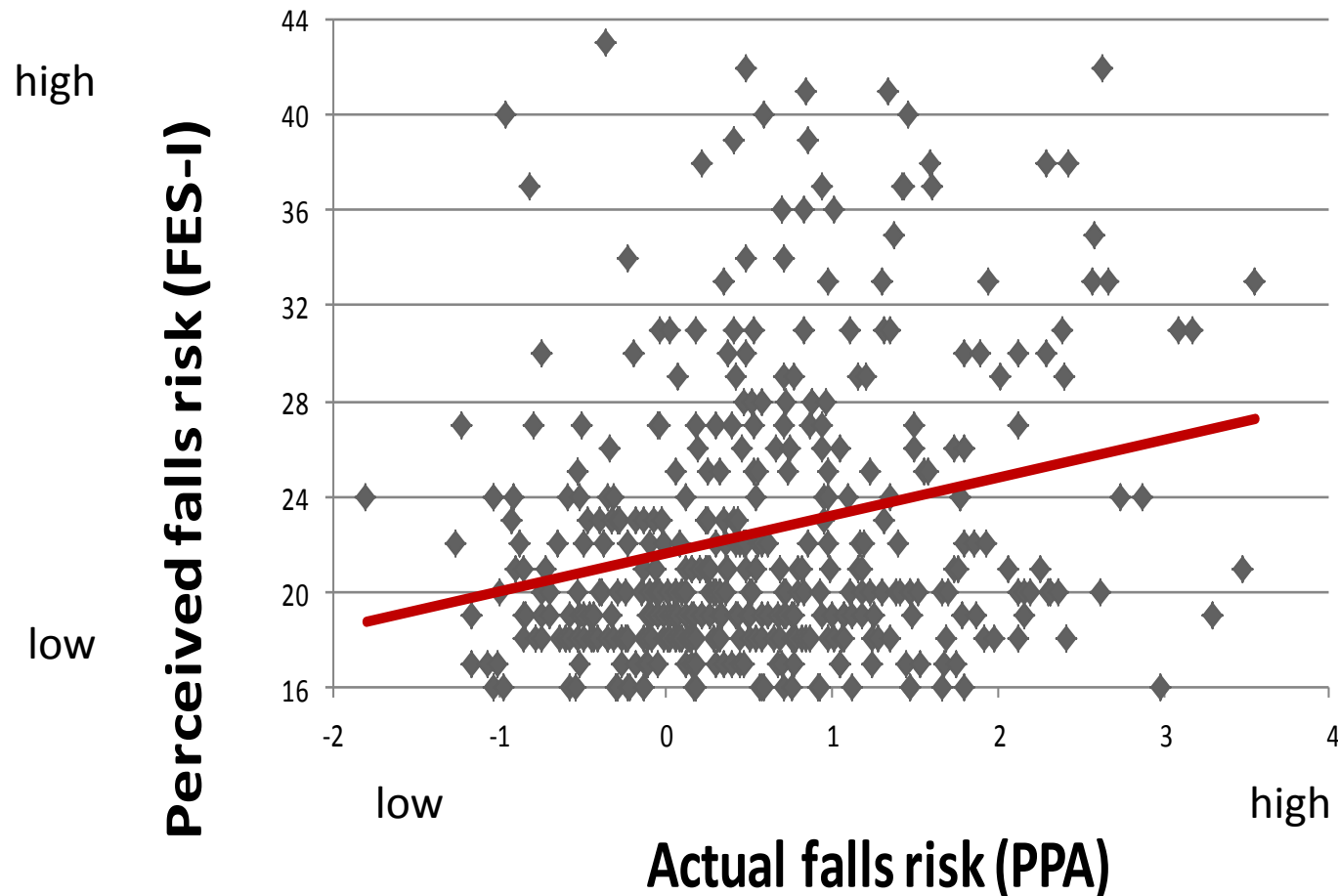


# Fear of falling: **helpful** vs **unhelpful**?



**DELBAERE K**, Close JCT, Brodaty H, Sachdev P, Lord SR. Determinants of disparities between perceived and physiological risk of falling among elderly people: Cohort study. *BMJ*. 2010;341(c4165): 1-8

# Fear of falling: **helpful** vs **unhelpful**?

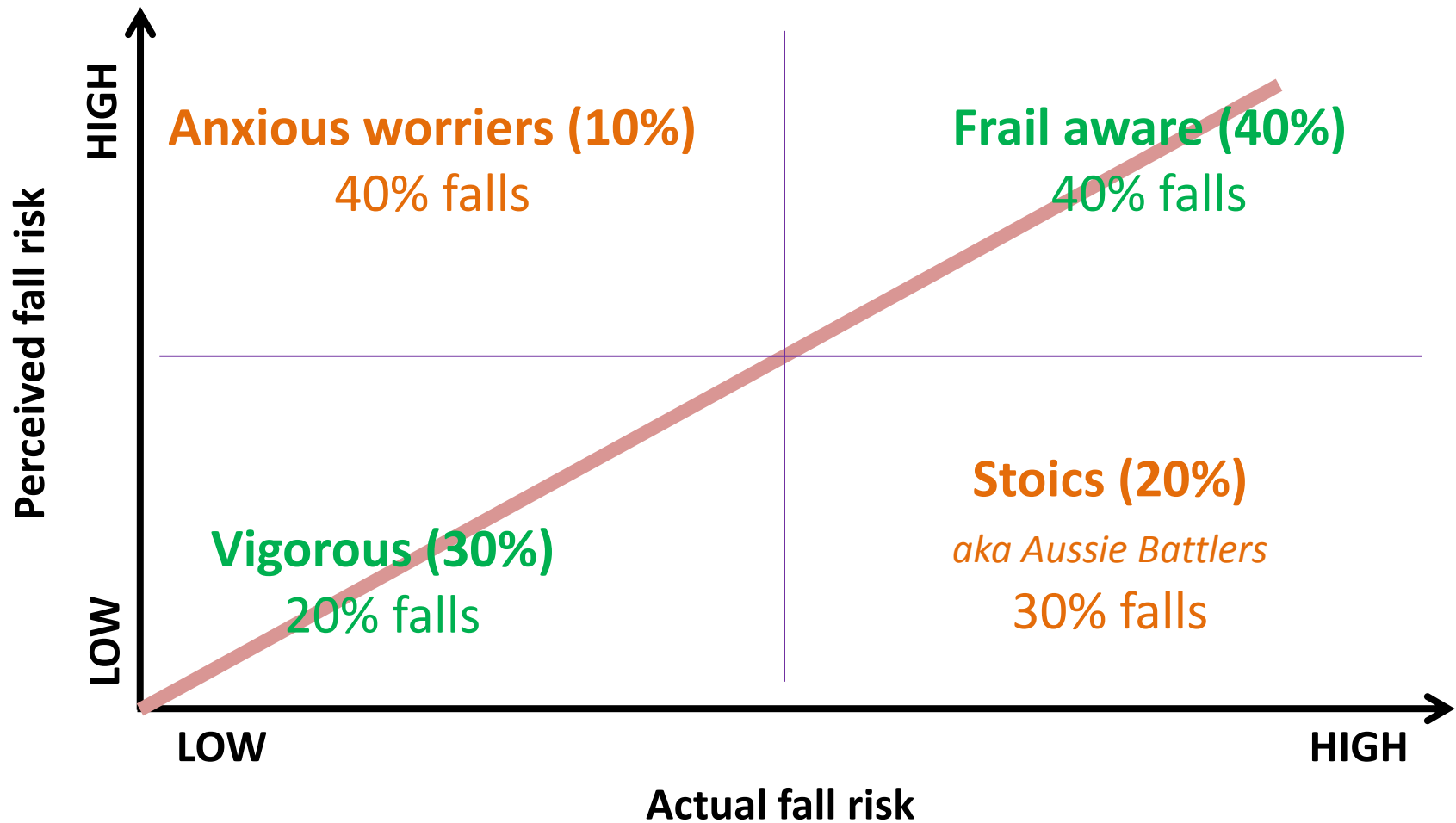


Pearson's  $R=0.19$

$F_{1,499}=17.14$

$p<0.001$

# Fear of falling: **helpful** vs **unhelpful**?



# Summary findings

- Many older people under or over estimate their risk of falling
- Disparities between perceived and physiological fall risk influence the probability of falling
  - Worriers have a higher falls rate despite low actual risk
  - Battlers have a low perceived risk despite high actual risk + slightly lower falls rate
- Fear of falling leads to falls, independent of physiological fall risk factors

# Worrier

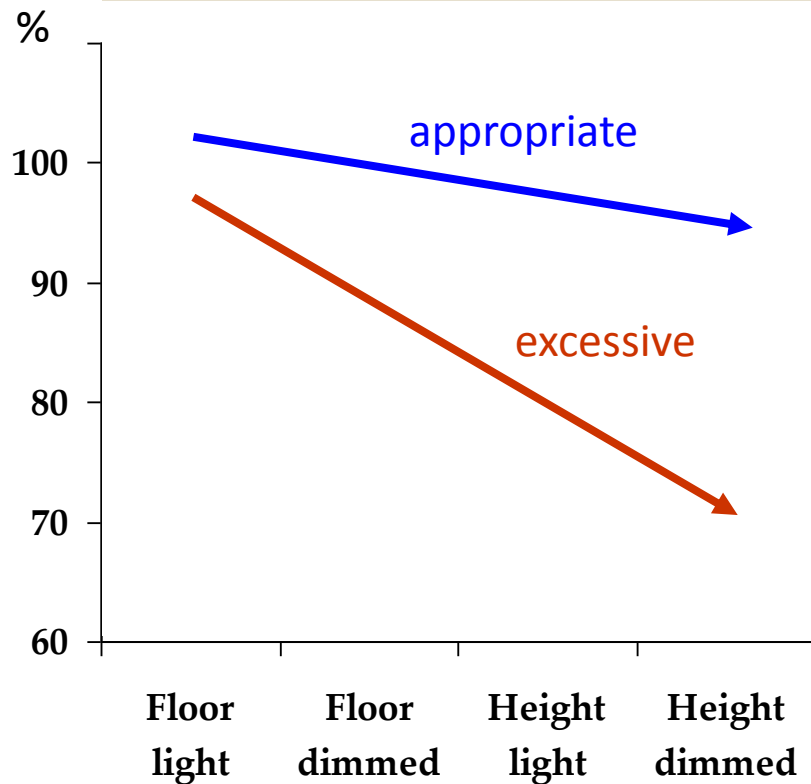


- No obvious identifiable (instability-related) fall risk
- **Psychological profile:** neurotic personality traits, i.e. increased vulnerability to develop irrational fears
- Worse self-perceived health
- More depressive symptoms
- Lower quality of life

# Age-related physical decline is normal

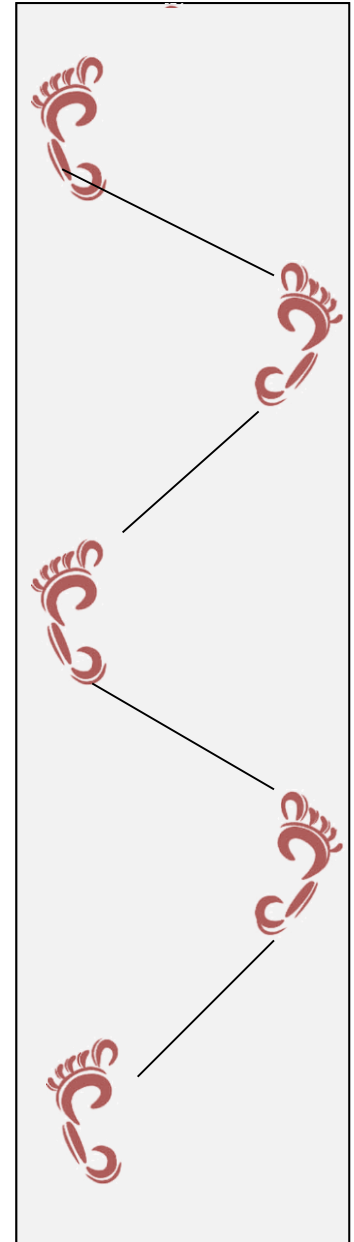
- Age-related physical decline requires continuous adjustments of the perception of how well people are able to do certain activities.
- Based on their perception, they will have to select an appropriate behaviour as well as motor strategy to be able to conduct the activity without falling.
- **How do people achieve this?**

# Fear of falling induces gait adaptations



*Cautious  
gait:*

Decreases walking stability and could therefore increase fall risk rather than protect against it



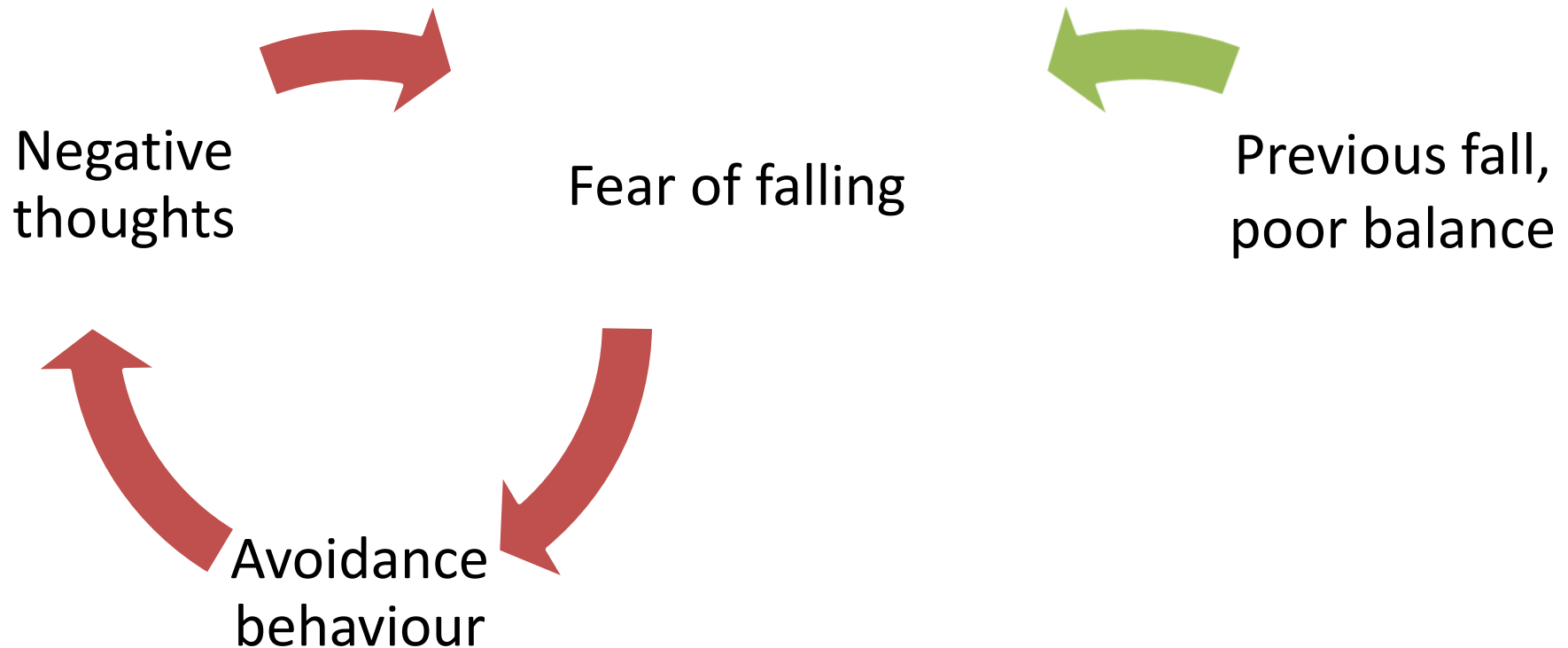


# Battler



- Lower levels of fear of falling
- Less previous falls
- **Psychological profile:**  
emotionally stable, less reactive to stress, happy and satisfied with life
- Younger
- Better self-perceived health
- Better quality of life
- More planned exercise

# Understanding fear of falling



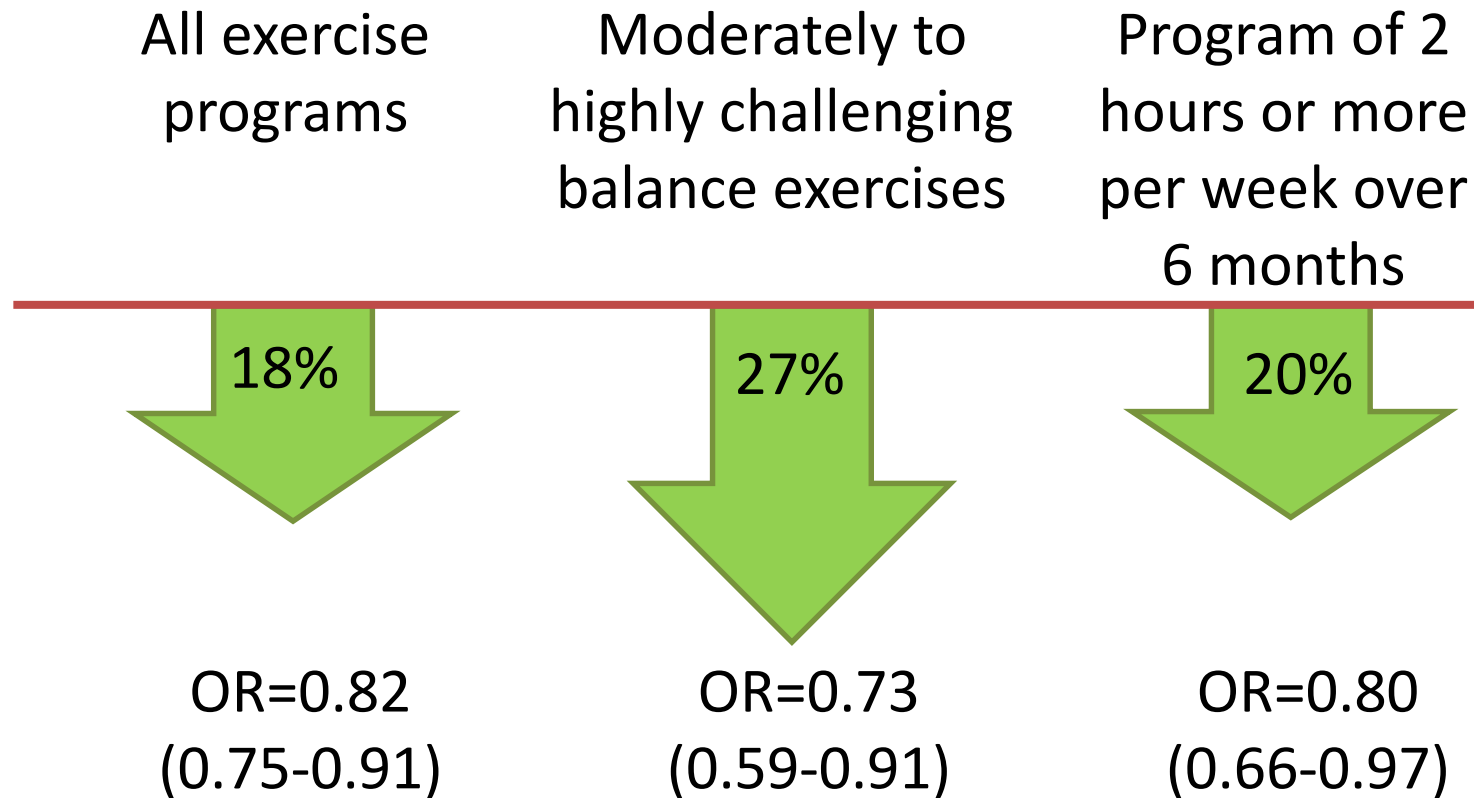
1. Understanding fear of falling

2. Managing fear of falling

# What does fear of falling tell us?

- The presence of fear of falling is likely to be a sign that something is wrong:
  - The person has an accurate perception of falls risk
  - The person is spiralling into a vicious circle of general frailty through depression or other psychological factors
- Lower levels of fear of falling are likely to be protective of falls:
  - The person has a low actual falls risk
  - The person has a positive attitude to life and has engaged him/herself in falls preventative activities

# Exercise to prevent falls



**Falls reductions of about 40%**

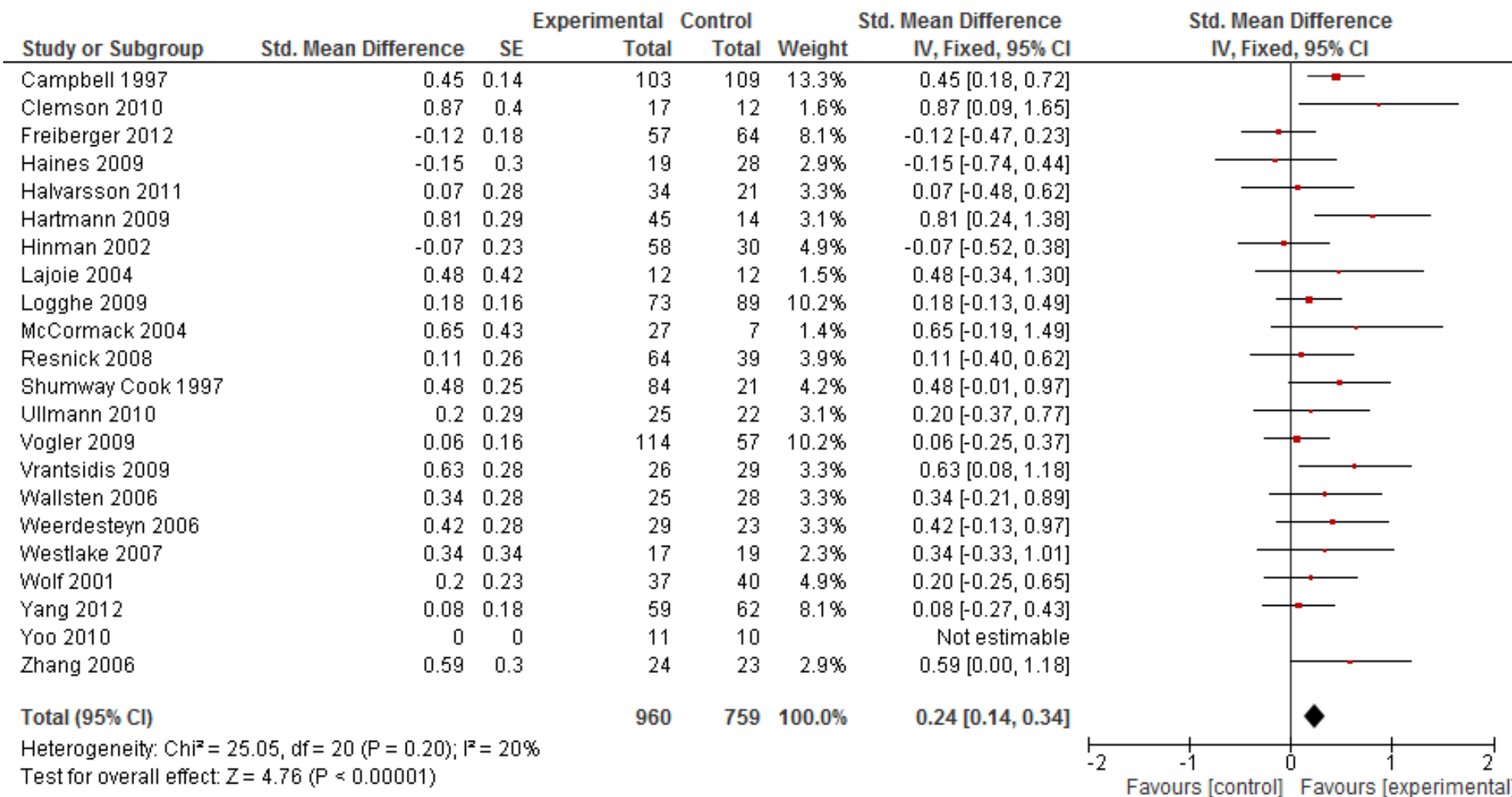
(Systematic reviews by Sherrington et al)

# Exercise to reduce fear of falling

- 25 studies including a total of 2,578 community-dwelling older adults
- Provided or prescribed exercise was associated with a significant reduction in fear of falling, immediately post-intervention (SMD 0.24, 95% CI 0.14 to 0.34)

Kendrick D, ..., Delbaere K. Exercise for reducing fear of falling in older people living in the community. Cochrane Database of Systematic Reviews 2014, 11: CD009848.

# Exercise to reduce fear of falling



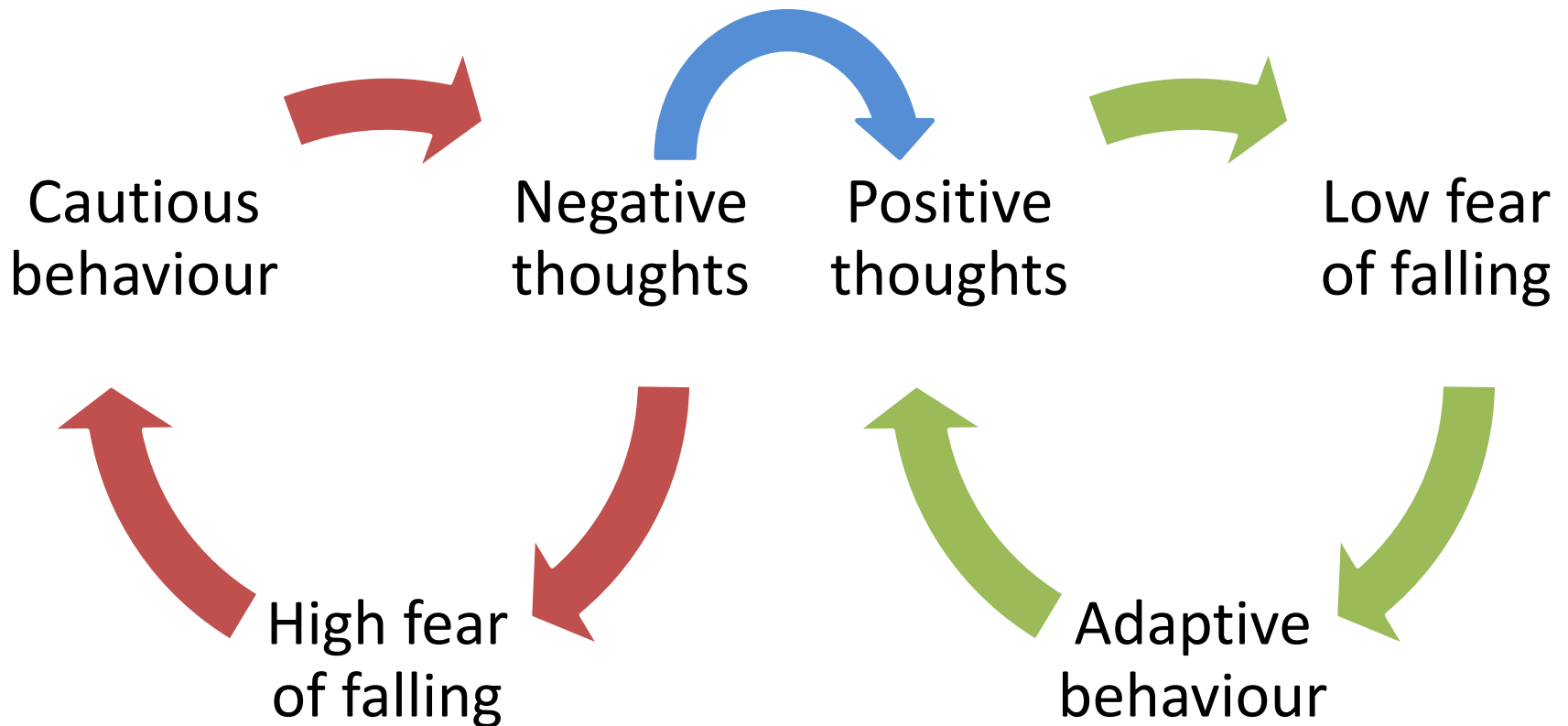
# Exercise to reduce fear of falling

- 25 studies including a total of 2,578 community-dwelling older adults
- Provided or prescribed exercise was associated with a significant reduction in fear of falling, immediately post-intervention (SMD 0.24, 95% CI 0.14 to 0.34)
- There was **no significant effect of exercise interventions on fear of falling beyond the end of the intervention period** (3 studies included data up to 6 months and 2 included data at 6 months and beyond).

Kendrick D, ..., Delbaere K. Exercise for reducing fear of falling in older people living in the community. Cochrane Database of Systematic Reviews 2014, 11: CD009848.



# Cognitive behavioural approach



# Cognitive behavioural therapy

## Best-practice principles used in CBT towards fall prevention

- Cognitive restructuring of misconceptions to promote a view of fall risk and fear of falling as controllable
  - E.g. **education** on commonness of fear of falling
- **Problem solving** towards activity avoidance, unsafe behaviour, and unsafe environment
  - e.g. install a handrail next to the bath tub
  - e.g. ask for assistance
- Behavioural activation, graded **exposure**: setting goals to encourage patients to approach activities that they are avoiding
  - e.g. first time together with someone else

# A Matter of Balance trial

540 subjects with fear of falling, aged 70+ years

- Intervention: 8 weekly CBT group sessions over 2 months
- Aim: instilling adaptive and realistic views on falls, reducing fall risk, and increasing activity and safe behaviour
- Results: significant between-group differences
  - At 2 months: fear of falling, activity avoidance, and daily activity levels
  - At 14 months: fear of falling, perceived control over falling, and recurrent fallers
    - but not in activity avoidance or daily activity levels

# Exercise + CBT

The inclusion of CBT sessions in fall prevention programs is likely to enhance the effects of exercise programs on both falls and fear of falling

- CBT can provide people with better anxiety management skills
  - Reduce competing attentional resources during exercise
  - Improve level of concentration during hazardous situations
- CBT can address factors such as loss of motivation and apathy to promote uptake and adherence to exercise programs.
  - i.e. high intensity balance training for a minimum of 50 hours

# Exercise + CBT

The inclusion of CBT sessions in fall prevention programs is likely to enhance the effects of exercise programs on both falls and fear of falling

- CBT can provide people with better anxiety management skills
  - Reduce competing attentional resources during exercise
  - Improve level of concentration during hazardous situations
- CBT can address factors such as loss of motivation and apathy to **promote uptake and adherence to exercise programs.**
  - i.e. high intensity balance training for a minimum of 50 hours

# Conclusion

# Conclusions

- A fear of falling can be a realistic appraisal of risk, although excessive fear has adverse effects for mobility and quality of life
- Exercise interventions are likely to have beneficial effects to prevent falls and reduce fear of falling
- To achieve long-term effects, it is important to achieve long-term exercise adherence.
- The most successful approach to fall prevention may combine simultaneous attempts to improve both efficacy and physical skills

*Thank you!*



**Neuroscience  
Research Australia**

*Discover. Conquer. Cure.*