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The role of continuing training motivation for work ability and the desire to work past retirement age

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Abstract

Germany, relying on a pay-as-you-go pension system has increased regular retirement age to 67 due to its ageing population caused by decreasing birth rates and increasing life expectancy. Using data from the nationally representative 'Survey on continuing in employment in pensionable age', we investigate the relevance of training motivation for work ability and the desire to work past retirement age and whether differences between social groups reflect inequalities in training participation. Results show significant positive correlations between continuing training motivation and work ability and desire to work past retirement age. Differentiated for selected respondent groups the level of qualification has a significant influence. This effect was stronger than any differences with regard to gender or employment participation. Results imply external conditions only partly explain older workers' work ability or desire to work past retirement age. Compared to inequalities in training participation, motivation for continuing training is high across analysed subgroups.

Keywords: training; older workers; work ability; retirement; motivation

Introduction

Due to low fertility and increasing life expectancy in Germany the population is ageing as well as shrinking (Börsch-Supan & Wilke, 2009). The Statistisches Bundesamt (Federal Statistical Office in Germany) foresees that the percentage of older people (65+) will increase from around 20% in 2010 to 28% in 2030 (Statistisches Bundesamt, 2009). At the same time, the population of working age will be reduced by 6.5 million until the year 2025 (Bundesagentur für Arbeit, 2013). Since these changes will have consequences for the economy and social security system the German government

developed strategies to compensate these effects. Especially the pension system, organised as a pay-as-you-go system, needed reforms. Hence, in 2008 it was decided that starting in 2012 retirement age will be raised stepwise from 65 to 67. Furthermore, the German government put into action the first demographic strategy called ‘every age counts’ with six fields of action. One of these fields is ‘Keeping workers motivated, skilled and healthy’ (Federal Ministry of the Interior, 2012). This accompanies the paradigm shift from widespread pre-retirement regulations to a prolonged working life. As a consequence, it is important to understand if individuals of the age of 55 and older would be willing and able to continue working even beyond retirement age. It can be shown that continuing training helps to keep people employable (e.g., Kenny, English & Kilmartin, 2007; Staudinger & Heidemeier, 2009) and that upon reaching retirement age, individuals are still in rather good health with years of active time to spend (Tesch-Römer, Heribert & Wurm, 2006).

This observation is reflected in our data source, the nationally representative survey on older workers’ attitudes towards working life conducted by the German Federal Institute of Population Research in 2008 (fully described in Büsch, Dorbritz, Heien & Micheel, 2010) that found 47.3% of respondents aged between 55 and 64 years prepared to work past traditional retirement age. As this figure leaves room for improvement we seek a deeper understanding of factors determining the wish to work past retirement. Earlier work (e.g., Blancke, Roth & Schmid, 2000; Bretschneider, 2007) points to lifelong training as an important determinant allowing for individual task and job mobility, and for leading an independent working life. Another closely related factor is work ability, enabling individuals to maintain and update knowledge and skills, thus staying employable. Therefore, this paper aims to give insight into the role of continuing training motivation for work ability and the desire to work past work retirement age. As both work ability and training participation have been shown to differ across social groups we also analyse possible group differences.

This paper makes a new contribution to the literature because it highlights the role of training motivation for staying employed at a later age. As a consequence, organisations and policy-makers are challenged to establish motivation-enhancing work environments that follow a life span approach to instilling and promoting learning and training motivation. The paper is structured as follows: First a general description of continuing training and participation in Germany is given, with insight into motivational aspects, outcomes of continuing training (work ability and desire to work past retirement age) and a brief discussion of social heterogeneity in participation. Second, we conduct multivariate analyses to test our proposed relationships and discuss results with regard to previous findings on the subject. Third, the paper concludes with suggestions for organisations and policy-makers.

Continuing training

Individuals are increasingly expected to become active on their own behalf, displaying the ability to self-organize themselves as an indicator of their professional competences (Dienel & Willke, 2004). This ‘lifelong learning’, or ‘self-directed learning’ (Garrison, 1997) is one precondition to achieve and retain ‘employability’ on the labour market (Europäische Kommission, 1995). Thus, an individual’s affinity towards continuing training has become a point of interest in e.g. job interviews and is perceived as an important factor in holding a job (Vollmer, 2012).

Continuing training motivation is determined by contextual as well as personal factors (Mathieu & Martineau, 1997; Colquitt, LePine & Noe, 2000) such as achievement motivation (Mathieu, Martineau & Tannenbaum, 1993), self-efficacy (Van Erde & Thierry, 1996) or job-related personal factors such as job involvement, organizational and career commitment (Colquitt et al., 2000). Generally, interest in continuing training is high, but decreases with age (see Berg, Elders & Burdorf, 2010; Schröder & Gilberg, 2005; Hansen & Nielsen, 2006). For individuals 50 years or older, the most important reason for not participating in training is lack of obligation (Huber, 2009), implying, possibly, a lack of motivation. It has been surmised that older workers experience diminishing learning skills, negatively affecting their learning motivation and perceived self-efficacy (Dworschak, Buck & Schletz, 2006). But as there is hardly any decline in cognitive functioning in healthy adults under 65 years (see Baltes et al., 2006), declining learning abilities do not seem to explain this motivational drop. Expecting a poor pay-off for training may also contribute to lack of training motivation among workers with decreased work ability, as they are more at risk of premature departure from working life and thus feel less motivated to invest in their career (Berg et al., 2010).

Training motivation strongly influences training outcomes (Schiefele & Schreyer, 1994). As participants' motivation to learn is 'influenced by beliefs concerning effort-performance and performance-outcome relationships, career/job attitudes, and reactions to skill needs assessment' (Noe, 1986, p. 743), training participants with similar abilities are likely to be more successful at acquiring knowledge, being able to change behaviour, and effectively using that knowledge in their work if they are motivated (Noe, 1986). This implies that training has a stronger effect on work ability if individuals are motivated.

Outcomes of continuing training motivation

In our analysis we focus on work ability and desire to work past retirement age as outcomes of continuing training motivation. As workers need both physical and mental abilities that match job demands to perform their tasks successfully, the term 'work ability' depicts a balance between job requirements and individual characteristics, such as health, knowledge, skills or motivation (Berg et al., 2010). Work ability seeks to measure 'How good is the worker at present, in the near future, and how able is he or she to do his or her work with respect to the work demands, health and mental resources' (Ilmarinen, Tuomi, & Seitsamo, 2005, p.3). Follow-up studies (von Bonsdorff, Huuhtanen, Tuomi & Seitsamo, 2010) found that lower work ability predicts earlier retirement between ages of 55 and 65 (see Sell, 2009; Hopsu, Leppänen, Ranta & Louhevaara, 2005), and the reverse (Salonen, Arola, Nygård, Huhtala & Koivisto, 2003).

On average, work ability declines with age, although with decreasing stability (Ilmarinen et al., 2005). On an individual level, this effect is due to different personal biographies, health, training level or individual coping strategies employed to counter age effects. Additionally, there is the effect of the different organisations on workers throughout their occupational biographies (Dworschak et al., 2006). For older adults aged 55-64 health and functional capacities as well as work factors influence work ability most, while competences, values and attitudes play a lesser role that further decreases with age. Gender differences are minor (Ilmarinen et al., 2005), but there is a difference between individuals working physically as opposed to cognitive workers, with the latter enjoying higher work ability (see Tuomi, Huuhtanen, Nykyri, & Ilmarinen, 2001).

Education science has brought forth various theories on self-directed learning and learning motivation, focussing on goal- and content-related conditions as well as interest-related aspects of learning. Within the latter, person-object-theory focuses on an individual's interest that is directed towards a certain subject, motivating the person to learn more about it and gain relevant skills and abilities (see Krapp, 2005). With this interest comes a positive emotional association, reinforcing the learning process. Similarly, self-determination theory hypothesizes that intrinsic or extrinsic motivation lead to different outcomes in terms of quality of emotional experience as well as differing quality of knowledge acquired. As training motivation activates people to seek out training, learn and apply training contents to their work environment (see Beier & Kanfer, 2009; Noe, 1986), we expect continuing training motivation to be positively related to work ability:

H1: Individuals who are highly motivated to train also ascribe to themselves higher work ability.

While work ability is a desired outcome of continuing training it is also a necessary precondition for working past retirement age, along with the desire to do so. The general desire to work past retirement age is high: almost half of those aged between 55 to 64 can well or rather well envision working past retirement age (Büsch et al., 2010). Studies indicate that upon reaching retirement age, individuals are still in rather good health with years of active time to spend (Tesch-Römer et al., 2006). Still, blue-collar-workers in physically challenging jobs go into pension on average 8 years before white-collar workers. They also give health as the main factor for leaving work life, while the latter usually work until legal retirement age (Statistisches Bundesamt, 2014; Berg et al., 2010).

Retirement is less an event but a process that starts long before the actual act takes place. It is rooted in environmental factors, such as job characteristics (see Brusch & Büsch, 2012) or marital life and personal factors such as physical well-being, financial and skills status (Beehr, 1986; Shacklock, Brunetto, & Nelson, 2009). Indeed, there is evidence that those motivated to work longer years can be broadly separated into two groups, those who need to work longer due to financial needs and those who enjoy their work so much that they do not wish to stop (at least not completely, see McNair, 2006). Here recognition and management and team support play major roles (Saba & Guerin, 2005; Van Dam, van der Vorst & van der Heijden, 2009). Those who see themselves working past retirement age wish to pass on knowledge and experience to younger workers, they also cite fun at work as a main reason and that it helps them to stay fit. They feel strongly connected to their workplace and tend to feel too young to retire. Those who do not want to continue working give physical hazard at work and hard or monotonous labour, stress and bad health as the main reasons. Organisational offers such as training opportunities and special age-friendly work equipment do not seem to have a profound effect on prolonging working life (Boockmann, Fries & Göbel, 2013). It would seem likely that a person with high continuing training motivation would also express the desire to work past retirement age as it may bring new experiences and knowledge and provide the opportunity to apply or transfer knowledge and gain recognition. We thus posit:

H2: Individuals who are highly motivated to train also feel more inclined to work past retirement age.

In line with our argumentation we also propose that the quantity of trainings taken is not relevant for the desire to work past retirement age (see also Boockmann et al., 2013):

H3: The actual number of continuing trainings taken has no effect on the desire to work past retirement age.

Nevertheless, the desire to continue working past retirement age may not always result in an opportunity to do so: many organisations rather lay off older workers or do not even hire them –negative age-stereotypes are still in place and hard to eradicate, even if proven wrong (see Baltes et al., 2006; Schulz & Stamov Roßnagel, 2010).

Social heterogeneity in training participation

As the workforce in Germany is ageing steadily and pension age has been raised so as to sustain the pension system, a substantial amount of research is focused on organisational and political barriers and drivers of older workers' inclusion in continuing training in order to maintain their employability. In Germany, socio-demographic and socio-cultural characteristics still influence educational participation and outcomes, so educational inequalities are present (see Hradil, 1999), as can be seen in numerous group-related incidents of inequality in continuing training participation, e.g. employment-related, gender- or age-related (e.g. Bilger et al., 2013). Early educational (dis)advantages often permeate individual life-spans, influencing further educational and career paths and life choices (see OECD, 2002).

Analyses against the backdrop of social stratification seek to understand 'who gets what and why' (Alexander, 2001, p. 169). The concept of social stratification involves the 'classification of people into groups based on shared socio-economic conditions' (Barker, 2003, p. 436) and the development of a vertical and horizontal differentiation between these groups with varying access to resources. Although the reality and the beliefs about this structure are passed on between generations, they are indeed changeable (Macionis & Gerber, 2010).

According to Tippelt and von Hippel (2005), different social milieus and social strata show differences when it comes to continuing training. Social circumstances and behaviour lead to different lifestyles, which can be understood as a framework for individuals' behaviour and identity, characterised by relative stability (on lifestyle sociology see also Lüdtke, 1989). The upper/middle social strata, represented by postmaterial and modern performer milieus is rather well-educated with good income – their training participation and learning motivation are the highest. The lower/middle social strata, represented by consumption-materialists and hedonist milieus with generally lower income and less education perceive learning as more of a strain, often based on previous negative experiences in their education, but also due to often unfavourable working conditions (e.g. shift-work) or financial limitations.

While there is evidence that e.g. belonging to a lower social stratum is negatively related to participation (and sometimes success) in education or training, the effect on training motivation may be the opposite (see e.g. Walter & Stanat, 2008), as training or education might be e.g. perceived as a means of improving one's less advantageous position in society or the workplace.

Job-related continuing training is usually offered and (at least partly) paid for by the employer, so the question of employers' selection criteria of training participants also needs to be examined. Human capital theory provides a framework explaining why an employer might hesitate to invest resources in e.g. older or female employees as the pay-off of that investment might seem risky – e.g., women might get pregnant and leave their job, temporary workers might soon move on to their next job, older employees are facing their retirement. Closely connected to that, negative discrimination and stereotyping with regard to age, gender or other socio-demographic variables are still prevalent in the workplace (on age stereotyping see e.g. Amrhein & Backes, 2007). For older workers this might be the belief that their learning abilities and motivation have diminished, part-time workers are suspected that they do not invest as much energy or

commitment in their work as full-time workers and so on. These attitudes and beliefs may have been proven wrong, but as they have been formed over decades, they seem just as hard to change.

Furthermore, participation may also depend on other factors such as informal obligation, social pressure, or legal, union or company regulations that come along with a particular status, level of qualification, making participation in continuing training more or less likely (see Wittpoth, 2009). Finally, it needs to be questioned if training participation is a positive end in itself, meaning that lower participation is generally perceived negatively and in need of improvement. Arguably, non-participation can be found in all socio-demographic groups, implying that people have different ways to handle their work and life environments, with classical classroom-based vocational training being only one possible way and, e.g. learning by doing another (Görlitz et al., 2012).

Just how much of the differences in participation are rooted in involuntary exclusion may be approached by assessing the existence of corresponding group differences in continuing training motivation. According to lifestyle theory, learning motivation is more prevalent in milieus of the upper stratum, characterised by e.g. higher levels of qualification. Thus, this analysis also looks into the moderating role of socio-demographic variables, such as gender, employment participation (e.g. working hours and contract duration) or level of qualification:

H4: Continuing training motivation varies among different socio-demographic groups.

We also expect significant group differences when it comes to the relationship between continuing training motivation with work ability and with the desire to continue working past retirement age. Since groups with less employment participation – who are often women (Kümmerling, Jansen & Lehndorff, 2008) – will face larger barriers to training participation than others, lack of training opportunities will lead to lower work ability, even if they are highly motivated to train. With regard to the desire to continue work after retirement age, part-time workers may already face less recognition at work and their financial gain through work is comparably low. For temporary workers, lack of recognition but also lack of opportunity may be detrimental to continuing work. We thus hypothesise:

H5: Social group influences moderate the relationship of continuing training motivation with work ability and the desire to work past retirement age.

Empirical Investigation

Our empirical analysis is based on interviews collected as part of a larger study ('Weiterbeschäftigungssurvey', or 'Weiterbeschäftigung im Rentenalter - Wünsche, Bedingungen, Möglichkeiten', [*Survey on continuing in employment in pensionable age*]), commissioned in 2008 by the German Ministry of the Interior and conducted by the German Federal Institute of Population Research, which is fully described elsewhere (see Büsch et al., 2010). By means of methods of multivariate analyses, we test the influence of continuing training motivation on work ability and the desire to continue work after reaching retirement age. Additionally, we test if there are significant group differences with regard to gender, level of qualification, working hours or contract duration.

Data set and collection

The 'Weiterbeschäftigungssurvey' aims to provide insights on factors that play a part in working past retirement age. For the survey 1,500 employed individuals (workers, employees, civil servants, the marginally employed and those in job-creating and structural adjustment measures) aged 55 to 64 were voluntarily and anonymously questioned on work, health and retirement via computer-assisted telephone interviews. The survey excluded pensioners, the unemployed, seasonal workers, short-term-workers and workers in part-time employment prior to retirement who are already released. The sample was selected from a population of 3.8 million people, representing 40.6% of this age group, 7.4% of all persons aged 18 to 64 and 4.7% of the total German population in the annual average of 2006.

The realised sample is not representative for the older population in Germany, although intended. This is most apparent with regard to disposable income: Most male respondents (37.5%) belong to the highest income group (3,000€ and more), female respondents also find themselves in higher income groups (28.9% with a monthly disposable income of 2,000€ - less than 3,000€). Male median income is 2,620€ and female median income is 1,980€.

75% of respondents were under 60 years old and 44.4% were female. Most respondents work in small (10-49 employees) or medium (50-249) enterprises (each almost 25%). The majority worked in the educational, social or health sector (25%), followed by manufacturing industry (22%) and other services (22%). The sample consists of blue-collar workers (24.5%), white-collar workers (63.5%) and civil servants (12.0%).

The following analysis focuses on white-collar workers only, so a subsample of 953 employees will be used for our further analysis. From the survey we obtained three items to measure continuing training motivation: 'Continually learning new things is very important in my life', 'I shall always strive to continually train', and 'I like to attend continuing training classes' rated on a 5-point Likert-type scale (with 1='fully applicable' to 5='not at all applicable'), achieving an acceptable Cronbach's α of roundabout 0.7. Work ability is directly measured by asking respondents to self-assess their current work ability, their work ability five years ago, and predicted work ability five years from now. All three items used again a 5-point Likert-type scale (with 1='very high' to 5='very low') and achieved a Cronbach's α of 0.628. Desire to work past retirement age was measured by the single item: 'Would you like to be working after reaching official retirement age, e.g. in minor employment?' Respondents answered on a 5-point Likert-type scale (1)=yes, (2)=rather yes, (3)=don't know, (4) rather no, (5)=no. As control variables we used gender, working hours, contract duration and level of qualification.

Working hours as per contract are captured by asking respondents to categorise themselves as either part-time (15-35 hours/week), full-time (35 hours/week or more), marginally employed (less than 15 hours) or unemployed. Contract duration was measured by asking, 'Is your work contract temporary?' with respondents answering either yes or no. Level of qualification was also self-rated, answering the question, 'What is your level of qualification?', selecting among the options 'no vocational graduation', 'Apprenticeship or similar', 'Master craftsmen/ technicians or similar', 'Graduates of universities or of universities of applied sciences', or 'Other graduation'. Respondents were also asked to give the number of continuing trainings taken during the past three years.

Data analysis and results

In Table 1, the main results regarding the desire to work past retirement age, work ability, and continuing training motivation are given as mean values (standard deviation; ‘std. dev.’). Here, the analyses are separated for different respondent groups and are enhanced through a test of significance for the most important intrinsic training motivation (with a t-test in case of two group levels and an F-test in case of more than two group levels).

In general, continuing training motivation is quite high (with an overall mean of about 1.8) – in contrast to a moderate work ability (about 2.2) and desire to work past retirement age (about 2.5). The high training motivation of our older sample seems in accordance with the theory of age-related motivational maintenance which posits that in the course of a life-time learning motivation does not necessarily decline but stays high or even increases (see Gegenfurtner & Vauras, 2012). In addition, heterogeneity of continuing training motivation is quite low (standard deviation much lower than for the desire to work past retirement age). Analysing different groups of respondents, male full-time employees with a fixed-term contract and the highest qualification level are most strongly motivated to train. However, only the difference for the differentiation with respect to qualification level is relevant from a statistical point of view ($p < .001$).

Trait		Work ability	Desire to work past retirement age	Continuing training motivation	
Parameter	n	Mean (std. dev.)	Mean (std. dev.)	Mean (std. dev.)	t- or F-value (significance)
Total sample	953	2.204 (0.572)	2.532 (1.188)	1.803 (0.854)	–
Men	411	2.131 (0.551)	2.471 (1.228)	1.797 (0.819)	-0.173 (0.863)
Women	542	2.259 (0.581)	2.578 (1.155)	1.807 (0.880)	
Full-time	689	2.132 (0.568)	2.533 (1.200)	1.771 (0.846)	-1.037 (0.300)
Part-time	208	2.360 (0.541)	2.585 (1.146)	1.841 (0.845)	
Fixed-term contract	54	2.225 (0.615)	2.038 (1.188)	1.704 (0.833)	-0.869 (0.385)
Permanent contract	898	2.202 (0.570)	2.561 (1.183)	1.808 (0.855)	
No vocational graduation	17	2.294 (0.539)	2.188 (1.167)	2.098 (1.110)	5.127 (0.000)
Apprenticeship or similar	444	2.247 (0.579)	2.590 (1.199)	1.919 (0.929)	
Master craftsmen/ technicians or similar	195	2.189 (0.539)	2.521 (1.167)	1.720 (0.761)	
University Graduates	286	2.141 (0.586)	2.488 (1.192)	1.660 (0.747)	
Other graduation	11	2.212 (0.402)	2.091 (0.944)	1.848 (0.780)	

Table 1. Main results differentiated for selected respondent groups.

In a next step, the relationship between continuing training motivation and the other two traits, work ability and desire to work past retirement age, is analysed (Table 2).

Trait	Correlation of continuing training motivation with work ability (using Pearson)	Correlation of continuing training motivation with desire to work past retirement age (using Spearman)
Total sample	0.204**	0.116**
Men	0.287**	0.135**
Women	0.150**	0.102*
Full time	0.221**	0.133**
Part time	0.071	-0.010
Fixed-term contract	0.184	0.128
Permanent contract	0.206**	0.112**
No vocational graduation	0.018	0.450
Apprenticeship or similar	0.191**	0.117*
Master craftsmen/technicians or similar	0.167*	0.126
University Graduates	0.245**	0.082
Other vocational graduation	0.042	0.272

Table 2. Correlation of continuing training motivation with work ability and with desire to work past retirement age for selected respondent groups (**...significant correlations at the $p < .01$ level, *...at the $p < .05$ level).

For the total sample our analysis yields a weak significant positive correlation between continuing training motivation and work ability. A weaker significant correlation shows for continuing training motivation and the desire to work past retirement age. On group level, some small differences could be observed. Correlations for men are stronger than for women. Full-time employment is correlated to both work ability and desire to work past retirement age, whereas no correlations are found for part-time workers. Similarly, individuals with permanent contract again show weak significant correlations while there is no such effect for individuals with fixed-term contracts. With regard to qualification level the picture is more complex. For individuals without vocational graduation no correlations could be observed. While both correlations are found for the qualification level of apprenticeship, for master craftsmen only a very weak significant correlation for continuing training motivation with work ability is found. The strongest correlation with regard to qualification level is found for university graduates, also only for work ability.

Considering this data, a detailed analysis for men seems to be reasonable. Here, the analyses of the relationships of continuing training motivation with work ability leads to a Pearson correlation of 0.309 ($p < .01$) and of continuing training motivation with the desire to work past retirement age to a Spearman correlation of 0.169 ($p < .05$). But further analyses, e.g. linear regression analyses, showed no relevant relationships (i.e. very low r^2 values).

Confirming previous research (Boockmann et al., 2013), the actual number of trainings taken seems to have no effect on the desire to work past retirement age, as can be seen in Table 3.

Trait	Work ability (using Pearson)	Desire to work past retirement age (using Spearman)
Number of trainings (past three years)	-.067*	-.008

Table 3. Correlation of actual trainings taken (within past three years) with work ability and with desire to work past retirement age (*...significant correlations at the $p < .05$ level).

All in all, results confirm hypotheses H1-3, establishing a positive correlation between continuing training motivation and factors work ability and desire to work past retirement age, also giving renewed support to the relative unimportance of actual trainings taken for the desire to work past retirement age. Differentiated for selected respondent groups the level of qualification has a significant influence on continuing training motivation, giving support to H4. This effect was stronger than any differences with regard to gender, weekly working hours or contract duration. It is also apparent that group differences moderate the relationships posited in H1 and H2, thus supporting H5. As surmised, only full-time and permanent employees motivated to train also feel inclined to work longer years and feel higher work ability. Impact of qualification level seems limited to moderating the strength of the correlation of continuing training motivation and work ability, with the strongest effect for university graduates.

Conclusion

Focussing on white-collar employees aged 55 to 64 in Germany, the present study adds a motivational viewpoint to the literature of determinants of work ability and the desire to work past retirement age, also addressing issues of social inequalities and discrimination (with regard to e.g. gender and qualification level).

First, our study shows continuing training motivation to be high, also across all respondent groups, with university-educated individuals being slightly more motivated, supporting Tippelt and von Hippel's (2005) findings. We show a weak significant correlation between continuing training motivation and self-assessed work ability, suggesting work ability as a possible outcome of training motivation similar to the findings of Krapp (2005) and Beier and Kanfer (2009). With regard to work ability the strongest correlation with continuing training motivation can be found for men, followed by individuals with university degrees. Methodically, one explanation for the relevance of qualification level might be that self-assessed work ability as measured in this study can be understood to mean both physical and mental ability to work. Less qualified workers might be working in more physically challenging tasks, so they possibility think more about their physical work ability when answering this question. Thus whether he or she likes to train and learn might have less effect on their work ability. It also lends support to findings on higher work ability for cognitive workers (Tuomi et al., 2001).

Furthermore, we show that it is indeed rather motivation for continuing training than actual participation that positively influences the desire to work past retirement age. Here, the strongest effect is also for men, but, interestingly, not for the university-educated group. This effect was stronger than any differences with regard to gender, level of qualification, working hours or contract duration for the three analysed constructs of work ability, continuing training motivation and desire to work past retirement age. Thus, our study shows that with higher qualification level the importance of continuing training increases. Hence, we can say that the stronger the culture of life-accompanying learning is set up for the purpose of managing the aging process and not age, the higher the ability as well as the desire to work past retirement age (see also Schulz et al., 2010).

Even though results show the meaning of continuing training participation to be low for the desire to work past retirement age, without continuing training it can be assumed that the ability to prolong working life is low. In addition to this, positive training experiences can further increase training motivation. Hence, new methods and settings that accommodate the needs and expectations of older employees should be developed. Training contents for older training participants should be more application-oriented (Lehr, 2000) and more focussed on eliciting positive affect to increase motivation (Kanfer & Ackerman, 2004) as older individuals tend to direct their motivation more on personally meaningful and socially rewarding behaviours (Mather & Carstensen, 2005). Thus, trainings that further social contact and interaction have a positive effect on motivation (Gegenfurtner et al., 2012). Additionally, the 'Weiterbeschäftigungssurvey' shows that for older employees a longer distance to the learning site leads to a lower continuing training motivation. Finally, it seems important that there is a continuing positive learning experience starting at a much earlier age, as learning histories and memories do influence training perceptions and behaviour (see Tippelt & von Hippel, 2005). Thus, organisations would be wise to strengthen employees' training motivation by boosting their feeling of self-efficacy and valence not just in trainings but also generally at work and over a longer period of time (see Torraco, 1999).

While literature shows different socio-demographical groups to have different shares in continuing training participation we could show that generally, continuing training motivation is rather high (mean of 1.80), with hardly any differences between groups (only the difference for qualification level is statistically significant). This could imply that inequalities in participation are less a result of varying motivation among these groups, but of other barriers. As a first step, continuing training concepts should accommodate differences in interests and barriers of social milieus, as well as different learning backgrounds and expectations (see Tippelt & von Hippel, 2005). Negative stereotypes and discrimination need to be addressed, too, in order to create a supportive and appreciative organisational climate that fosters a learning culture. Consistent with the lifelong learning approach, it seems necessary to develop a life span approach to instilling and promoting learning and training motivation and avoid longer periods of non-training that may decrease learning abilities (Dworschak et al., 2006).

Finally, we address the limitations of our study. First, the realised sample is not representative for the older population (although intended), so it would be unwise to apply results to older employees in general. Second, causalities remain unclear. It could be argued for example, that someone who wishes or needs to stay employed after reaching legal retirement age feels motivated to train because he or she feels the necessity of continuing training for keeping the job – rather than assuming that individuals who like to train are also e.g. more interested per se in working longer years.

Third, our measures lack a focus on any particular type of continuing training, so we cannot safely assume that any continuous training motivation measured is actually aimed at on-the-job training. As reliability of the scales used in the survey is modest, our correlation results could be biased and the effect size may be higher. Furthermore, answers to questions about work ability, continuing training motivation and desire to work past retirement age are subject to social desirability and may not represent the true attitude of the respondent. For future research it would also be helpful to analyse longitudinal data to understand how these relationships develop in the long run-

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[38] Paula Thieme, Michael Brusch & Victoria Büsch

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