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## Psychological aspects of falls prevention

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### Motivating participation in falls prevention


- Uptake rates in trials of falls prevention and strength and balance training (SBT) range from 10% - 50%
- Audit suggests very small proportion of target population currently attend falls clinics
- Unless most old people take up falls prevention it may not be *effective* at population level

*Research question:*  
How can we convince older people that they will benefit from undertaking falls prevention exercises?  
(N.B. NOT how can we increase compliance with falls prevention!)




### Aims of this talk

1. Present qualitative research in older people's perceptions of falls prevention
2. Present quantitative research on attitudes and beliefs associated with intention to try strength and balance training
3. Present consensus recommendations on how to improve uptake from the Prevention of Falls Network Europe (PROFaNE)
4. Illustrate the application of some of these recommendations in a website to promote SBT
5. Outline future potential for digital falls prevention interventions







### 1. Qualitative study undertaken by EC-funded Prevention of Falls Network Europe (PROFaNE)

*Yardley, L., Bishop, F.L., Beyer, N., Hauer, K. Kempen, G.I.J.M., Piot-Ziegler, C., Todd, C. Cuttler, T., Horne, M., Lanta, K., & Rosell, A. (2006). The Gerontologist, 46, 650-660.*

Carried out interviews based on the Theory of Planned Behaviour assessing beliefs and attitudes towards falls prevention programmes in UK, Netherlands, Germany, Switzerland, Denmark, Greece, Italy



69 people aged 68 to 97 with maximally varied experience of falls-related programmes

### Factors positively influencing uptake or adherence to falls prevention programme

Expected/experienced:


- Benefit/improvement (restoring/maintaining fitness, balance and functioning, better health – blood pressure, dizziness, diabetes)
- Feel and look good (less stiff, less pain, more mobile, strong, energetic, better balance and mood, weight loss)
- Able to do more things (walk, do without stick, climb stairs, travel, go out alone, ride bike, go shopping, ADLs)
- Maintain/increase independence
- Social contacts (bond formed within group)
- Confidence/pride in achievement (general increase in self-confidence, approval of family/friends/doctor)
- Enjoy the activity (get out of house, use equipment)

### Factors negatively influencing uptake and adherence to falls prevention programme

Expected/experienced:


- Health problems (actual and perceived interference)
- Low perceived efficacy / no observed positive effects
- Not liking social contacts in classes (peers or leader!)
- Unpleasant experiences (fatigue, pain etc.) or not enjoyable
- Other priorities (caring for dependents, holidays, other appointments, housework)
- Others' negative attitudes (e.g. doctors)
- Low perceived relevance, motivation



### Qualitative study of older people's views of advice about falling prevention

Yardley, L., Donovan-Hall, M., Francis, K. and Todd, C. (2006). *Health Education Research*, 21, 508-517.

- Nine focus groups with 45 people (35 women and 10 men) aged 66 to 90
- Interviews with 21 participants (14 men and six women) aged 61 to 94
- Recruited from sheltered accommodation, church groups, senior citizen clubs, leisure centres, university staff newsletter, opportunity sampling.



### Perceptions of falls prevention messages presented

**It's good advice - for 'them'**

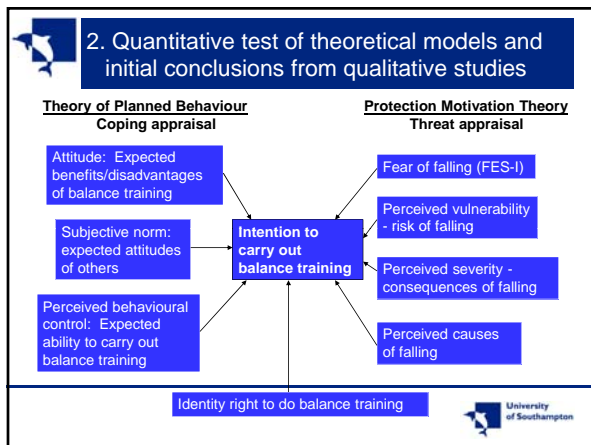
- **only seen as relevant to 'elderly'**

*'Because we're that much fitter -- we don't really take too much notice of it, only for other people, for other disabled or elderly people that we have to watch when we're -- we always watch older people anyway.'*

(male participant aged 79 in sheltered accommodation)

- **rejected by fitter, younger people, seen as humiliating**

*'I wouldn't go for that [advice] because it didn't apply to me in any shape or form. Is there a bit of pride, is there a bit of "Well, you know, I'm not there yet"?''*

### Quantitative test of PMT/TPB and initial conclusions from qualitative studies


Yardley, L., Donovan-Hall, M., Francis, K. and Todd, C. (2007). *Journal of Gerontology*, 62B, P119-P125.

Dependent variables = intention to try balance training and asking for booklet

Participants = 715 people (26.7% men aged 65+ recruited from community, patient groups, sheltered accommodation etc.


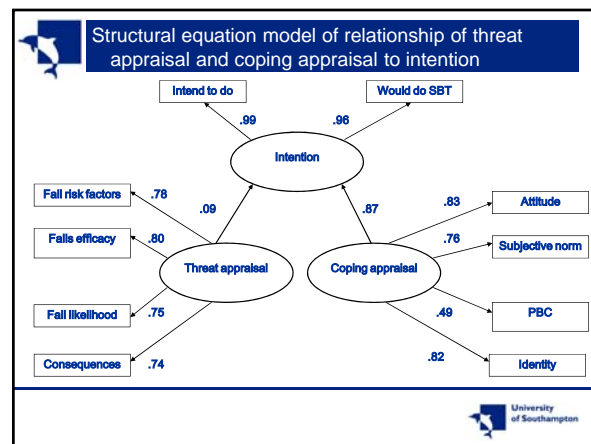
46.6% had 0 falls in the past yr,  
29.9% had 1 fall, 23.3% had >1 fall

15.8% had previously been offered balance training (all had accepted)



### Predictors of intention to try balance training (Spearman's rank r)

Attitude (cognitive and affective)	.74
Identity (right kind of person)	.73
Subjective norm (views of others)	.65
Better independence/balance/health	.59
Perceived behavioural control (able to do)	.47
Enjoyable activity	.44
Not too painful/tiring/harmful	.19
Female	.15
Younger age	.11
Falling has intrinsic cause	.10
Fear of falling	.08
(N.B. NOT risk factors, perceived harm/risk of falls)	



**Population survey of predictors of intention to undertake falls prevention**

Yardley, L., Kirby, S., Todd, C., Ben-Shlomo, Y., Whitehead, S. & Gilbert, R. (2008) *Preventive Medicine*, 47, 554-558

Carried out population survey of 5440 people aged 55+ in Southampton, Bristol, Manchester

Sampled areas with socioeconomic deprivation, ethnic minorities (+ affluent area for comparison)

Brief questionnaire to assess attitudes to SBT and other falls prevention activities (1880 completed longer measures)





**Reported likelihood of doing SBT**

→ Do most older people prefer to carry out SBT in supervised classes or in their own homes?

A: 60% would consider doing SBT at home  
40% would consider doing SBT in classes

20% would definitely *not* do SBT at home  
40% would definitely *not* do SBT in classes




→ Which sub-groups of older people are most likely to prefer to carry out SBT in classes?

→ a) men or women?  
A: Women (nearly twice as likely)

→ b) older or younger?  
A: Younger (under 75)

→ b) more or less highly educated?  
A: More educated (left education at age 18 plus)





**ProFaNE recommendations**

Yardley, Beyer, Hauer, McKee, Ballinger, & Todd, 2007, *Quality and Safety in Health Care*, 16, 230-234 – see also [www.profane.eu.org](http://www.profane.eu.org)


Drew on this research, consensus meetings of experts, to suggest recommendations for increasing uptake of falls prevention activities:

- 1. Raise awareness in the general population that undertaking specific physical activities has the potential to improve balance and prevent falls.**
- 2. When offering or publicising interventions, promote immediate benefits that fit with a positive self-identity.**

**ProFaNE recommendations**

- 3. Utilise a variety of forms of social encouragement to engage older people in interventions.**
- 4. Ensure the intervention is designed to meet the needs, preferences and capabilities of the individual.**
- 5. Encourage confidence in self-management rather than dependence on professionals by giving older people an active role.**
- 6. Draw on validated methods for promoting and assessing the processes that maintain adherence, especially in the longer-term.**



**Illustration: website to promote doing SBT**

Yardley, L. & Nyman, S. (2007) *Health Promotion International*, 22, 122-128

Website created to encourage older people to do activities that would improve strength and balance at home.

- positive emphasis (on improving balance)
- suggestions for self-management (print-outs, links)
- tailored to needs and capabilities of individual (matched to self-assessed balance capabilities, health problems, activity preferences)





**Webpage asking about preferences for carrying out balance training activities**

The screenshot shows a web browser window with the URL www.BalanceTraining.org.uk. The page is titled 'What kinds of activities do you enjoy?' and contains several sections for user input, including 'Which of these would you enjoy?' and 'How would you like to train?'. There are radio buttons and checkboxes for various options. A 'CONTINUE' button is visible at the bottom of the form.

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**Webpage giving tailored advice about activities to improve balance**

The screenshot shows the 'Your Personal Balance Training recommendations!' page. It features a large yellow box with text and bullet points providing specific advice. The text includes 'The system explains how the Balance Training activities that you have chosen will improve your balance' and 'The Day, Time or Place will'. There are also sections for 'Advice for if you have your vision' and 'How to make advice regarding the particular health problems that affect your balance'.

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**Controlled evaluation of tailoring website**

Yardley, L. & Nyman, S. (2007) *Health Promotion International*, 22, 122-128

**280 participants (34% men), age 65 – 97 (M = 77)**

**Compared tailored advice with access to all advice**

**Those given tailored advice more likely to agree that:**

- the advice was relevant to them
- they were confident they could carry out the recommended strength and balance training activities
- they intended to carry out the recommended activities

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**5. Potential for digital falls prevention interventions**

How can older people be *cost-effectively* supported to do SBT *safely* and *effectively* at home?

Potential roles for digitally-supported home interventions:

- Reach those not in the high risk category – e.g. active younger potential fallers?
- Encourage older people to start doing balance training before too late (already fallen and injured, too frail or fearful, mildly cognitively impaired, etc.)?
- Working with formal and informal carers?

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**Introduction to the LifeGuide**

**Health psychologists:** Lucy Yardley, Susan Michie, Judith Joseph, Sarah Williams, Leanne Morrison

**Computer scientists:** Dave de Roure, Gary Wills, Mark Weal, Adrian Osmond, Lisha Chen-Wilson, Xiaoyu Chen, Dave Fowler

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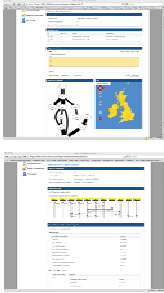
**What can YOU do with LifeGuide?**


- Deliver tailored advice based on diagnostic questions, charted progress
- Create questionnaires, change look and feel, add images and videos, graphs of users' progress over time
- Send automated emails and text messages (e.g. reminders)
- Provide social support (e.g. discussion board, forums)

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## What can YOU do with LifeGuide?


- screening and multi-user registration
- stratified randomisation
- automated baseline and follow-up assessment
- monitoring throughput and adherence (all website usage recorded in detail)
- output all data to Excel, SPSS etc.




25 

## Future of the LifeGuide

- added functionality as desired (open source)
- added connectivity (remote monitoring of exercise, heart rate, falls; links to NHS notes)
- different modalities (mobile computing, digital TV etc.)



26 

More information is available at:  
[www.lifeguideonline.org](http://www.lifeguideonline.org)



27 