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Ashley Weinberg, University of Salford

Have you ever walked through a graveyard and found yourself calculating the ages of those resting there? It seems natural to be intrigued by longevity, but clearly living a long life is not all that age is about. For example it can mean a number which categorises us and in turn is used to determine health inoculations, schooling, entitlement to financial support or healthcare and retirement. Age-related events and emotions also imply many things: celebrations of time period that has passed, including culturally recognised milestones which accord a certain status, transition into adulthood, retirement, half- or full-century birthdays, long service; nostalgia for past times, such as when we were young(er) or another era with which we are vicariously acquainted. Within our social and work groups, finding out who is youngest or oldest reflects a basic interest in hierarchy, however subjective perceptions of age – either about our own or other’s - are powerful too. Mozart’s prodigious musical output is recognised as even more remarkable because he did not reach the age of thirty-six, while Jane Austen died at forty-one. Naturally such judgements of a ‘good age’ may depend on whether we view a life as particularly short or long given expectations of mortality in the twenty-first century. As the largest age-segment in the workplace is over forty (Ng and Feldman, 2009), one may ponder what those living in previous centuries would have thought about current life expectancy. Longer living remains intriguing, not least as it carries with it an enduring fascination: can anyone live forever? Clearly immortality is well beyond the scope of this chapter, but the perceptions which accompany it may not be. Age is not simply a physical phenomenon, but also a psychological one.

If ageing incorporates the interaction between our own development over time as well as our exposure to environmental factors, it is also influenced by stages in our lives. This chapter considers ageing from the perspective of lived experience at work, for better or worse, drawing parallels between models from social psychiatry and occupational psychology. It compares the seeds of vulnerability in earlier life and career, tracing the potential psychological and physical health impacts of exposure to negative psychosocial factors and events at work, through to the role of work-related attitudes, including the psychological contract, in helping employees positively adapt to the challenges they face. Where possible longitudinal studies are used to illustrate these relationships.

The winner of the UK’s 2015 Apprentice television series, Joseph Valente, summed up his experience of the transition into the workplace from school: ‘One week you’re asking if you can go to the toilet, and the next you’re in the workplace expected to carry out a job’. Commenting on how well young people are prepared for working by the school system, the entrepreneur highlighted how age can be actually a restricting factor because of what we are permitted to do – in the UK young people are required to attend school or other educational training until the age of 18. In the same way school-age should not represent a restraint on individual talent and potential, equally retirement age is not an indication of the end of one’s usefulness. The outdated mantra of ‘they’re too old to...’ is challenged by employees who continue to work past 65 or 70 – including many world leaders. However these ages have traditionally been milestones signifying the end of working life and the perceptions which accompany such age-related markers can result in behaviours which disadvantage the individual. There are legislative attempts to combat age-related discrimination and in the UK this was outlawed in 2010-2011. However social attitudes are more difficult to change and perceptions represent a significant component of the mechanism by which ageism operates. This can produce positively as well as negatively discriminating ideas. For example older workers are considered more experienced, loyal, able to advise (Harris and Higgins, 2006), and have developed strategies for offsetting any ability-related limitations, yet on the other hand are less likely to be considered for new training opportunities and indeed for job selection (Inceoglu, Segers and Bartram, 2012). It is interesting to note that the UK’s Health and Safety Executive report into musculoskeletal disorders did not find age per se as a risk factor for employees’ likelihood of injury, but instead emphasised the disparity between ‘the demands of work and the worker’s physical work capacity’ (HSE, 2010, p.v). Benjamin and Wilson’s (2005) review of age-related beliefs has led the way in debunking popular myths, showing that: older workers take less short-term absence from work and have fewer accidents

than younger employees: lifestyle, stress, education and socio-economic status are seen as equal if not better predictors of long-term health than chronological age itself. Notwithstanding these, there is considerable variation between older workers due to the interactions between relevant internal and external variables.

To take account of a fuller range of age-related factors, it is important to broaden the scope of any consideration of the relationship between working and age to incorporate exposure to job and health-related variables which increase the impact of advancing age (whether cognitively, physically or even mentally) – a form of work-related premature ageing. Understanding the interaction between these factors is a complex undertaking, however it raises the consideration whether age represents a useful concept at all: a bit like 'stress', it is experienced differently by all of us and is hard to assess against any universal criteria other than chronology. Perhaps ageing is what happens to us as time passes and involves a distinct process for the individual which then interacts with our environmental experiences over the lifespan, suggesting a role for genetic influences too?

In light of these findings, the aim of this chapter is not only to consider a finite number of age-related issues (given the scope of others elsewhere in this book to shed light on the multifaceted processes involved), but to prioritise factors other than chronological age in highlighting the relationship between work, health and ageing. Accordingly the benefits and disadvantages of time spent working are considered, including those of prolonged exposure to job-related factors whether psycho-social or attitudinal. In addition potential issues for future research are highlighted.

Premature ageing through work?

Following decades of research into the effects of working, a proposed link between premature ageing and exposure to unsatisfactory occupational conditions is less fanciful than perhaps first thought (e.g. Descatha et al, 2013). However there are many working in environments characterised by positive aspects of the job, so might one propose that premature ageing is less evident among such employees, or even more fantastically can some work 'keep you young'? Tackling inequalities between work environments for social, health and economic benefits will require greater understanding of exposure rates and calculating the risks as well as benefits carried by different categories of knowledge, service, as well as labour-intensive work. Ageing is not simply a chronological factor, but also an outcome where processes associated with senescence have been accelerated by exposure to environmental variables, for example as witnessed in the ageing of skin following prolonged time spent in the direct sunshine, or illness and diseases caused by working in physically challenging surroundings. It is less easy to know whether psychosocial variables are potential 'ageing-promoters', due to the complexities linked to understanding their impact on physical health. In this way, job-features may represent hidden aspects of the ageing equation for employees, however the need to know more stems from more than academic curiosity or even a growing interest from the public health policy field (Descatha et al, 2013). Dementia represents one of the iceberg-like conditions affecting our species, with much of its underlying pathology obscured by unseen processes. This grouping of diseases is visible due to increased identification rates of its various forms and the pressing need for research which will shed light on its processes and management, and perhaps ultimately on its cure and prevention. Dementia may not seem an issue of relevance to the workplace yet, but emerging findings have already shown that stress reported in mid-life can predict higher rates of dementia in later life. Notwithstanding the reliance on a single item measure of generic stress in some aspect of work or non-work life of Swedish women, a 35-year longitudinal study (Johansson et al, 2010) shows the potential for further work which examines large cohorts of employees in a range of occupational groups to demonstrate whether stress represents a predictor or a marker for dementia.

The large-scale Whitehall civil service and Finnish local government studies carry such potential and have become well-known for highlighting the impact on a range of psychological and physical outcomes of long-term exposure to particular psychosocial working conditions. From the relationships between higher socioeconomic status and control at work with long-term health (Chandola et al, 2007; Stansfeld et al, 2012) to increased rates of myocardial infarction among survivors of organisational downsizing (Vahtera et al, 2004), the importance of the predictive ability

of psychosocial variables for physical health is being acknowledged. Studies have also shown the doubling of rates of heart attacks among bus drivers on busier routes (Netterstrom and Juel, 1988) and increased risk of premature birth among women working longer hours with heavy mental workloads (Saurel-Cubizolles et al, 2004). Evidence from large national or multinational studies for extreme physical outcomes linked to psychologically challenging work seems to abound. For example Niedhammer et al (2015)'s study of over 46,000 French employees and Zagożdżon et al's (2014) findings based on over 5000 Polish citizens show the strong links between negative psychosocial aspects of work and unemployment and poor psychological health, including depression and anxiety. Each calls for preventative measures at national policy level to reduce the incidence and therefore exposure rates to familiar variables such as bullying, long (or absence of) working hours and job insecurity. In recognising the need to address the economic and social costs of impaired psychological health in the working population, the UK's National Institute for Clinical Excellence (NICE, 2015) has highlighted the impact of poor supervisory and organisational practices on employees' well-being and issued guidance aimed at improving a range of management behaviours. The decision to place psychosocial factors on a par with risks for occupational disease sends a clear message.

Notwithstanding the challenges of funding and collecting data to conduct longitudinal research, it is also possible that if one expects to see negative physical outcomes in challenging psychosocial work environments, then poor psychological health is likely too. The potential role of individual differences in such scenarios, complicated by strategies for coping as well as demographic and personality variables is clear (Schalk et al, 2011). Following the logic from physical assessment that highlight the difference between the individual's required and actual ability, it is possible that at any stage of life there is the potential for mismatch between the individual's mental capital and what the job demands. This is less obviously an age-related issue - and is consistent with a person-environment fit approach - however it is not yet clear how psychological mechanisms affect employees at various stages of their careers and the need to discover 'the dynamic inter-relationships between health and the life course has become crucial' (Schalk et al, 2011, p. 217).

Psychological vulnerabilities at work

It is argued here that a more encompassing approach – both across the lifespan and life domains - would allow for consideration of the impact of life events on individuals' psychological resources which influence their projected capacity to deal with demands in later life. However it is important to avoid the assumption that negative impacts are irreversible. Burns, Butterworth and Anstey (in press) 12-year longitudinal analysis of Australian employees shows that current rather than past exposure to high strain conditions is associated with current depression. They found that moving into and remaining in high strain employment was predictive of depression, but not for all employees, suggesting that individual factors play a part in staving off poor mental health for a proportion of people. Indeed Burns et al (in press) noted that positive and negative affect differed in sensitivity as indicators of job strain over a four-year period. The operation of coping mechanisms and experiences of poorer well-being differ between individuals over time, so other than genetic predisposition, what life experience garnered through ageing might help determine long-term psychological outcomes?

One approach is to consider the stage at which one experiences major challenges in life and whether there is a time at which we are sensitised to their effects in later life. Brown and Harris' Social Origins of Depression (1978) documents the predictive capacity of loss and separation before the age of eleven to make the individual vulnerable to experiences of depression in adulthood. Similarly Affective Events Theory (Weiss and Cropanzano, 1996) illustrates a mechanism by which work-related events in adult life leave a legacy through classical conditioning of employees' subsequent behaviours when faced with similar circumstances later in their careers. Both of these approaches illustrate a form of learning which can shape the individual's response, either arming or disempowering him/her in the future. The impact of loss over which one has little control – inside or out of work – entails a degree of helplessness which, given the availability of moderating factors such as family support and socio-economic factors, may prevail over one's wider dealings with the world. In this way parallels can be drawn between Brown and Harris' model of vulnerability to psychological ill health and a framework illustrating the potential psychological impact of exposure to negative work events (see Table 1).

Brown and Harris maintain that past loss leads to 'deprivation of sources of value or reward...[but] what is important about such loss for the genesis of depression is that it leads to an inability to hold good thoughts about ourselves, our lives and those close to us' (Brown and Harris, 1978, p.223). Furthermore they highlight the increased level of dependence which early loss can trigger, such that absence of a confiding relationship in later life and the support which this can provide, perpetuates 'an ongoing sense of insecurity and feelings of incompetence in controlling the good things of the world' (p.240). The resulting sense of hopelessness can generalise to other aspects of the individual's life. Where self-esteem is low, the experience of a negative life event or ongoing difficulty can obstruct the individual from being able to visualise emerging from their negative situation. In this way the vulnerability created by past experience and limited access to psychological resources with which to cope may be triggered into an episode of psychological ill health by the personally overwhelming nature of a new negative event or problem.

This chapter proposes that through a similar set of psychological processes, vulnerabilities developed during the individual's working life can accumulate and subsequent exposure to a negative job-related event can trigger a deterioration in the employee's psychological health, with potentially long-lasting effects. Table 1 – citing studies tracking employees' experiences over at least one year - shows how themes found to be operational in the social psychiatry context have parallel themes in a work setting, i.e. the source of each psychological vulnerability identified by Brown and Harris (1978) has a potential work-related corollary. These parallels may not be an exhaustive list, but may explain activation of negative perceptions of the future, as well as the impact of absence of emotional support, work-related overload and the significance of an event or problem which triggers a challenge to the individual's self-esteem. Elements of this approach find echoes in existing occupational psychology models linking job features and health, e.g. Warr's 'Vitamin' Model (Warr, 1999) as well as those models which acknowledge the role of emotions, e.g. Affective Events Theory (Weiss and Cropanzano, 1996) and employees perceptions, e.g. Effort-Reward Imbalance (Siegrist, 2002). However the model proposed incorporates job features and is individually-oriented, but also seeks to highlight potential mechanisms which can play their part in progressing the employee over time from relatively good to poor psychological health.

Table 1 – Parallels between individual vulnerabilities identified in social psychiatry and occupational psychology which suggest negative psychological outcomes

Social Psychiatry from Brown and Harris (1978)	Occupational Psychology, from Weinberg (1999)	Examples of occupational research
Past loss, e.g. death/separation from parent during childhood	Past loss, e.g. job loss, failed promotion or exam	Makikangas et al (2011) – Finnish managers
Absence of confiding relationship	Lack of support from line manager	Weinberg and Creed (2000) – UK healthcare staff
Presence at home of three or more of own children	Demanding workload/relationships	Schaufeli et al (2011) – Dutch primary care physicians; Dormann and Zapf (2002) German working population
Lack of full- or part-time job	Threat to job security	Burchell (2011) – UK financial and manufacturing employees
Trigger provided by event or difficulty	Negative work event/difficulty with threat to self-esteem	Callander and Schofield (2016) – Australian national study

Findings (see Table 1) show the potential usefulness of the proposed model, utilising longitudinal or long-term research designs to illustrate the impact of psychosocial work conditions on psychological outcomes. Compared to when the model was first considered there have been advances in the use of these types of research design, however the gradual nature of their emergence necessitates the use of examples here and it is hoped that ongoing research will shed further light on the utility of this approach.

Past loss such as being made redundant is a highly significant work-related event, with broader implications for the individual and their family. In a study of the Finnish public sector, it is unsurprising that career disruptions and perceived career insecurity predicted well-being up to seven years later (Makikangas et al, 2011). The impact differed depending on the age of the employee, with those in later life (Marshall et al, 2001) worse affected due to limited prospects of alternative employment in the context of an economic recession during the study period (Makikangas et al, 2011).

Absence of a confiding relationship promotes isolation of the individual as it leaves him/her without a regular point of personal contact. In parallel, lack of support at work due to the absence of positive relations with a significant figure, such as the job-holder's manager or supervisor is likely to undermine employee well-being as the effects are felt across the work context (NICE, 2015). In particular the absence of trust and of perceived support is implicated in a range of negative outcomes for individuals and organisations alike, from sickness absence to counterproductive behaviours (Bordia et al, 2008). Such marked impacts are likely to be promoted by the presence of negative emotions as well as the close proximity of this work situation which increases exposure to such tensions. In a study of life events and difficulties over a one year period, absence of manager support was the largest work-based predictor of minor psychiatric disorder among healthcare staff (Weinberg and Creed, 2000).

Demanding workloads and relationships were investigated in a 10-year follow up study of Dutch physicians. This identified burnout as a constant feature and that increased exposure to currently demanding patient demands was predictive of it (Schaufeli et al, 2011), however the impact of this type of workload on psychological health over a 5-year period was not demonstrated. The authors suggest that there is a moderating role played by adaptation strategies which can offset the impact of workplace challenges and point to the need to identify a time-span over which negative effects might be recorded. With this in mind, a two-year period was found to offer better insights on the longitudinal impacts of social stressors on depressive symptoms, finding that irritation was a mediator within this progression from exposure to impaired well-being (Dormann and Zapf, 2002).

Job insecurity entails the threat of a severe negative experience which past loss has previously dealt the individual. Burchell (2011) urges caution in the interpretation of time series data about the impact of job security, however analysis of this type of data has demonstrated the expected sharp decline in employees' well-being following the emergence of such a threat and this is followed by a continuing decline in psychological health for 1-2 years afterwards. Burchell draws a contrast between those facing insecurity whose capacity to plan ahead is hampered and those who have already been made unemployed and therefore have begun to adapt to their new circumstances. It is proposed that for the individual made vulnerable by past loss, the difficulties in seeing positive outcomes ahead make job insecurity particularly challenging.

A **negative work event or difficulty** carries clear implications for well-being by challenging the individual's self-esteem. A work-related longitudinal study, which shows parallels to findings from Brown and Harris's community-based research, highlights the 'negative spiral for the employee' characterised by the link between self-efficacy and the ongoing problem of low income (Callander and Schofield, 2016). However in identifying negative events one challenge can be knowing that this is how the individual has perceived it. Zhao et al (2007) recognise breaches in the psychological contract (see later) as negative events and by assessing the intensity of emotional response to these over time, it has been demonstrated that employee attitudes and behaviour can change for the worse (Bal et al, 2013). Self-rated job performance which reflected employees' effectiveness and ability to meet what was required deteriorated among younger individuals (Bal et al, 2013), showing negative effects of the event on their view of themselves.

Age and the psychological contract

Although the model highlights potential sources and mechanisms for the action of vulnerabilities, it has not so far indicated the role of age, other than increased likelihood of exposure over time to a trigger event which may precipitate negative psychological outcomes. Examination of the

occupational psychology literature shows changes in attitudes towards work which may well be stage and/or age-related, not least because these play a determining role in how employees experience the psychological contract (PC). The PC represents 'individual beliefs, shaped by the organization, regarding the terms of an exchange agreement between the individual and their organization' (Rousseau, 1995, p.9) and can exist as a series of unwritten expectations, shared between the employee and their employer (Schein, 1980). The PC has been shown to be an important predictor of psychological and behavioural outcomes including well-being (Ruokolainen et al, 2016), through its ability to help us shape how we perceive events. Underpinning this set of expectations, our increased experience of the workplace gained with age can serve the purpose of clarifying what is important and what sacrifices are acceptable in striking a deal with our work, particularly in shaping our knowledge of others and what expectations they can realistically meet (Ng and Feldman, 2009). In this way the PC can play an important role in the activation of vulnerabilities described earlier.

An age- or indeed stage-related approach carries the potential to incorporate individual differences in understanding the impact of work-based factors in conjunction with changes in life circumstances, e.g. when children are young or when they leave home. These changes include a move towards prioritising intrinsic motivators within the job - including autonomy, flexibility, interest and personal principles – which peak in the 46-55 year age-group (Inceoglu, Segers and Bartram, 2012). Within a study of 2512 employees, such preferences coincided with a decline for 36-55 year olds in the significance of extrinsic job rewards, namely status, material reward, progression and recognition. These patterns persisted after controlling for gender, managerial experience and university education (Inceoglu et al, 2012) and demonstrate the value placed on intrinsic rewards later in working life (Kooij et al, 2011) which is further supported by findings from the World Values Survey (Warr, 2008). It is suggested that the availability of bespoke training and development as well as stimulating work are linked to the retention of older workers as function of perceived organisational support, underlining both the importance of considering the impact of job design and organisational policies on older employees (Armstrong-Stassen and Ursel, 2009). The implications for psychological functioning and health are apparent in the comparatively enhanced capabilities and well-being of those who continue to work after retirement age (Schwingel et al, 2009). Indeed the opportunity to engage in rewarding social activity is considered integral to such findings and mirrors the potential for poorer psychological health where this is missing (see Table 1).

These shifts in employee priorities do not simply signal what motivates older employees, but shape the responses of workers to negative work events, such as a breach of the PC. A review of research into ageing suggests that the perceptions held by older workers evolve into more emotionally managed and tolerant attitudes, reflected in more strategic work behaviours (Ng and Feldman, 2009). At least in part this 'tolerance-shift' is due to revised expectations about work. Socio-emotional selectivity theory (Cartensen, Isaacowitz and Charles, 1999) attempts to explain the underlying processes, whereby time is more likely to be perceived as finite in later life, resulting in an increased focus on the present and on maintaining emotional well-being (Cartensen and Mikels, 2005). Furthermore there is research showing that older individuals are more adept at regulation of emotions as a result of less intense attitudinal and behavioural responses to their emotions (Kunzmann and Richter, 2009) and the capacity to return to a positive mood after negative emotions more quickly (John and Gross, 2004) than younger counterparts.

Breaches of the PC may take the form of economic (materially based), developmental (training and development opportunities) and/or socio-emotional (relationship) mismatches between what is anticipated and what transpires (Bal et al, 2010). However regardless of the domain in which the PC is breached – and where job characteristics are rated similarly between age groups - younger employees showed a more pronounced negative response compared to older colleagues, with job satisfaction and work performance suffering as a result (Bal et al, 2013). This outcome was unrelated to length of time in the job in this longitudinal study and taken as a whole the findings led the researchers to conclude that older employees' ability to regulate emotion buffered them against negative events, such as breaches to the psychological contract (Bal et al, 2013).

Therefore the PC experienced by employees at different ages sheds light on how we behave, in particular relating to disappointments in the workplace. 'The extent to which employees can tolerate

deviations from expectations without reciprocating negativity in turn' has been termed 'contract malleability', (Ng and Feldman, 2009, p. 1057) and is thought to translate into behaviours which represent organisational coping mechanisms in situations where the balance of the psychological contract is tilted away from the employee. Aligning our expectations with what we experience is popularised as cognitive dissonance (Festinger, 1962) and coupled with a lowered expectation that it will be possible to replicate current work conditions elsewhere, this could explain why older workers may be less likely to leave an undesirable work environment (Ng and Feldman, 2009). Evidence is mixed as to whether older workers will utilise employee voice (Hirshman, 1970) for fear of employer reprisals - apparent loyalty is therefore more likely and consistent with this there is less probability of counterproductive behaviour (Ng and Feldman, 2009).

Socio-emotional selectivity theory suggests a way in which such age-related responses can be explained, however in a similar manner employees of all ages demonstrate the ability to put events in perspective. If our expectations of a job form just one set of many priorities, then the impact of negative events at work is more likely to be limited or offset by those other priorities. For example, 'My life outside of work is more important to me, so if things go wrong in the job I tend to feel less bothered by them'. Such considerations are understandably linked to the stage of our working lives too and will impact on how significantly we feel the impact of a work-related event. In this way job insecurity is a major worry when finding alternative employment is in short supply: this can be the case when approaching retirement age, but may be taken in the stride of an employee earlier in their careers (Inceoglu et al, 2012).

Drawing on the framework of psychological vulnerabilities, self-esteem and positive outlook on the future are determined by emotionally salient features of our psychosocial environment. Within a work context, contending with a difficult manager appears less important if one has priorities outside of that relationship, e.g. 'Every time she becomes overbearing, I think about the training course I'm enjoying'. Equally, 'I'm happy doing what I do at this level of the corporate ladder, so I'll put up with the minor things which go wrong at work'. As long as one can identify a positive rationale for remaining in one's current situation, which may be supported by psychological resources and experience gathered over time, then a negative challenge would seem less likely to destabilise the individual's emotional equilibrium. This equation helps to determine whether an event or difficulty triggers a well-tempered, or distressed, psychological response.

As well as individual vulnerabilities, it is important to highlight the relevance to our workplace expectations of a collectively shared hinterland, which being the product of an historical context can mean. Knowledge of – or indeed witnessing - world events as well as shared experiences in upbringing contribute to understanding the early memories of different generations. In this way, past loss can be both a shared and individualised experience (e.g. surviving the effects of a world war, economic recession and uncertainty, seeing live media coverage of the 9/11 attacks). In turn, these experiences shape how each of us configures the psychological contract (Rousseau, 2001). This is particularly important for reciprocity at work (Gouldner, 1960) as each generation harbours different expectations and reacts accordingly to whether or not these are met (Lub et al, 2016). A comparison of Baby Boomers (born 1945-1964), Generation X (born 1965-1980) and Generation Y (born 1981-1995)(Eisner, 2005) showed how many aspects of working, including job content and career development (Generation Y), workplace policies (Generation X) and social atmosphere (Baby Boomers and Generation X) generated different levels of motivation (Lub et al, 2016). The emphasis on fairness and togetherness may reflect the priorities of a shared sense of rebuilding (Baby Boomers) and adapting to massive social change and upheaval (Generation X), whereas relative prosperity has afforded the luxury of exploiting technological advances for Generation Y. Will this result in increased selfishness for a Generation Z in which the empowered seek to safeguard what they have and those seeking refuge or better fortune seek empowerment – or is this a horribly familiar story of human suffering played out against the backdrop of tyranny and incompetence? Europe has struggled to accommodate mass migration – reaction to its failure to coordinate and adapt may well feature in the psychological contracts of the next generation.

Back to the future?

It is sometimes claimed that in order to go forward, we must go back. Advances in understanding of our genetics provide possibilities not dissimilar to what is hoped for in uncovering the origins of dementia, i.e. the potential to highlight predictors of disease in later life. Epigenetic research carries implications far beyond the individual's lifespan by assessing the impact on an individual's genetic legacy of his/her lived experience. The detection of genetically-linked markers in generations descended from survivors of famine (Kaati et al, 2007) is both alarming and intriguing. This goes beyond the impact of smoking on the unborn child which is a legacy with environmental features, to suggest that our adaptation as a species includes the scars of past struggles. From an evolutionary perspective, this is not surprising and clearly explicable in light of the ultimately positive life outcome for generations who follow, however it raises the possibility that extreme stress can leave a long-term impact beyond the ageing process of the individual.

By comparison, the relative scarcity of longitudinal studies into the impact of psychosocial features of work – including those which utilise a range of measures over decades – means we have a limited understanding of the effects of different exposures to environments in an ageing work population. Nevertheless clues to the physical consequences of these do exist, including the prevalence of premature ageing. We can continue to develop this knowledge base through greater use of lifespan theories of development and a more detailed appreciation of the attempts by individuals to exert control over their lives in a range of cross-cultural contexts (Schalk et al, 2011). This chapter has utilised a model developed in social psychiatry to propose how individual psychological vulnerabilities may emerge over time in the presence of negative psychosocial factors at work. Furthermore the benefits of adaptation with age and experience are evident in the ongoing modification of our psychological contracts. It is hoped that we can learn more about work that prematurely ages us, that leaves us vulnerable to trauma in later life and what can be learned from viewing our relationships with the workplace differently over time (or indeed generations). The impetus for this is that we have the capacity to minimise exposure to toxic features of the psychosocial work environment, with the potential to benefit the physical and psychological health of present and future employees. There is much to be gained by learning from the approaches to work summarised by the psychological contracts of various age-groups, and by addressing incorrect assumptions linked to age-related discrimination. When a writer – nearing the age of 50 – suggested life is like an hour spent upon the stage, he may have hoped that we learn to fret less and see the benefits of our collective experience.

References

- Armstrong-Stassen, M. and Ursel, N.D. (2009) Perceived organisational support, career satisfaction, and the retention of older workers. *Journal of Occupational and Organizational Psychology*, 82, 201-220.
- Bal, P.M., De Lange, A.H., Jansen, P.G.W. and Van Der Velde, M.E.G. (2013) A longitudinal study of age-related differences in reactions to psychological contract breach. *Applied Psychology*, 62(1), 157-181.
- Bal, P.M., Jansen, P.G.W., Van Der Velde, M.E.G., De Lange, A.H. and Rousseau, D.M. (2010) The role of future time perspective in psychological contracts: A study among older adults. *Journal of Vocational Behavior*, 76, 474-486.
- Benjamin, K. and Wilson, S. (2005) Facts and misconceptions about age, health status and employability Health and Safety Laboratory, Buxton, Report HSL/2005/20.
- Bordia, P., Restubog, S., Lloyd, D. and Tang, R.L. (2008) When employees strike back: Investigating mediating mechanisms between psychological contract breach and workplace deviance. *Journal of Applied Psychology*, 93, pp. 1104-1117.
- Brown, G. and Harris, T. (1978). *Social origins of depression: A study of psychiatric disorder among women*. London: Routledge.

- Burchell, B. (2011) A temporal comparison of the effects of unemployment and job insecurity on well-being. *Sociological Research Online*, 16(1), 9. Available at: www.socresonline.org.uk/16/1/9.html> 10.5153/sro.2277 Accessed on 20th April.
- Burns, R.A., Butterworth, P. and Anstey, K. (in press) An examination of the long-term impact of job strain on mental health and well-being over a 12-year period. *Social Psychiatry and Psychiatric Epidemiology*.
- Callander, E.J. and Schofield, D.J. (2016). The impact of poverty on self-efficacy: An Australian longitudinal study. *Occupational Medicine*, doi: 10.1093/occmed/kqw017. Accessed on 20th April 2016.
- Cartensen, L.L., Isaacowitz, D.M. and Charles, S.T. (1999) Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54, 165-181.
- Cartensen, L.L. and Mikels, J.A. (2005) At the intersection of emotion and cognition: Aging and the positivity effect. *Current Directions in Psychological Science*, 14, 117-121.
- Chandola, T., Ferrie, J. and Sacker, A. (2007) Social inequalities in self-reported health in early old age: Follow-up of prospective cohort study. *British Medical Journal*, 334: 990-993.
- Descatha, A., Cyr, D., Mediouni, Z. and Goldberg, M. (2013) Work-related premature ageing: Old concept but emerging stakes. *Occupational and Environmental Medicine*, 70(9), 675.
- Dormann, C. and Zapf, D. (2002) Social stressors at work, irritation and depressive symptoms: Accounting for unmeasured third variables in a multi-wave study. *Journal of Occupational and Organizational Psychology*, 75(1), 33-58.
- Festinger, L. (1962) *A theory of cognitive dissonance*. Stanford University Press.
- Gouldner, A.W. (1960) The norms of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161-178.
- Harris, S. and Higgins, G. (2006) A review of organisational interventions that can prevent early retirement among older workers Health and Safety Laboratory, Buxton, Report RMS/06/03
- Hirshman, A.O. (1970) *Exit, voice and loyalty*. Cambridge, MA: Harvard University Press.
- HSE (2010) Ageing and work-related musculoskeletal disorders. Research report RR799. Buxton.
- Inceoglu, I., Segers, J. and Bartram, D. (2012) Age-related differences in work motivation. *Journal of Occupational and Organisational Psychology*, 85, 300-329.
- Johansson, L., Guo, X., Waern, M., Östling, S., Gustafson, D., Bengtsson, C. and Skoog, I. (2010) Midlife psychological stress and risk of dementia: A 35-year longitudinal population study. *Brain*, doi: 10.1093/brain/awq116.
- John, O.P. and Gross, J.J. (2004) Healthy and unhealthy emotion regulation: Personality processes, individual differences, and lifespan development. *Journal of Personality*, 72, 1301-1333.
- Kaati, G., Bygren, L.O., Pembrey, M. and Sjöström, M. (2007) Transgenerational response to nutrition, early life circumstances and longevity. *European Journal of Human Genetics*, 15, 784-790.
- Kooij, D.T.A.M., Lange, A.H.D.E., Jansen, P.G.W., Kanfer, R. and Dikkers, J.S.E. (2011) Age and work-related motives: Results of a meta-analysis. *Journal of Organizational Behavior*, 32, 197-225.
- Kunzmann, U. and Richter, D. (2009) Emotional reactivity across the adult lifespan: The cognitive pragmatics make a difference. *Psychology and Aging*, 24(4), 879-889.

Lub, X.D., Bal, M., Blomme, R.J. and Schalk, R. (2016) One job, one deal...or not: Do generations respond differently to psychological contract fulfilment? *International Journal of Human Resource Management*, 27(6), 653-680.

Makikangas, A. Hyvönen, K., Leskinen, E., Kinnunen, U. and Feldt, T. (2011). A person-centred approach to investigate the development trajectories of job-related affective well-being: A 10-year follow-up study. *Journal of Occupational and Organisational Psychology*, 84, 327-346

Marshall, V.W., Clarke, P.J. and Ballantyne, P.J. (2001) Instability in the retirement transition: Effects of health and well-being in a Canadian study. *Research on Aging*, 23, 379-409.

Netterstrom, B. and Juel, K. (1988) 'Impact of work-related and psychosocial factors on the development of ischaemic heart disease among urban bus drivers in Denmark', *Scandinavian Journal of Work and Environmental Health*, 14, 231-238

Ng, T.W.H. and Feldman, D.C. (2009) Age, work experience, and the psychological contract. *Journal of Organizational Behavior*, 30, 1053-1075.

NICE (2015) Workplace health: Management practices. Available at: <https://www.nice.org.uk/guidance/ng13> Accessed on 20th April, 2016.

Niedhammer, I., Lesuffleur, T., Algava, E. and Chastang, J.F. (2015) Classic and emergent psychosocial work factors and mental health. *Occupational Medicine*, 65(2), 126-134.

Rousseau, D.M. (2001) Schema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational and Organizational Psychology*, 74, 511-541.

Rousseau, D.M. (1995) Psychological contracts in organizations. *Employee Responsibilities and Rights Journal*, 2, 121-139.

Ruokolainen, M., Mauno, S., Diehl, M-R., Tolvanen, A., Makikangas, A. and Kinnunen, U. (2016) Patterns of psychological contract and their relationships to employee well-being and in-role performance at work: Longitudinal evidence from university employees. *International Journal of Human Resource Management*, doi: 10.1080/09585192.2016.1166387.

Saurel-Cubizolles, M.J., Zeitlin, J., Lelong, N., Papiernik, E., Di Renzo, G.C. and Breart, G. (2004) Employment, working conditions, and preterm birth: results from the Europop case-control survey in *Journal of Epidemiology and Community Health*, 58, 395-401

Schalk, R., van der Heijden, B., de Lange, A. and van Veldhoven, M. (2011). Long-term developments in individual work behaviour: Patterns of stability and change. *Journal of Occupational and Organisational Psychology*, 84, 215-227.

Schaufeli, W., Maassen, G.H., Bakke, A.B. and Sixma, H.J. (2011) Stability and change in burnout: A 10-year follow-up study among primary care physicians. *Journal of Occupational and Organisational Psychology*, 84, 248-267.

Schein, E.H. (1980) *Organizational Psychology*. Englewood Cliffs, NJ: Prentice-Hall.

Schwengel, A., Niti, M.M., Tang, C. and Ng, T.P. (2009) Continued work employment and volunteerism and mental well-being of older adults: Singapore longitudinal ageing studies. *Age and Ageing*, 38, 531-537.

Siegrist, J. (2002) Effort-reward imbalance at work and health. In P.L. Perrewé and D.C. Ganster (eds.) *Historical and current perspectives in stress and health*, pp. 261-291, Amsterdam: JAI Elsevier.

- Stansfeld, S.A., Shipley, M.J., Head, J. and Fuhrer, R. (2012) Repeated job strain and the risk of depression: Longitudinal analyses from the Whitehall II study. *American Journal of Public Health*, 102(12), 2360-2366.
- Vahtera, J., Kivimaki, M., Pentti, J., Linna, A., Virtanen, M., Virtanen, P and Ferrie, J.E. (2004) Organisational downsizing, sickness absence and mortality: 10-town prospective cohort study. *BMJ*, 6th March, 328: 555
- Warr, P.B. (2008) Work values: Some demographic and cultural correlates. *Journal of Occupational and Organisational Psychology*, 81, 751-775.
- Warr, P.B. (1999) Well-being in the workplace, In D.Kahneman, E.Diener and N.Schwartz (Eds.), *Well-being: the Foundations of Hedonic Psychology*, New York: Russell Sage.
- Weinberg, A. and Creed, F (2000) Sources of stress in the NHS workforce. *The Lancet*, Vol. **355**, 533-537.
- Weinberg, A. (1999) Sources of stress in the National Health Service workforce. University of Manchester: PhD thesis.
- Weiss, H.M. and Cropanzano, R. (1996) Affective Events Theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. In B.M. Staw and L.L. Cummings (Eds.) *Research in organizational behaviour: An annual series of analytical essays and critical reviews*, vol. 18, pp. 1-74, Greenwich, CT: JAI Press.
- P. Zagożdżon, J. Parszuto, M. Wrotkowska and D. Dydjow-Bendek (2014) Effect of unemployment on cardiovascular risk factors and mental health. *Occupational Medicine*, 64,436–441.
- Zhao, H., Wayne, S.J., Glibkowski, B.C. and Bravo, J. (2007) The impact of psychological contract breach on work-related outcomes: A meta-analysis. *Personnel Psychology*, 60, 647-680.