

Relations between health status and labour participation outcomes among older workers over time

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SUMMARY

This dissertation aims to gain more insight into the role of health on older workers' labour participation, whilst taking into account the potential impact of the (work) context as well as selection processes in this relation.

Due to demographic changes, people become older and the time between retirement age until death has also risen substantially over the past decades (1). These demographic changes have implications for the sustainability of social security and pension systems in many Western societies (1). In order to maintain social security and pension systems, Western policies aim to increase labour participation rates, amongst others by prolonging working lives of older workers (2-4). In recent years, the proportion of older people involved in the labour market already substantially increased, mainly among older workers aged 55-64 years (5). Yet, still many older workers are not able to work until reaching the statutory retirement age and leave the labour market early – thus before reaching the statutory retirement age – through various exit routes such as early retirement, disabilities or unemployment benefits (5-9). It is of crucial importance to consider factors underlying older people's prolongation of working lives. It is

known that health has substantial implications for labour participation (10) and strongly affects older workers' employability (2, 5, 6, 11-18) and decisions regarding whether or not to work longer or retire (early) (19, 20). However, with aging, the risk of having health problems substantially increases (2, 5, 21, 22). Also, the risk of multimorbidity – that is having one or more health problem(s) simultaneously – increases (5).

Health problems or illness are in many cases a given and to a certain extent one cannot prevent the onset of health problems at some point in life. Moreover, health problems or illness (21) are often not, or only partially, modifiable mainly with regards to chronic health condition(s) which are persistent and long-lasting (10). Thus, health status can affect one's ability and willingness to prolong working lives among older workers (5). Consequently, not all older people with poor health may be able to work until reaching the statutory retirement age (5).

The general objective of this dissertation was to gain more in-depth insight into relations between health status and labour participation outcomes among older workers over time, whilst taking into account the potential impact of the (work) context as well as selection processes in this relation. Furthermore, since health problems or illness are often not, or only partially, modifiable,

mainly with regards to chronic health condition(s), the potential facilitating and/or hindering impact of work-related factors (from the work context) on labour participation outcomes among older workers' with health problem(s), was explored. Hereby, findings can provide points of entry to the development of preventive measures/interventions aiming to facilitate/sustain labour participation of older workers. The data infrastructure of the prospective Maastricht Cohort Study (MCS) enabled us to investigate this relation thoroughly. The MCS encompassed extensive data about a broad range of objective and subjective health related factors and outcomes of labour participation, as well as a broad range of confounding/contextual factors. Moreover, a large heterogeneous occupational study population was included. At cohort baseline (1998), 12,140 workers involved in different jobs and educational levels, originating from 45 different companies and organizations, completed and returned the baseline questionnaire (23). Additionally, the longitudinal observational research design with multiple measurements over a considerable follow-up period enabled us to disentangle cause and effect over time and to consider the potential presence of (health-related) selection processes.

Since health does not solely refer to the presence/absence of health problems or illness and labour participation does not solely reflect to being in – or out of employment, multiple objective and subjective health related factors and labour participation outcomes were studied in this dissertation. When studying the relation between health and labour participation over time, adjustments for various contextual/confounding factors from the private/personal, work-related, and health domains (5, 14, 24) were made in all Chapters. In most studies, groups of older workers aged 45 years onwards were included (except for **Chapter 4**). It should however be noted that perhaps closer to retirement age people may be more actively involved in decision(s) regarding retirement as for those yet further aged from retirement. Therefore, age-stratified analyses were also performed (**Chapter 5**).

In **Chapter 1**, the introduction, background information about the relation between health and labour participation and gaps in research so far are provided. Finally, the general aim and objectives for this dissertation are described. In **Chapter 2**, the impact of both objective and subjective indicators of health, independently, on different labour participation outcomes and retirement over time, were studied. Findings revealed substantial cross-sectional associations between different types of chronic health condition(s) and indicators of labour participation and

retirement (such as retirement intentions and working hours). The strength of the relations over time however differed due to differences in the type of chronic health condition(s). For instance, employees with mental and physical chronic health conditions simultaneously, had higher risks for decreasing working hours, losing employment, and receiving disability benefits over time, compared to healthy employees. No statistical significant associations over time were observed between chronic health condition(s) and strong retirement intentions. Whereas self-perceived health (SPH) was associated with strong retirement intentions at baseline, no longitudinal associations between self-perceived health and indicators of labour participation and retirement were observed however, suggesting a potentially more instantaneous effect of SPH. Furthermore, findings showed that SPH scores substantially differed due to disease duration: the longer employees were ill (prevalent chronic health condition(s)), the lower their self-perceived health score was. In **Chapter 3**, we focused on the impact of a specific mental chronic health condition, that is, depressive complaints, on different outcomes of labour participation. As hypothesized, results showed adverse associations between increasing depressive complaints and indicators of labour participation over time, such as poor general, physical, and/or mental work ability, and high psychological disengagement levels. No statistical significant associations were observed between depressive complaints and strong retirement intentions and leaving employment over time. In **Chapter 4**, we assessed the relation between health and labour participation over a considerable follow-up period of 16-years, and additionally interpreted the findings in the light of continuing (health-related) selection processes. As hypothesized, findings revealed that employees with mental, physical, and mental-physical chronic health condition(s) had substantial higher risks to leave employment over 16-year follow-up compared to healthy employees. Moreover, employees with poor/moderate SPH had an increased risk to reduce working hours over two-year follow-up compared to employees with good SPH. It was crucial to interpret the findings in the light of continuing (health-related) selection processes, due to studying a subpopulation of older workers throughout time. It could be that those workers who were not able to remain in (paid) employment whilst having health problem(s), already left the labour market and/or our study. For instance, the risk to reduce working hours over time did not statistically differ between employees with multiple physical chronic health conditions compared to healthy employees. Perhaps, employees with two or more physical chronic health condition(s) already left the labour market earlier. It was thus likely that a (highly) selected group of healthier older workers was studied at over time.

Consequently, the observed findings may be an underestimation of the actual impact of health on labour participation over time. The same reasoning applies to the observed study findings in **Chapter 2** and **Chapter 3**. Also here, longitudinal observations may be an underestimation of the actual impact of health on labour participation outcomes. Since decisions regarding labour market participation and retirement can be considered a gradual process, we advanced our understanding by focusing on the retirement decision-making process among older workers in **Chapter 5**. The retirement decision-making processes encompasses various phases, with the first phase encompassing (the development of) retirement intention(s). It was invaluable to investigate whether retirement intention(s) were related to actual retirement behavior over time, and hence provide valuable insight in older workers' decision regarding labour participation and retirement. Findings revealed that the extent to which older workers consider early retirement substantially varies depending on older workers' health status and age at article baseline. Also SPH was highly related to older workers' retirement decision-making process. Furthermore, we aimed to assess whether considerations towards (early) retirement predict actual retirement behavior over time. Over time, many associations between considerations towards (early) retirement and labour participation outcomes were observed, however few associations were statistically significant. In **Chapters 2-5**, the impact of (external) work-related factors from the work context in the relation between health and labour participation, was extensively investigated. However, since older workers may be more prone to value intrinsic factors compared to extrinsic factors (25), we also investigated the potential role of an intrinsic factor (work engagement) that may affect older workers' labour participation (**Chapter 6**). Findings revealed that work engagement was strongly cross-sectional related to different outcomes of labour participation. However, the strength and direction of these cross-sectional associations varied substantially depending on the studied outcome of labour participation, and on health status. For instance, contrary to previous research studying work engagement, our findings showed that among older workers with chronic health condition(s), increasing levels of work engagement were related to lower odds to report (frequent) presenteeism behavior at article baseline. Over time, study findings showed potential longitudinal associations over time, however few of these longitudinal associations reached statistical significance. These study findings demonstrated that further research is warranted before providing points of entry for preventive measures/interventions aiming to increase older workers work engagement and hence facilitate older workers' labour participation.

Besides investigating the relation between health and labour participation in-depth, whilst taking into account the impact of the work context and selection processes, it was also highly invaluable to explore the potential facilitating and/or hindering impact of work-related factors (from the work context) on labour participation outcomes among older workers' with health problem(s). In **Chapter 3**, stratified analyses for various work-related factors were performed. Findings revealed that the strength of associations between depressive complaints and labour participation outcomes over time strongly differed within various work contexts. For instance, the strength of the association differed among older workers reporting to perform physically demanding work, having high psychological job demands, low decision latitude, or high emotional demands. In **Chapter 4**, sector-stratified analyses revealed the strongest associations within the sector industry. Furthermore, in – and exclusion criteria were also carefully defined in order to comprise a more homogeneous study population based on the type or content of the work. For instance, based on the amount of physical activity performed in the occupational domain (**Chapter 5**).

In the general discussion (**Chapter 7**), the main findings are presented and internal validity of the conducted studies are discussed, as well as generalizability (external validity) of the results. Moreover, recommendations/input for further research are presented. We conclude that the impact of different health related factors on various labour participation outcomes among older workers was substantial, and additionally demonstrated the facilitating and hindering impact of various work-related factors on labour participation outcomes for older workers with health problem(s). It should however be noted that the presence of selection processes may have strongly attenuated our findings over time.

Of course, the findings obtained cannot be applied directly into practical (preventive) interventions/measures. This step was also beyond the scope of this dissertation. Despite that many interventions aiming to increase older workers' employability have already been developed and implemented, the effectiveness of these interventions appeared to be relatively small (2). A strong need for developing more effective preventive interventions/measures hence remains. Hereby, our findings already provided highly valuable entry points for the development of preventive measures aiming to enhance labour participation of older workers. Our findings already revealed the facilitating impact of various work-related factors in the relation between health and labour participation, which provides valuable entry points for the development of preventive

measures/interventions. Moreover, findings revealed that various health-related decisions regarding labour participation might already occur earlier during the work career. This also underlines the importance to carefully consider the timing of preventive measures, which are offered preferably already earlier during the work career. It is expected that if these measures/interventions subsequently prove to be effective, even for a small fraction, the societal and economic impact is substantial. If (more) older workers are able to prolong working lives and less leave the labour market (early), the (Dutch) governmental costs related to early labour market exit of older workers, substantially decreases. Besides the societal and economic impact, the individual impact for older workers themselves may also be substantial, not only financially in terms of providing more pension (26), but also from a health point of view since work has been found to be beneficial e.g. for older workers' mental health (2, 27).

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