

networking grant report

Changing self-perceptions on aging to enhance personal resources for the promotion of physical activity in older people

A pilot study to test the effectiveness of an evidence-based intervention in 4 countries (France, Germany, Italy, Romania)

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Many countries worldwide currently experience a significant increase in life expectancy. It is expected that by 2050 the number of people over 65 will reach 34% in Germany (Federal Statistic Office, 2011) and Italy (National Institute of Statistics, 2004), 26% in France (Insee, 2006) and 30.8% in Romania (EuroStat, 2013).

Longevity and how successful people age depend on objective factors (i.e. health), but also on personal attitudes and psychosocial resources. Specifically, self-perceptions of aging are important predictors of physical, functional and self-rated health (e.g., Levy et al., 2002; Wurm et al., 2007), subjective well-being and even longevity (Maier & Smith, 1999;

Levy et al., 2004; Levy & Myers, 2005). Self-perceptions of aging affect health by influencing physiological mechanisms (Levy et al. 2000) or health behavior change (Levy et al., 2004). Several studies have shown that older people who attribute symptoms to age instead of a potential illness, place less importance on healthcare utilization (Sarkisian, Hays, Mangione, 2002; Goodwin, Black, Satish, 1999). In contrast, people with a positive view on aging tend to practice more preventive health

behavior in general and are more physically active (Levy & Myers 2004; Wurm et al. 2010). Therefore, changing views on aging represents a promising intervention technique to enhance resources for health and health behaviors in older adults.

Aims

The present study tested the effectiveness of a pilot intervention aiming to change self-perceptions of aging and thereby facilitate physical activity (PA) in older adults in four European countries. In addition, the implementation process and the evaluation of the intervention by the participants were investigated.

Methods

The intervention's effectiveness in changing self-perceptions of aging was tested against a control group, who received a healthy eating intervention, in each of the four networking countries. The intervention was organized in terms of group sessions with 5 to 10 persons and comprised three steps:

1. Provide information about positive aspects in old age (e.g., satisfaction with life, training of cognitive abilities) and false stereotypes about older adults by using a quiz on age-related questions and by providing empirical evidence for the right answers afterwards.
2. Formulate a negative view on aging and find arguments against this view in a group discussion to attenuate the negative view (based

on cognitive behavioural therapy principles; adapted from Hautzinger, 2000).

3. Ask the group for positive views on aging and give homework to ask other people whether this view is true in order to strengthen the positive view (based on cognitive behavioural therapy principles; adapted from Hautzinger, 2011).

Step one was based on the behaviour change technique “providing information” (Michie, Ashford, Sniehotta, Dombrowski, Bishop, & French, 2011), which has proved to be effective in changing attitudes (in this case towards ageing and older adults). Considering the target group of older adults, step two and three were adapted from techniques used in cognitive

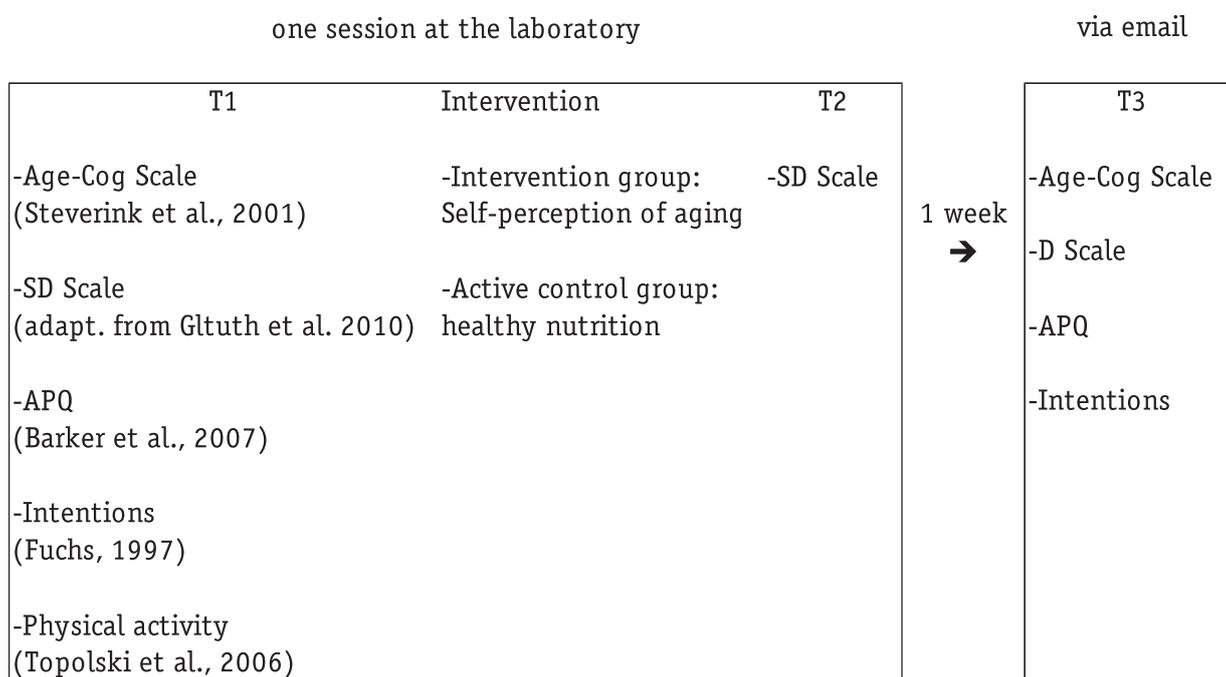
ageing and older adults.

To evaluate the intervention’s effectiveness questionnaires assessed cognitions and PA at different time points (see Figure 1).

Participants and recruitment

Recruitment was conducted via local newspaper articles, leaflets displayed in meeting places of the elderly, pharmacies or by word of mouth. In Germany, 56 individuals (70% women, mean age 72, SD = 5.6), in France 23 participants (63% women, mean age 77, SD = 6.1), in Italy, 55 individuals (67% women, mean age 73, SD = 6.3) and in Romania 30 individuals (50% women, mean age 68, SD = 5.3) participated.

Figure 1. Study design with assessed variables at each measurement occasion



behavioural therapy with older adults in a group setting. Originally these techniques were developed for depression therapy, and were focused on changing negative automatic thoughts about oneself. These techniques were adapted to change negative thoughts about

Results

1. Intervention effects from T1 to T2

Analyses of variance with repeated measures

showed a significant group*time interaction for the Semantic Differential Scale (SDS; e.g., "Older adults are... open to new things reserved about new things") in Germany ($F(1; 50) = 6.02, p = .02, \eta^2 = .11$) and Italy ($F(1; 50) = 4.86, p = .03, \eta^2 = .09$) but not in Romania ($F(1; 28) = 3.42, p = .07$) or France ($F(1; 23), p = .11, \eta^2 = .74$).

2. Intervention effects from T1 to T3

In Germany, in all models, group*time interactions were not significant, indicating no change from T1 to T3 (Age-Cog Scales: Developmental Gains: $F(1; 47) = 0.04, p = .84$; Physical Losses: $F(1; 47) = 0.13, p = .73$; Social Losses: $F(1; 47) = 0.00, p = .98$ SDS: $F(1; 48) = 2.31, p = .14$; Ageing Perception Questionnaire (APQ): $F(1; 48) = 0.19, p = .66$; PA Intentions: $F(1; 47) = 1.32, p = .26$).

In France group*time interactions were not significant, indicating no change in Intentions: $F(1; 16) = 0.13, p = .72$, APQ: $F(1; 16) = 0.57, p = .46$ and SDS ($F(1; 16) = 3.6, p = .07$).

In Italy, a significant group*time interaction was found for SDS: ($F(1; 48) = 4.84, p = .03, \eta^2 = .09$) and PA Intentions ($F(1; 48) = 4.12, p = .05, \eta^2 = .08$) but not for Developmental Gains: $F(1; 48) = 0.02, p = .96$, Social Losses: $F(1; 48) = 1.93, p = .17$ and APQ: $F(1; 48) = 3.71, p = .06$.

In Romania group*time interactions were not significant, indicating no change from T1 to T3 (Developmental Gains: $F(1; 28) = 0.43, p = 0.51$; Physical Losses: $F(1; 28) = 0.44, p = .51$; Social Losses: $F(1; 28) = 1.39, p = .24$; SDS: $F(1; 28) = 1.97, p = .17$; APQ: $F(1; 28) = 0.26, p = .60$; PA Intentions: $F(1; 28) = 0.63, p = .43$).

3. Process evaluation

The process evaluation at T2 and T3 indicated that participants rated the intervention content positively, assessed the intervention as relevant and would recommend it to others (in all countries means were above 3 on a Likert-scale

with 4 being the best rating). At T3, participants agreed they could apply the intervention content in their daily life (Germany: $M = 2.79, SD = 0.54$; Italy: $M = 2.98, SD = 0.55$; Romania: $M = 2.50; SD = 0.50$) and talked about the intervention content with others (Germany: $M = 2.76, SD = 0.83$; Italy: $M = 3.06, SD = 0.44$; Romania: $M = 2.43; SD = 0.50$). In France, most participants agreed the workshop was interesting and enjoyed the group session.

Discussion

The present study provides evidence that it is possible to change self-perceptions of ageing and attitudes towards older people in a sample of older adults. This finding is consistent with previous studies evaluating cognitive interventions with younger adults (Eskildsen & Flacker, 2009; Bardach, Gayer, Clinkinbeard, Zanjani & Watkins, 2010) and extends research on intervention effects on self-perceptions of ageing in older adults (Sarkisian, Prohaska, Davis, & Weiner, 2007).

Intervention effects

Between T1 and T2 the intervention group improved their attitudes towards older persons on the Semantic Differential Scale compared to the control group in Germany and Italy, but not in France and Romania. In Italy, this change was also present from T1 to T3. The study was able to change attitudes towards older adults that were directly addressed in the intervention (items of SDS were formulated in accordance with the intervention content). However, we cannot generalize this finding to more distal measures of self-perceptions of ageing. Thus, the overall intervention effect should be regarded as rather proximate and the intervention sessions' capacity to change more distal self-perceptions

of ageing needs to be further investigated in future studies. In Italy, results showed additionally an overall intervention effect one week after the intervention for PA Intentions.

The absence of more significant findings in all countries could be due to the short duration of the intervention (around 1.5h) and the absence of booster sessions, which may help older adults to remember and internalize intervention contents (Koder, Brodaty & Anstey, 1996). In future studies, the effect of an increase in duration as well as in the number of session should be investigated. In France, participants complained about the length and repetition of the questionnaire, and said the items were created by young people, who do not understand how older people think. This could be one explanation why they were not very motivated by the intervention and thus no significant changes in age perceptions or intentions could be found. In Romania, the small sample size as well as participants' complaint that the intervention was too short to address all their ageing problems could constitute explanations of the insignificant results. Moreover, in Romania and France means of age perceptions and intentions were already high at the beginning of the intervention accounting for the possibility of a ceiling effect. Significant differences between the age perception means in the four countries could be due to the differences in sample size and provide an explanation for the different results.

Process evaluation

Participants rated their satisfaction with the intervention and the relevance of the intervention as high. This finding is in line with previous studies on cognitive interventions with older adults (Winocur et al., 2007; West, Bagwell & Dark-Freudman, 2008). Even though intervention effects were not found for all

outcome measures, participants did on average agree with the statement that they applied the intervention content in their daily life. Thus, the outcome measures might not have been sensitive enough to capture the change and application of the intervention content in this sample.

Limitations and future directions

The sample of our study consisted mainly of "young old" individuals (mean age 68 to 77). Older individuals who are increasingly confronted with physical limitations (Baltes & Smith, 2003; Schöllgen & Huxhold, 2009) may have shown different intervention effects and future research should consider age-specific effects. Additionally, due to recruitment procedures the samples may be selective in terms of interest in research and education which may have an influence on compliance with intervention strategies. Finally, perceptions of ageing may not only be an outcome but a moderator of intervention success: older adults who have the attitude that they are too old for a behavioral change may be less susceptible to a cognitive intervention (Koder et al., 1996).

Conclusion

The present findings underline a new research line on perceptions of ageing interventions in older adults and, thereby, extend the literature on effective interventions for an improvement of self-perception of ageing in younger adults to the target group of older adults. An overall intervention effect was found in only one questionnaire that was very close to the intervention content. However, in Italy, an effect on a distal outcome, namely intentions for PA, was found. Furthermore, moderation analyses showed distinct positive intervention effects for persons with high as well as low PA levels (due to word limit not reported here). To

conclude, interventions that enhance self-perceptions of ageing in older adults are a promising pathway to successful ageing and should be developed further in future research.

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