symptoms of depression in 14 European centres. TBr J Psychiatry 1999;174:330-38.

- 26. Copeland J, Beekman A, Braam A et al. Depression among older people in Europe: the EURODEP studies. World Psychiatry 2004;3:45-49.
- 27. Prince M. The development of the EURO-D Scale. In: Copeland J, Abou-Saleh M, Blazer D (eds). Principles and Practice of Geriatric Psychiatry. Chichester, UK: John Wiley, 2002.
- 28. Browning M, Dano AM, Heinesen E. Job displacement and stress-related health outcomes. Health Econ 2006;15:1061-75.
- 29. Browning M, Heinesen E. Effect of job loss due to plant closure on mortality and hospitalization. J Health Econ 2012;31:599-616.
- 30. Schmitz H. Why are the unemployed in worse health? The causal effect of unemployment on health. Labour Econ 2011;18:71-78.
- 31. Strully KW. Job loss and health in the U.S. labor market. Demography 2009;46:221-46.
- 32. Borsch-Supan A, Brugiavini A, Jürges H, Mackenbach J, Siegrist J, Weber G. Health, Ageing and Retirement in Europe. Morlenbach, Germany: Strauss GmbH, 2005.
- 33. Marmot M, Banks J, Blundell R, Lessof C, Nazroo J. Health, wealth and lifestyles of the older population in England: The 2002 English Longitudinal Study of Ageing. London: University College London, 2002.
- 34. St Clair P, Blake D, Bugliari D et al. RAND HRS Data Documentation, Version J. Santa Monica, CA: RAND, 2010.
- 35. Organization for Economic Cooperation and Development OECD. Divided We Stand: Why Inequality Keeps Rising. Paris: OECD, 2011.
- 36. Organization for Economic Cooperation and Development (OECD). Growing Unequal? Income Distribution and Poverty in OECD Countries. Paris: OECD, 2008.
- 37. Tsae-Jyy W. Concept analysis of functional status. Int J Nurs Stud 2004;41:457-62.
- 38. Katz S, Downs TD, Cash HR, Grotz RC. Progress in development of the Index of ADL. Gerontologist 1970;10:20-30.
- 39. Katz S. Assessing self-maintenance: activities of daily living, mobility, and instrumental activities of daily living. J Am Geriatr Soc 1983;31:721-27.

- 40. Gathergood J. An instrumental variable approach to unemployment, psychological health and social norm effects. Health Econ 2013;22:643-54.
- 41. Iversen L, Klausen H. Alcohol consumption among laid-off workers before and after closure of a Danish ship-yard - a 2-year follow-up-study. Soc Sci Med 1986;22:107-09.
- 42. Murphy GC, Athanasou JA. The effect of unemployment on mental health. J Occup Organ Psychol 1999;72:83-99.
- 43. Clark AE. Unemployment as a social norm: Psychological evidence from panel data. J Labor Econ 2003;21:323-51.
- 44. Jahoda M. Work, employment, and unemployment values, theories, and approaches in social research. Am Psychol 1981:36:184-91
- 45. Joelson L, Wahlquist L. The psychological meaning of job insecurity and job loss - results of a longitudinal study. Soc Sci Med 1987;25:179-82.
- 46. Siegel M, Bradley EH, Gallo WT, Kasl SV. Impact of husbands' involuntary job loss on wives' mental health, among older adults. J Gerontol B Psychol Sci Soc Sci 2003;58:S30-S37.
- 47. Bartley M. Unemployment and ill health understanding the relationship. J Epidemiol Community Health 1994;48:333-37.
- 48. Kawachi I, Berkman LF. Social ties and mental health. J Urban Health 2001;78:458-67.
- 49. Jahoda M. Employment and Unemployment: A Social Psychological Analysis. New York: Cambridge University Press, 1982.
- 50. Warr PB. Work, Unemployment, and Mental Health. Oxford, UK: Oxford University Press, 1987.
- 51. McDonough P, Worts D, Sacker A. Socioeconomic inequalities in health dynamics: a comparison of Britain and the United States. Soc Sci Med 2010;70:251-60.
- 52. Sacker A, Worts D, McDonough P. Social influences on trajectories of self-rated health: evidence from Britain, Germany, Denmark and the USA. J Epidemiol Community Health 2011;65:130-36.
- 53. Organization for Economic Cooperation and Development (OECD). Benefits and Wages: Statistics 2013. Paris: OECD, 2013.

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International Journal of Epidemiology, 2014, 1517–1519 **Commentary: The hidden** Advance Access Publication Date: 18 June 2014 and not so hidden benefits of work: identity, income and interaction

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Work provides people with an income, and income is important for health. We know this. It is obvious, but work does much more. Work provides most of us with one of our primary roles in society: as a worker. We may see ourselves as mechanics, nurses, teachers, construction workers, farmers, scientists, architects or additional identities, but at the core we are all workers. We provide for ourselves and often for others.

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Work is not the only role that provides identity and meaning. Traditionally family, friendship and community roles add important dimensions in defining our basic societal roles. When we are robbed of such significant roles, particularly when we are older and less likely to be resilient to such shocks, we experience loss—and loss in many realms, both material and non-material. Clearly we experience a loss in income, and such losses close to retirement may be particularly challenging since they will not be replaceable with a short-time horizon, nor are opportunities easily available to work 'double shifts' to regain such financial loss.

In this issue of *IJE* is an important article on the impact of job loss during the Great Recession in the USA and Europe, by Riumallo-Herl, Basu, Stuckler, Courtin and Avendano.¹ The authors document in a compelling way the impact of job loss on depression for older men and women in advanced industrialized countries. They show that financial loss is important, but financial loss alone does not explain the whole story of the impact of job loss. The authors are insightful and provocative and set an agenda for the future. They suggest some solutions in the policy realm related to social protection, and find some problems harder to identify solutions for. Here I discuss three kinds of loss that they suggest may accompany the loss of a job in later adulthood. I speculate about what may be critical for health and well being so that we can move forward from the important foundation that Riumallo Herl et al. have laid. The three kinds of loss that may be central to affecting health and well-being include: (i) financial loss with social protection as a potential buffer; (ii) loss of identity and meaning with loss of such a major role; and (iii) loss of social interaction and engagement with a community of workers.

The financial costs of job loss, and the positive spillovers to health of social protection

Job loss is generally associated with increases in depressive symptoms in the USA and Europe, but in the USA job loss is more strongly associated with depressive symptoms among those with less wealth.¹ In Europe, wealth did not modify the association between depression and job loss, suggesting that some other factor—such as the broader social protection programmes in Europe related to unemployment or other safety net programmes—may be playing an important role in buffering health impacts. The authors speculate that such programmes may enable workers to protect retirement savings, leading to better mental health at older ages. In a relevant related article, Leist *et al.*² report (using very similar cohorts) that time away from work leads to declines in cognitive impairment again suggesting that job loss is important in shaping future mental outcomes. Interestingly in this report, they find that some time away from work in the form of unemployment or sickness is associated with cognitive declines, whereas employment gaps related to training and maternity leave are associated with improvements.

Does this lead one towards the identification of policy solutions? Social protection that provides financial security and potentially training for new opportunities may lead to improved long-range mental health outcomes. This work could be evaluated much more explicitly using policy variations across countries and over time to build on more experimental approaches. Perhaps the hopeful news here is that support or paying out initially at the time of life events-for unemployment, maternity benefits, earned income tax credits (EITC) in the USA³—provides employees with more options for rejoining the work force as well as for saving later in life. We might think of these social and economic policies as preventive health policies. Lack of social protection may well end up costing more in the end in terms of financial and health costs. It seems worthwhile to think of these long run spillovers as important consequences of policy actions. Furthermore, positive health spillovers are rarely accounted for in most cost-benefit calculations done by governments. The unintended consequences of social policies for health should go into the cost-benefit equations.

The meaning of work: identity

Job loss leads to losses beyond the financial. For many men and women, work provides a primary role and shapes identity in core ways. Loss of job may not only lead to the loss of that important role but also, as the authors suggest, to the stigma associated with unemployment. The extent to which work provides workers with positive identities and dignity varies considerably but, even in jobs that may not be rewarding in terms of psychological identity, workers are often proud that they can provide resources for their families and take care of themselves independently. Losses related to identity transformations seem hard to tackle. Perhaps alternative roles, including volunteering in various ways, can compensate for such role loss; but this may be particularly difficult at older ages and in the face of other losses such as the death of close partners and one's own frailty. Good jobs provide dignity and meaning in life, but even jobs with harsher working conditions permit workers to take care of themselves and their loved ones.

The community of workers

The importance of social engagement and social interaction has been well recognized for decades. However, we do not often appreciate the role of the workplace in providing opportunities for social engagement and interaction. The recent literature on the effects of retirement on cognitive decline suggests that social engagement at work as well as constant use of cognitive skills protect workers against decline-and not just workers in higherskilled jobs, but more broadly. Among the most intriguing findings in the Riumallo-Herl et al. paper is that strong effects on depressive symptoms were reported for those experiencing job loss related to plant closings in the USA. On the surface, one would expect that such closings would be least harmful to mental health because the worker is not at all responsible for losing his or her job. On the other hand, plant closing may inflict a triple burden of financial loss coupled with losses of identity and interaction. Plant closing, in fact, may be symbolic of loss of a way of life impacting on entire communities, much like the disruption from natural disasters. In communities experiencing plants closings, things are bad for the entire community, inflicting financial spillovers to other sectors and businesses around the closed plant. This may make it even harder for workers to find jobs. We might expect that, when plant closures occur, those who lost their jobs have so many others with whom to commiserate that they may have a wide range of support. However, perhaps on the contrary, entire networks become demoralized and hopeless, creating an even deeper loss of social resilience.

Job loss is a profoundly disruptive experience. As economies become more globalized and job transitions more common, the identification and implementation of policies that enable both societal as well as personal resilience will become increasingly important. This new piece of research by Riumallo-Herl *et al.*¹ points us in the right direction.

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References

- Riumallo-Herl C, Basu S, Stuckler D, Courtin E, Avendano M. Job loss, wealth and depression during the Great Recession in the US and Europe. 2014;43:1508–17.
- Leist AK, Glymour MM, Mackenback JP, van Lenthe FJ, Avendano M. Time away from work predicts later cognitive function: differences by activity during leave. *Ann Epidemiol* 2013;23: 455–562.
- Strully K, Rehkopf D, Xuan X. The effects of prenatal poverty on infant health: state earned income tax credits and birth weight. *Am Sociol Rev* 2010;75:534–62.