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Research Australia**

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How feeling confident on your feet reduces fall risk

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NSW Falls Prevention Network Rural Forum

Mid North Coast LHD, Kempsey

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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

- Previous falls
- Future falls

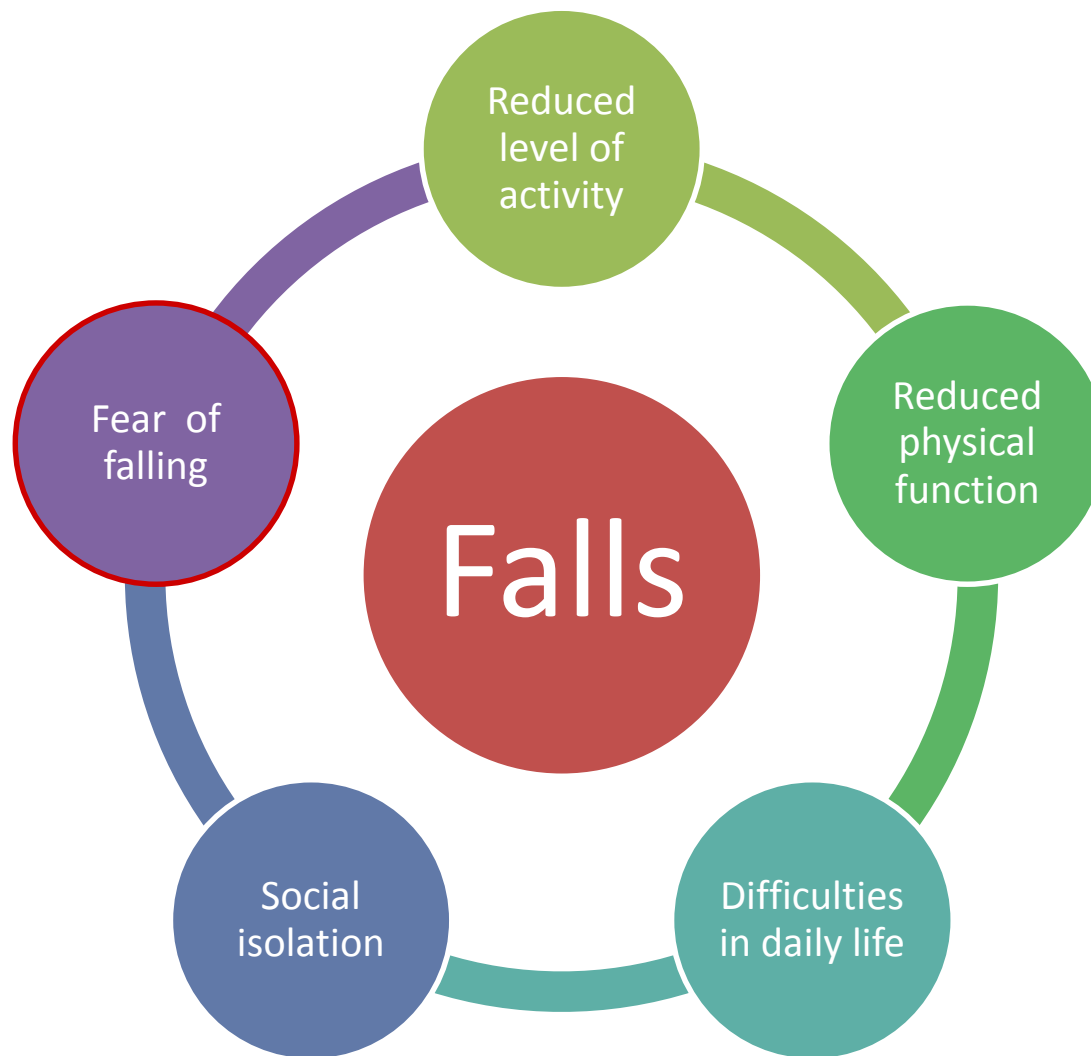
Physical factors

- poor health status
- functional decline
- frailty
- reduced leaning
balance
- poor muscle strength
- impaired gait

Psychological factors

- restriction and
curtailment of activity
- reduced quality of life
- fear of pain
- anxiety
- depression
- social isolation

Mechanisms in relation to falls



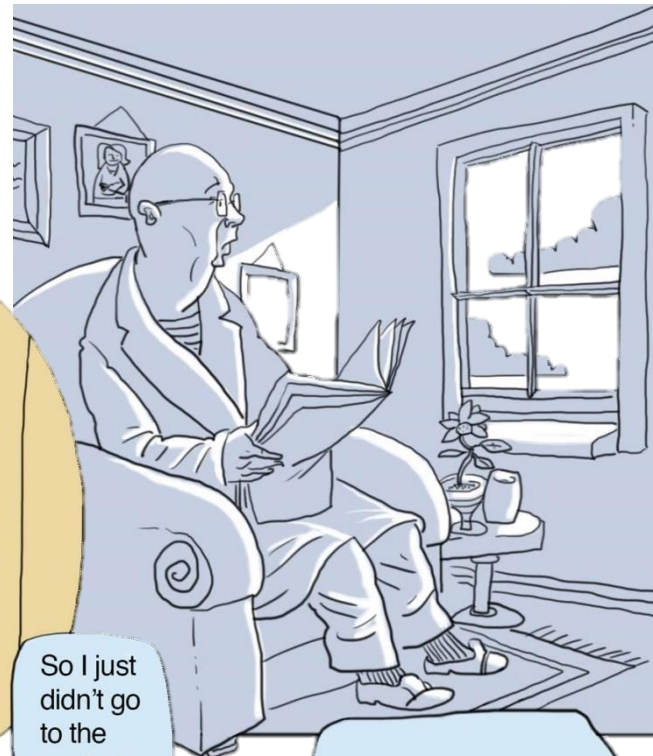
Fear of falling – its helpful side

- 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



I had a fall at the markets in front of so many people.



It was embarrassing...



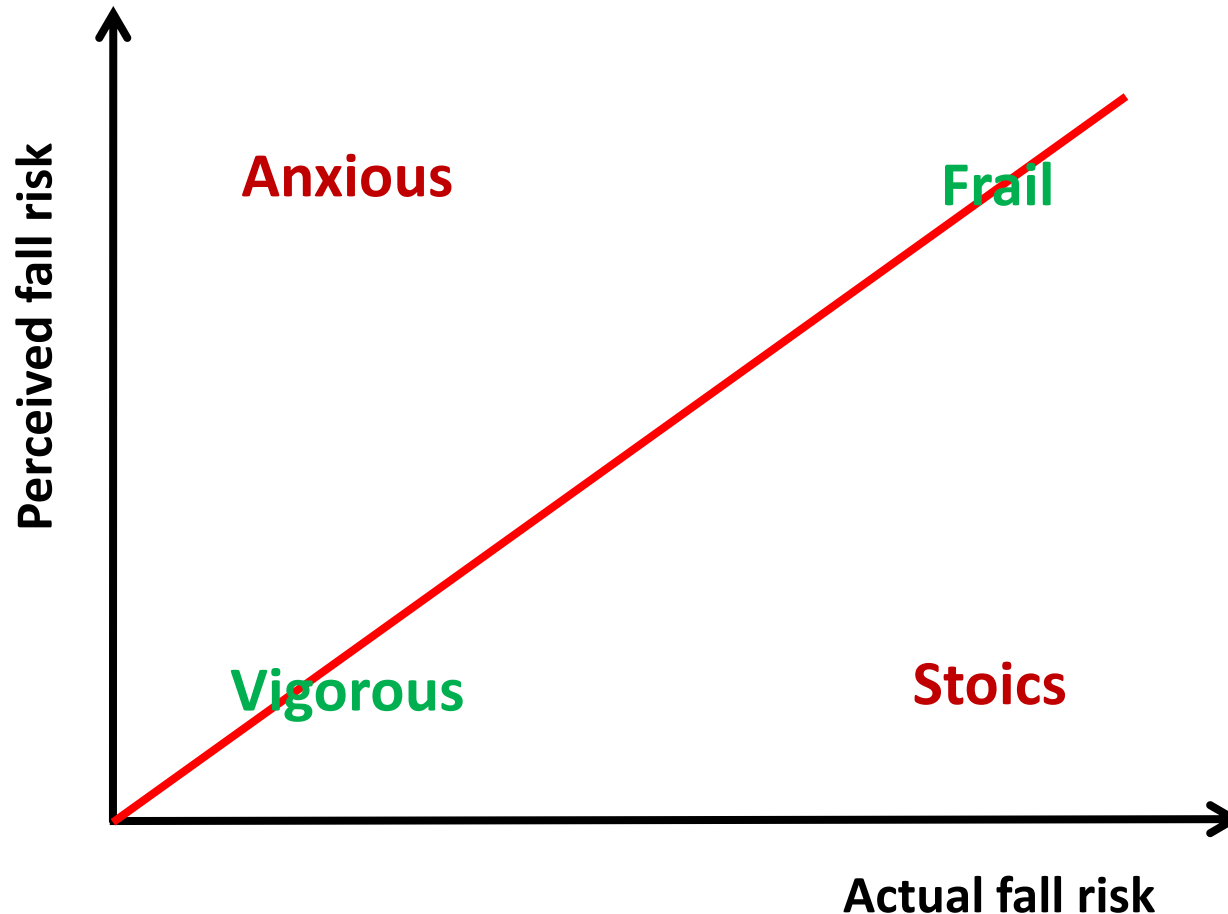
So I just didn't go to the market anymore..

I didn't feel confident anymore in crowded places. I hardly got out of the house and I started to feel lonely.

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

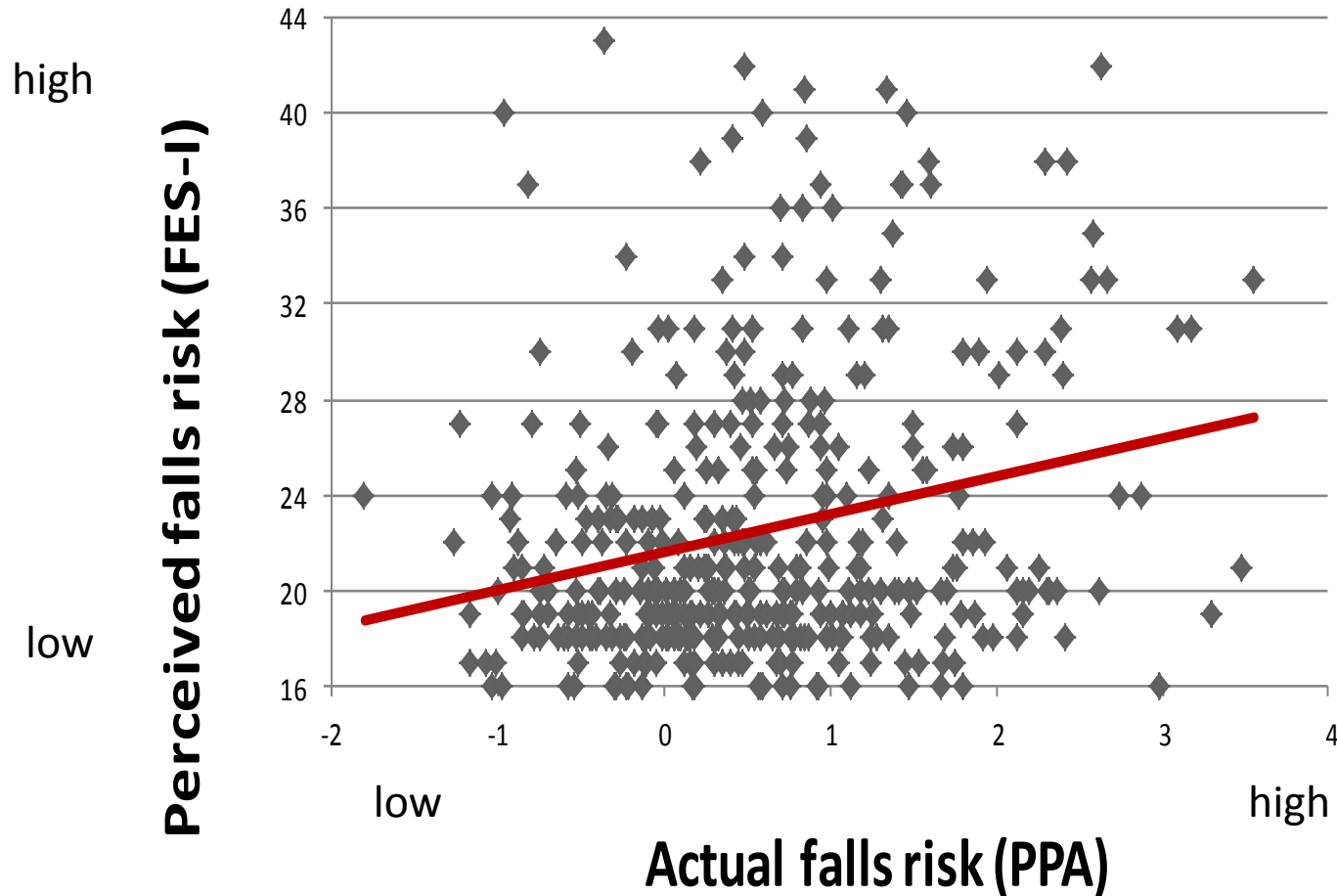


Fear of falling: **helpful** vs **unhelpful**?



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**?

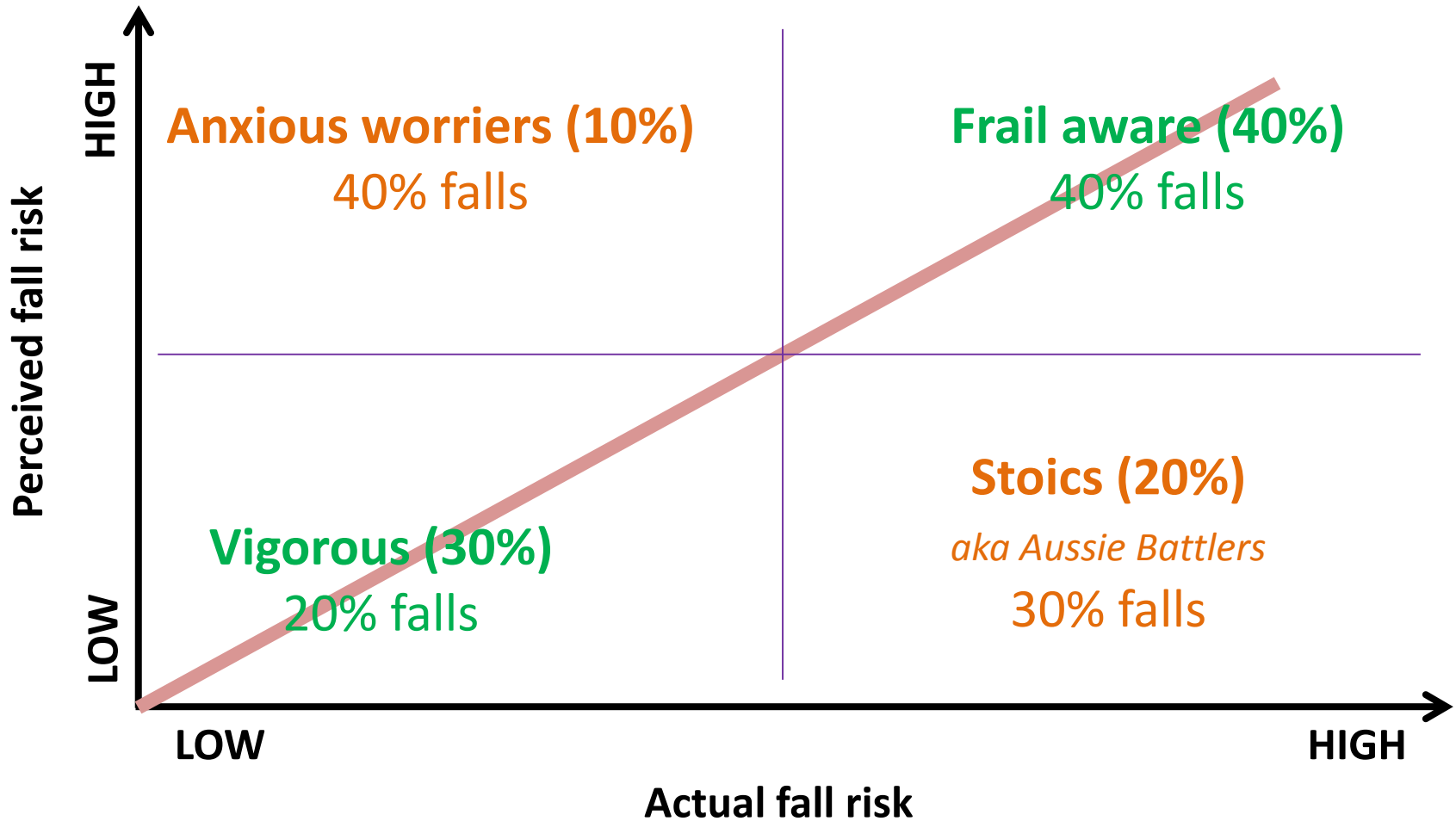


Pearson's $R=0.19$

$F_{1,499}=17.14$

$p<0.001$

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

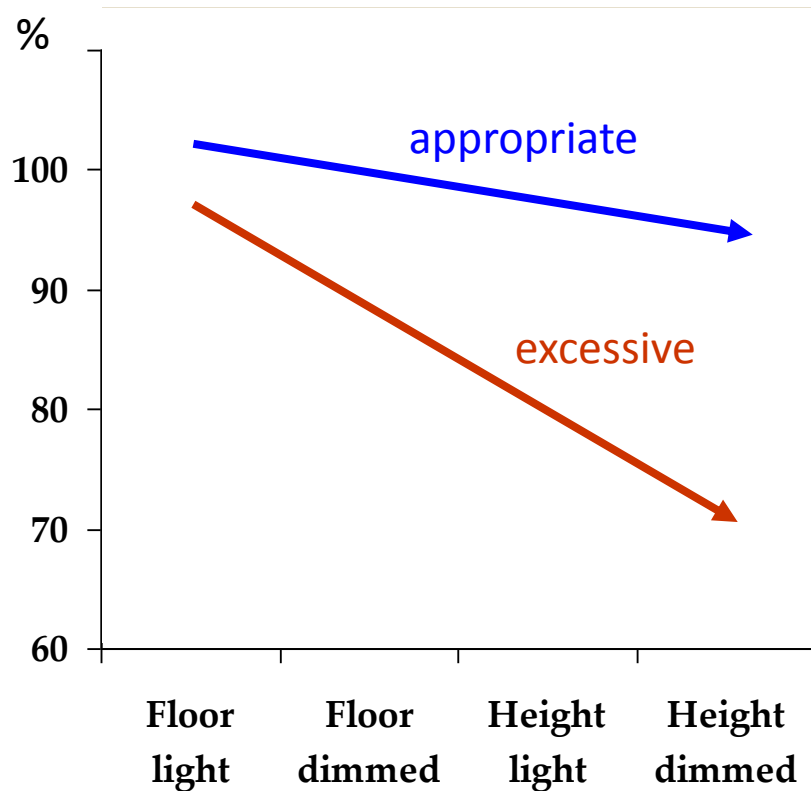


- No obvious identifiable (instability-related) fall risk
- **Psychological profile:** neurotic personality traits, i.e. increased vulnerability to develop irrational fears
- Worse self-perceived health
- More depressive symptoms
- Lower quality of life

Age-related physical decline is normal

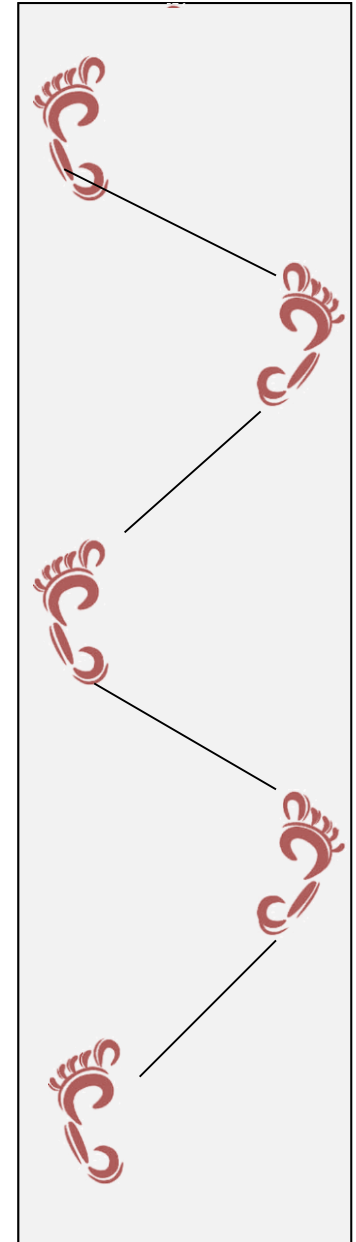
- Age-related physical decline requires continuous adjustments of the perception of how well people are able to do certain activities.
- Based on their perception, they will have to select an appropriate behaviour as well as motor strategy to be able to conduct the activity without falling.
- **How do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

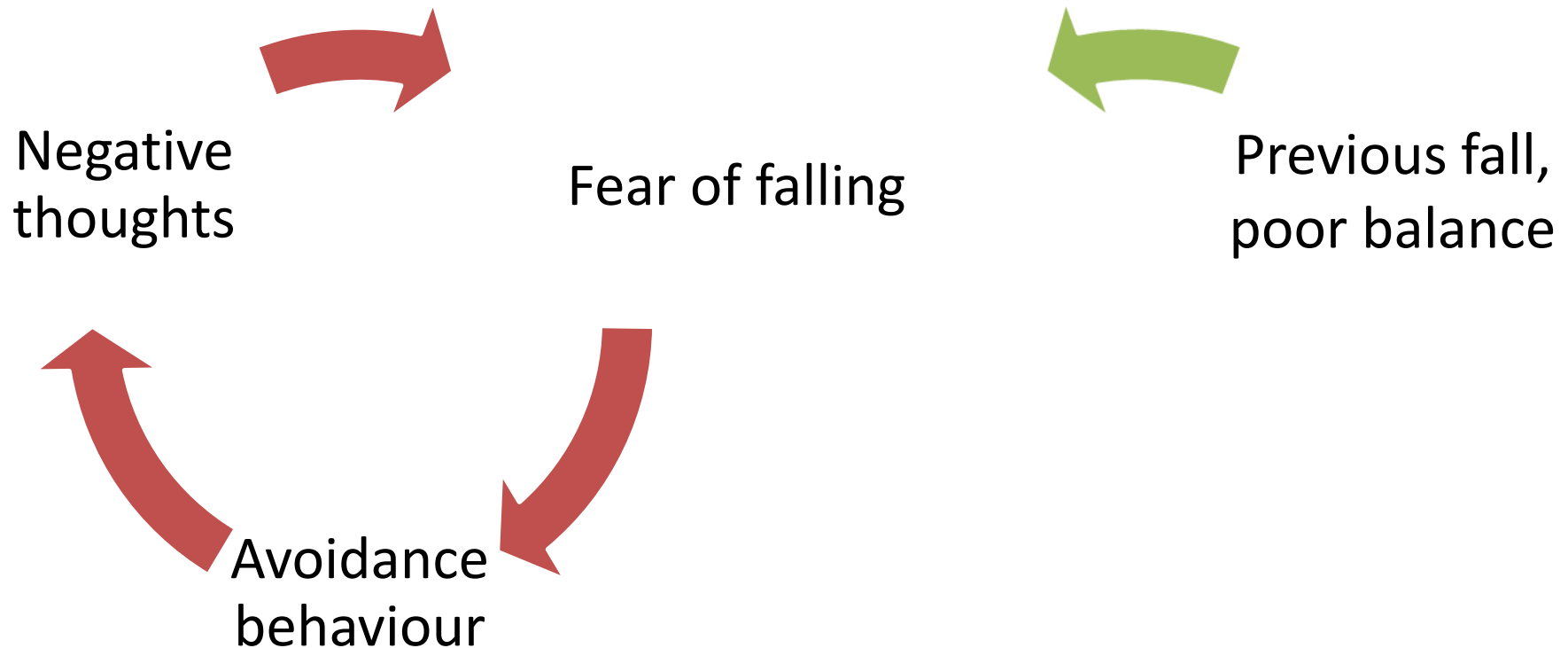


Battler



- 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

All exercise programs

Moderately to highly challenging balance exercises

Program of 2 hours or more per week over 6 months



18%



27%



20%

OR=0.82
(0.75-0.91)

OR=0.73
(0.59-0.91)

OR=0.80
(0.66-0.97)

Falls reductions of about 40%

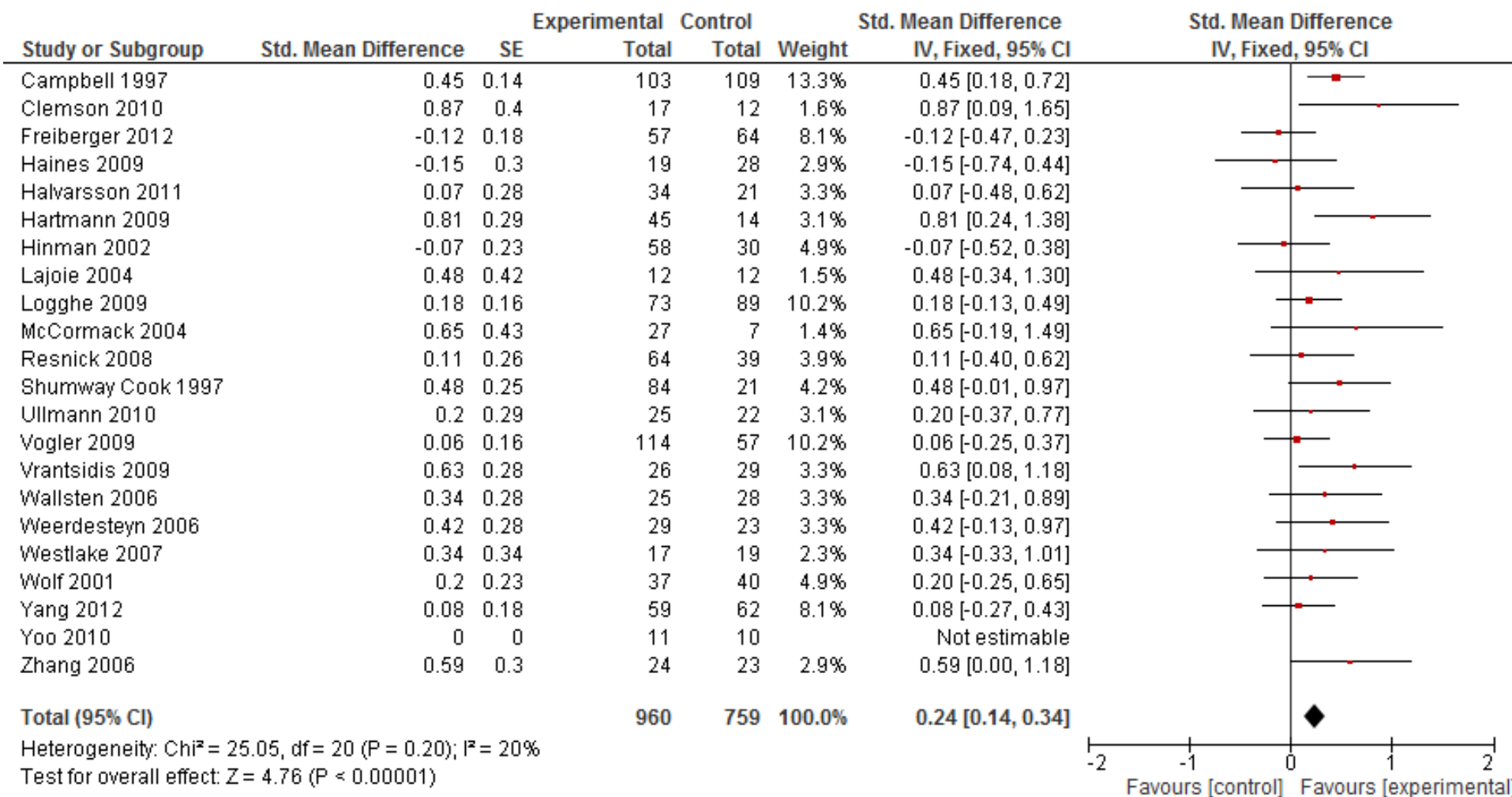
(Systematic reviews by Sherrington et al)

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

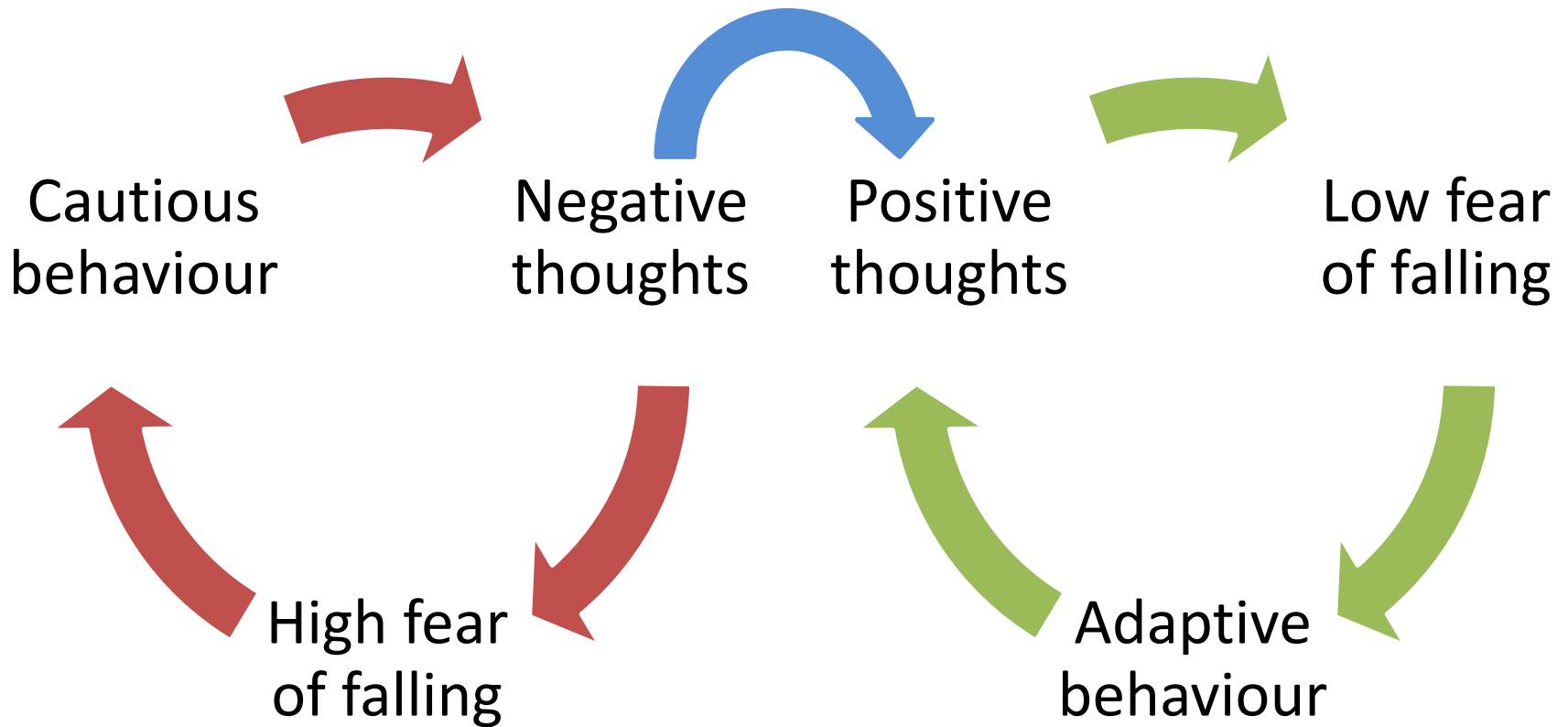


Exercise to reduce fear of falling

- 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

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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!



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