7

Self-efficacy Expectations

RUUD J. BOSSCHER[1]

Bandura (1977: 193) defined self-efficacy as 'the conviction that one can successfully execute the behaviors required to produce the outcomes'. This conviction may point to very specific behaviors, *e.g.*, being convinced that one has the capacities to learn to play golf successfully; or with respect to more domain-specific behaviors, the conviction that one has the capacities to learn new motor skills, whether this may refer to swimming or skiing or other sports activities, or the global conviction that one will be successful in dealing with new challenges in general. Positive beliefs of self-efficacy will encourage persons to pick up new behaviors that will lead to desired outcomes (*e.g.*, swimming because it will have a positive influence on health), or will encourage persons to change behaviors that they see as detrimental in acquiring certain desired outcomes (*e.g.*, to stop smoking in order to improve health), and positive beliefs of self-efficacy will predict the maintenance of changes once they have been made, while negative beliefs will lead persons to doubt their capacities and to emphasize what could go wrong.

Bandura has postulated four principal sources of self-efficacy information. The most important source is the results of past and present performances. It gives the person the information of 'I can'. Second, observing others perform, especially of a relevant reference group, i.e. people of your own age, gives the information: 'If he or she can do it, I can do it'. Third, verbal persuasion and other kinds of social influence, relay the information of 'They say I can do it'. Fourth, states of physiological arousal may convey the message: 'I feel I can do it'. According to Abler and Fretz (1987), older people run the risk of negative messages from all four sources, because: (a) older people generally perceive that their performances were better when they were younger, (b) old people are more likely to know other people who are unable to respond adequately to environmental and personal challenges, (c) as one grows older, an increas-

[1] Ruud J. Bosscher, Ph.D., is a lecturer in the Department of Educational Sciences, Faculty of Human Movement Sciences, Vrije Universiteit, Amsterdam.

ing risk of dependence on other people will lead to the belief that one is unable to perform autonomously, and (d) older people will experience more physiological reactions, especially when they are anxious. The loss of familiar roles may deprive elderly persons of the opportunity to see themselves functioning effectively in all kinds of relationships and activities, leading to a loss of feelings of competency. This may be even aggravated by persistent contradictory social attitudes toward the elderly, causing older adults to report lower self-efficacy than younger people. But self-efficacy expectations may simply become lower with age, with a general reappraisal occurring as one grows older (Rodin, in Davis-Berman 1990). Significant differences in general self-efficacy levels between young and older adults have also been shown by Woodward and Wallston (1987), with older adults reporting lower self-efficacy in general day to day living situations.

In addition to generalized expectations, perceptions of efficacy related to physical status and functioning may be especially significant for older adults because of the aging process and the occurrence of chronic illness. Davis-Berman (1988, 1990) has shown strong relationships between physical self-efficacy and depressive symptoms in an older adult sample, with physical self-efficacy being a stronger predictor of depressive symptoms than other types of self-efficacy or more objective measures of physical status, such as number of physical problems or physician visits.

Given the increasing interest in the psychological functioning and mental health status of older adults, perceived self-efficacy is an especially relevant personal factor in understanding elderly persons' adaptive functioning with regard to the maintenance of their resources and self-efficacy theory may be an appropriate framework within which to examine these issues. Therefore, LASA has included two scales measuring generalized and physical self-efficacy expectations. First findings on the psychometric qualities of the scales and with respect to age, gender, and chronic physical disorders are presented below.

Self-efficacy measurement

The two measures of self-efficacy included are: a scale based on the General Self-Efficacy Scale (GSES) of Sherer *et al.* (1982), measuring global beliefs, and a scale based on the Perceived Physical Ability Scale (PPAS) of Ryckman *et al.* (1982), measuring physical self-efficacy expectations.

Based on the results of pilot investigations in preperation of LASA, the GSES was shortened to a version with 12 items, such as: 'When I make

plans, I am certain I can make them work'; with five response categories: totally agree, agree somewhat, agree nor disagree, somewhat disagree, totally disagree. The GSES was administered as part of the face-to-face interview. A minimum score of 12 indicates the most negative general self-efficacy score and 60 the most positive.

The PPAS contains 10 items, such as: 'Compared to most people of my age, the strength in my hands is ...', with five response categories: much better, somewhat better, not better nor worse, a little bit worse, much worse. Compared to the original version of the scale, one item was reformulated for the use of this scale with an older population. Subjects filled out the PPAS as part of the written questionnaire which was left behind with the subjects at the end of the interview. The minimum score of 10 indicates the most negative physical self-efficacy score and 50 the most positive.

The GSES was completed by 2858 respondents, 1384 men (mean age = 69.9, standard deviation = 8.7) and 1474 women (mean age = 69.5, standard deviation = 8.7). The PPAS was filled out by 1872 respondents, 945 men (mean age = 69.2, standard deviation = 8.7) and 927 women (mean age = 68.2, standard deviation = 8.4).

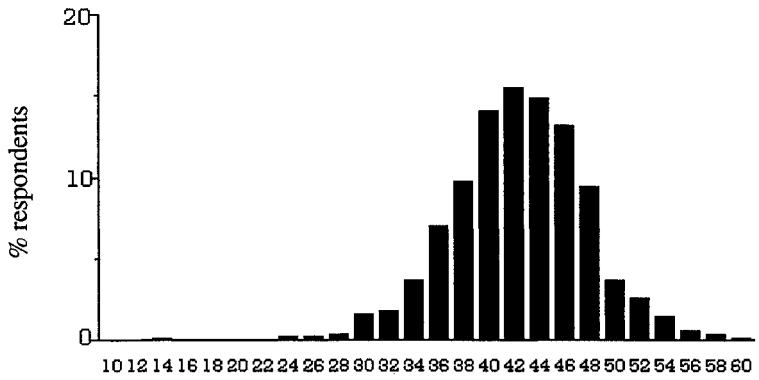

Figure 1
Distribution of scores on the GSES

Results

Visual inspection of Figure 1 shows that the GSES has a normal distribution (skewness = -.149, kurtosis = .577), with a mean of 41.8 and a standard deviation of 5.4. The mean indicates that a majority of the elderly display positive beliefs of general self-efficacy.

However, Figure 2 shows sex and age differences. Men have higher perceptions of their general self-efficacy than women, irrespective of age, and younger persons have higher scores than older ones. This is in agreement with other investigations. Nevertheless, all means are in the positive range.

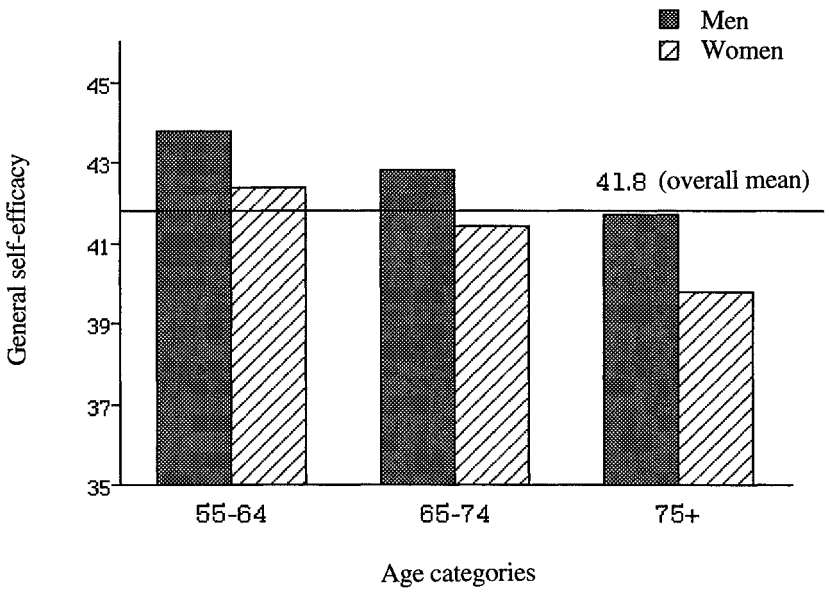

Figure 2
Sex differences in general self-efficacy across three age categories

Figure 3 shows that a relatively large percentage of respondents scores in the middle of the range of the PPAS, otherwise, the scale has a symmetrical distribution (skewness = -.013, kurtosis = .339), with a mean of 31.0 and a standard deviation of 6.0. With regard to this scale, it should be stressed that respondents are asked to compare their perceived physical abilities to their age-group. Therefore, the mean (and mode) represents the opinion that one is neither better nor worse than others, although it is

obvious that some perceive their abilities as outstanding and some as disastrous.

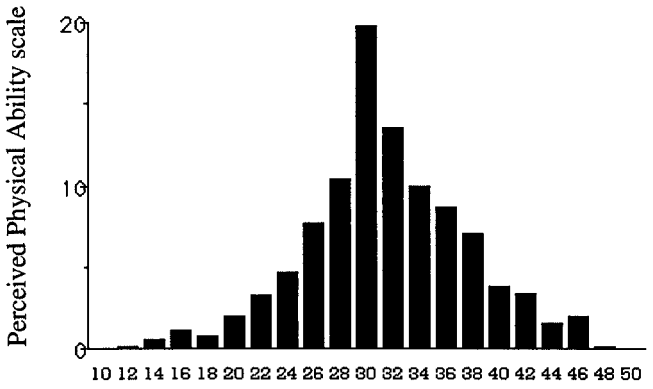

Figure 3
Distribution of scores on the PPAS

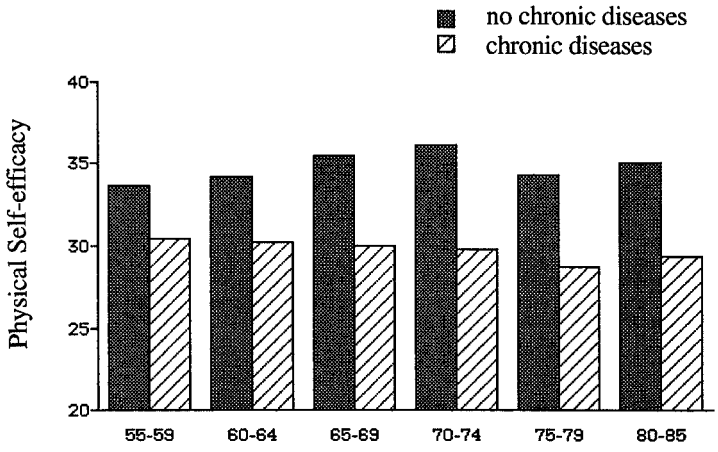

Figure 4
Physical self-efficacy expectations for elderly with and without chronic physical conditions across six age categories

With regard to age and sex differences, men have significantly higher scores than women, irrespective of age, while older respondents have significantly lower scores than younger respondents.

Pilot investigation already showed that having a chronic physical disorder was associated with weaker physical self-efficacy expectations (Bosscher, Laurijssen, De Boer 1993). This was confirmed in the present data (Figure 4). People without chronic conditions even show a slight increase until 75 years of age, and some decline afterwards, while persons with chronic conditions have significantly lower scores.

Conclusion

First results support some basic ideas and results of other investigators, such as lower scores on self-efficacy for women than for men (Godin and Shephard 1985), lower scores for self-efficacy expectations for older age categories (Woodward and Wallston 1987). This does not imply that self-efficacy decreases with increasing age, due to the cross-sectional nature of the date. Finally, older people with chronic physical conditions feel less self-efficacious than those without (Bosscher *et al.* 1993). This is not only true for expectations of physical self-efficacy, but also for expectations of global self-efficacy. Future research may shed light on the dynamics of changing expectations as people grow older, on the importance of self-efficacy as an intermediate variable, or as an outcome in its own right.

Literature

Abler RM, Fretz BR (1985) Self-efficacy and competence in independent living among oldest old persons, *J Gerontol* 43: 5138-5143.

Bandura A (1977) Self-efficacy: toward a unifying theory of behavioral change, *Psychol Rev* 84: 191-215.

Bosscher RJ, Laurijssen L, Boer E de (1993) Measuring physical self-efficacy in old age, *Percept Mot Skills* 77: 470.

Davis-Berman J (1988) Physical self-efficacy and depressive symptomatology in older adults: An exploratory study, *Int J Aging Hum Dev* 27: 35-43.

Davis-Berman J (1990) Physical self-efficacy, perceived physical status, and depressive symptomatology in older adults, *J Psychol* 124: 207-215.

Godin G, Shephard RJ (1985) Gender differences in perceived physical self-efficacy among older individuals, *Percept Mot Skills* 60: 599-602.

Ryckman RM, Robbins MA, Thornton B and Cantrell P (1982) Development and validation of a physical self-efficacy scale, *J Pers Soc Psychol* 42: 891-900.

Sherer M, Maddux JE, Mercadente B, Prentice-Dunn S, Jacobs B and Rogers RW (1982) The self-efficacy scale: Construction and validation, *Psychol Rep* 51: 663-671.

Woodward NJ and Wallston BS (1987) Age and health care beliefs: Self-efficacy as a mediator of low desire for control, *Psychol Aging* 2: 3-8.