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The SAGE Handbook of Organisational Wellbeing

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Chapter title: Understanding the cost of mental health at work: an integrative framework

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Chapter Abstract

Internationally, there is growing recognition of the social and economic impact of work-related stress and mental ill-health; and, in turn, of the relative importance of promoting mental wellbeing and preventing the onset of mental disorders at work and within the community. Understanding the financial cost of mental ill-health and work-related stress to society and organisations is an important avenue by which to assess the magnitude and significance of an occupational or public health problem (Leigh, 2006; Tarricone, 2006; Jo, 2014). However, it can also act an important source of information in which to develop the business case for health-centered workplace interventions and public policy. The aim of this book chapter is to cultivate a better understanding and informed discourse at the interface between the disciplines of psychology and economics. In particular, we seek to integrate our empirical understanding of the link between work, mental health and organisational performance within an economic methodological perspective.

Chapter Keywords

Business case, mental health, work-related stress, work, cost of illness, psychosocial work environment

Introduction

Work-related stress and mental ill-health is a large-scale, global problem. Within Europe, stress is the second most commonly reported work-related health problem, reported by over half of the workforce (Eurofound, 2012). In the United Kingdom (UK), recent estimates indicate that one in four people will suffer from a common mental health disorder of anxiety, depression or stress during their adult lives (NICE, 2019). The economic impacts of this are profound, with an estimated 54% of all working days lost as a result of ill-health due to work-related stress, depression or anxiety (HSE, 2019). Levels of absenteeism, unemployment and long-term disability claims due to stress and mental health problems are increasing in many high-income countries. Mental ill-health has also now overtaken musculoskeletal problems as the leading cause of absence from work and withdrawal from the labour market in many countries (OECD, 2012). This problem is set to increase since the outbreak of COVID-19, caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) and declared a pandemic by the World Health Organization (WHO) on March 11, 2020. Preliminary evidence gathered before and during the pandemic clearly shows a significant mental-health impact of COVID-19 on working-age adults (Hassard *et al.*, no date; Daly, Sutin and Robinson, 2020). The development and maintenance of psychologically safe and healthy workplace has never been so important.

Internationally, there is growing recognition of the social and economic impact of work-related stress and mental ill-health; and, in turn, of the relative importance of promoting mental wellbeing and preventing the onset of mental disorders at work and within the community (Black, 2008; Farmer and Stevenson, 2017; NICE, 2019). This is evidenced by an increasing number of policy-level interventions targeting the protection and promotion of mental health at work (e.g. The National Standard of Canada for Psychological Health and Safety in the Workplace, Mental Health Commission of Canada, 2013; Australian national-level guidance; SafeWork Australia, 2019; and a British code of practice on improving health and wellbeing in an organisation, BSI, 2018) coupled with an increasing number of toolkits and resources in the public domain that are aimed at supporting workplace-level action and intervention (see Leka and Jain (2010) for a review). However, adherence and implementation of such strategies and practices at the workplace level remains problematic (EU-OSHA, 2019).

There is a vast literature on work-related stress and mental health, together with reports of investigations conducted to examine and understand its associated human (e.g. health outcomes) and organisational costs (e.g. sickness absence rates, turnover, productivity; Cox, Griffiths, & Rial-Gonzalez, 2000; Eurofound & EU-OSHA, 2014; Leka & Jain, 2010). Comparatively, much less attention has been paid to understanding the economic burden of this social and occupational phenomenon. This emerging evidence base attests to the substantial financial costs associated with psychosocial risks and work-related stress for individual organisations as well as national economies (Hoel, Sparks and Cooper, 2001; Sultan-Taïeb *et al.*, 2013; McDaid and Park, 2014). In previous work, Hassard and colleagues sought to identify, understand and critically evaluate the available economic evidence derived from cost of illness studies across a range of occupational health issues (EU-OSHA, 2014), including: work-related stress (Hassard *et al.*, 2018a), bullying and harassment (Hassard *et al.*, 2018b) and work-related aggression and violence (Hassard *et al.*, 2018b).

The aim of this book chapter is to build upon the work by Hassard and colleagues, and in so doing seeks to cultivate a better understanding and informed discourse at the interface

between the disciplines of psychology and economics. We seek to integrate our empirical understanding of the link between work, mental health and organisational performance within an economic methodological perspective. In particular, we seek to:

- explore the rationale for understanding economic estimates;
- describe key cost and methodological components that underpin many economic estimates derived from cost of illness (COI) studies;
- discuss the link between work, mental health and productivity;
- explore what costs are (and are not) accounted for in such economic estimates; and
- critically discuss the existing gaps in research.

Why is it important to understand economic estimates?

Understanding the financial cost of mental ill-health and work-related stress to society and organisations is an important avenue by which to assess the magnitude and significance of an occupational or public health problem (Leigh, 2006; Tarricone, 2006; Jo, 2014). However, it can also act as an important source of information in which to develop the business case for health-centered workplace interventions and public policy. For example, the International Labour Organisation (Di Martino & Pujol, 2000), the European Commission (EC, 2002), and the British Health and Safety Executive (Bond, Flaxman & Louivette, 2006) are amongst the many bodies that quote the financial cost(s) associated with work-related strains and stressors to encourage employers and governments to invest in the prevention and management of work-related stress and the promotion of mental health at work.

COI studies aim to estimate the total economic impact of a disease incurred by all relevant stakeholders within society (Bloom, Canning and Sevilla, 2001; Tarricone, 2006). These studies typically examine a range of cost components, including: *direct* (e.g., healthcare and medical costs), *indirect* (e.g., costs due to sickness absence or turnover), and *intangible* costs (e.g., emotional strain and reduced quality of life; Luppá, Heinrich, Angermeyer, König, & Riedel-Heller, 2007). Identifying and understanding the costs associated with work-related stress and mental health at work can help to make the case for individual and organisational benefits accrued through increased quality of work, work environments and working lives (Cooper and Dewe, 2008; McDaid and Park, 2014).

Detailed evaluations of these estimated costs, derived from COI studies, have seldom received attention in the broader literature; with some frequently cited figures being produced without clear specification or transparency in their employed methodology (e.g., American Institute of Stress, n.d.). Therefore we argue that there is a growing need for all those (e.g. researchers, practitioners, change advocates, policy makers, to name a few) who utilise such sources of evidence to be better understand and critically evaluate such estimates. Whilst there are other important sources of economic evidence in building a business case in this field (e.g. cost-benefit analysis¹), this book chapter focuses specifically on COI studies. Therefore, the aim of the following section is to provide a cursory-level introduction into the key methodological components of COI studies.

Basic Concepts of Cost of Illness Studies

The aim of COI studies is to estimate the total economic impact of a disease incurred by all relevant stakeholders within a given society (Drummond *et al.*, 2005) with such estimates (ideally) accounting for the direct, indirect, and intangible costs (Dagenais, Caro and Haldeman, 2008). The objective of COI studies is primarily to itemise, value, and sum the

costs of a particular problem (Koopmanschap, 1998). The following section aims to provide a short introduction on the key features of COI studies, mainly the typology of cost components, epidemiological approaches, and methodological approaches. For a more comprehensive discussion of the key characteristics of COI studies see Larg and Moss (2011).

Typology of cost components

The economic burden of a given disease or health problem is estimated by accounting for the costs typically associated with resource consumption, productivity losses, and other “intangible” burdens within a specified group (Larg & Moss, 2011). As aforementioned, COI studies typically stratify costs into three categories: direct, indirect, and intangible costs (Luppa *et al.*, 2007; Dagenais, Caro and Haldeman, 2008). Table 1 aims to provide some examples of typically examined cost components as identified in previous reviews in the area of occupational health and management (Hassard *et al.*, 2018a, 2018b; Hassard, Teoh and Cox, 2019).

[insert Table 1 here]

Direct costs are incurred by the healthcare system, family, society, and the individual; and typically consist of healthcare and non-healthcare costs (Jo, 2014). The former refers to medical care expenditure related to diagnosis, treatment, and rehabilitation; while the latter relates to the consumption of non-health care resources (such as, transportation, household expenditures, relocating, property losses, litigation; Dagenais *et al.*, 2008; Luppa *et al.*, 2007). Typically, direct medical costs are the easiest to estimate, and, consequently, the most commonly accounted for in many COI studies (e.g. Hassard *et al.*, 2018a). In contrast, evidence of direct non-medical costs are less well documented, or less readily available, making the estimation of aggregated figures typically quite challenging (Luppa *et al.*, 2007; Dagenais, Caro and Haldeman, 2008) and, consequently, less examined or accounted for (Hassard *et al.*, 2018a, 2018b; Hassard, Teoh and Cox, 2019).

Indirect costs refer to productivity losses due to mortality or morbidity borne by the individual, family, society, or the employer (Larg and Moss, 2011). Most COI studies tend to focus on productivity losses incurred within the occupational context (Béjean & Sultan-Taïeb, 2005; Deloitte, 2017; McTernan, Dollard, & LaMontagne, 2013). Considerably fewer studies have accounted for non-work related productivity losses, such as: housework, voluntary work, and other unpaid productivity work (Molinier *et al.*, 2008; Larg and Moss, 2011). This finding is mirrored across all three the systematic reviews examining a variety of occupational health and management issues (Hassard *et al.*, 2018a, 2018b; Hassard, Teoh and Cox, 2019). In general, these reviews predominantly accounted for costs associated with sickness absence, staff turnover, and (to lesser degree) presenteeism.

Intangible costs, by contrast, reflect the financial value prescribed to the pain and suffering, and the reduced quality of life experienced by the afflicted individual or group of individuals (Luppa *et al.*, 2007). Due to the difficulty in quantifying such experiences, intangible costs are seldom included in COI studies. Consequently, the empirical importance in allowing valid and reliable cost estimates is acknowledged within both the economic and public health fields (Larg and Moss, 2011). Once again, across all three the systematic reviews of COI studies very few studies accounted for such costs. This is despite strong evidence derived from the psychological literature observing a link between work-related stress and poor -mental health with reduced quality of (working) life (Leka and Jain, 2010; Eurofound & EU-OSHA, 2014).

Epidemiological approach

The interpretation of COI studies is directly influenced by the epidemiological perspective adopted and utilised by the study: *incidence-* or *prevalence-based*. The incidence¹-based approach measures the likely avoided costs if new cases are prevented (Larg & Moss, 2011). Such studies sum the estimated lifetime costs that are attributable to cases that occur during the defined incident period, following which future costs are appropriately adjusted to their present day value (i.e. discounting; Mauskopf, 1998). The results derived from such studies can: (i) demonstrate how costs vary with disease duration (Larg & Moss, 2011); (ii) inform planning interventions targeted at specific stages (Fiscella *et al.*, 2009), and; (iii) can be used to inform the calculation of baseline costs for cost-effectiveness studies for interventions (Finkelstein and Corso, 2003).

Prevalence²-based approaches, in contrast, measure the actual impact of existing cases compared with a hypothetical alternative case prevalence (Larg & Moss, 2011). Such studies measure disease-attributable costs that occur concurrently with prevalent cases over a specific time period (usually one year; Larg & Moss, 2011). This approach is generally considered the most appropriate for assessing the total current economic burden of a health problem (WHO, 2009) as these studies usually include a cross-section of cases, thus capturing the costs at varying stages of disease (Mauskopf, 1998). However, this cross-section of individuals may also include cases that may not be amenable to intervention. Consequently, estimates derived using such an epidemiological approach is generally viewed as less reliable for measuring the potential savings from preventative interventions (WHO, 2009).

Methodological approach

COI studies can be broadly grouped around three different approaches: top-down, bottom-up, and deductive (Drummond *et al.*, 2005; Larg and Moss, 2011). In general, the deductive approach is less commonly used than top-down or bottom-up approaches (Hassard *et al.*, 2018a, 2018b; Hassard, Teoh and Cox, 2019).

The *top-down (population aggregated-based) approach* measures the proportion of a problem that is due to exposure to the relevant risk factors (Larg & Moss, 2011). Attributable costs are calculated by using aggregated data along with population-attributable fraction calculations (Morgenstern, Kleinbaum and Kupper, 1980). The empirical rigour of top-down approaches relies heavily on the quality of the epidemiological/ secondary data sources used. Consequently, the ability to meaningfully and accurately monitor and measure working conditions and work-related health ailments and conditions is of direct relevance in regards to the quality of such estimates (Hassard *et al.*, 2018a). There is often difficulty in distinguishing group differences in the consumption and utilization of health and other economic resources (Larg & Moss, 2011). Despite this, such an approach is typically quicker and easier to conduct than the bottom-up approach as the former often relies solely on secondary data (Mogyorosy & Smith, 2005).

The bottom-up (person-based) approach estimates costs by calculating the estimated cost per case and extrapolates it to the national or societal level (Larg & Moss, 2011). In this

¹ **Incidence** refers to the number of individuals who develop a specific disease or experience a specific health-related event during a particular time period (such as a month or year).

² **Prevalence** refers to the total number of individuals in a population who have a disease or health condition at a specific period of time, usually expressed as a percentage of the population.

instance, medical expenditure and/or loss of productivity are costed per person or per case, and then multiplied by the number of cases or persons affected (Larg & Moss, 2011). The strength of this approach lies in the potential of identifying all relevant cost components for each specific case or person (Wordsworth *et al.*, 2005). However, the lack of appropriate data sources can make thorough calculations time consuming or even, in some case, unfeasible (Mogyorosi and Smith, 2005).

Finally, the *deductive approach* examines the proportion of costs associated with the given problem, as obtained from the research literature, and applies this fraction to a total estimate of illness (Giga, Hoel and Lewis, 2008). For example, if mental health was thought to constitute 10% of the total cost of work-related ill-health (estimated to be a hypothetical £100 billion), the estimated costs of mental health at work would, therefore, be £10 billion. The strength of the deductive approach lies in its simplicity. However, it assumes the breakdown and the average cost of workplace aggression are identical to the average cost of work-related ill-health.

An Integrated Theoretical Perspective: The Economic Cost of Mental Health at Work

A key objective of this chapter is to integrate contemporary understanding of the link between work, work-related stress, and mental health as understood by the field of psychology; but to integrate this conceptual framework within a COI methodological approach and economic perspective. It is our hope that, in so doing, this will provide a useful conceptual framework to guide increased understanding, discussion and further collaboration between the fields of psychology and economics.

To better understand the impact of work-related stress and mental ill-health at work in human, organisational, and economic terms, we need to: examine the empirical understanding of the link between work, stress, and mental health; and, in turn, how this stress-based process relates to the aggregated costs components used to derive economic estimates (derived by COI studies) posed by poor mental health at work. It is important to note, that we do not represent work-related stress as a health outcome (in its own right); but rather as psychological state that when prolonged, chronic, and excessive is associated with a myriad of health outcomes, including poor mental health outcomes.

Figure 1 aims to provide a visual representation of this integrated conceptual model that seeks to bring together the understanding of causes and performance consequences of poor mental health at work, as understood within the psychological literature. We then seek to integrate this conceptual model within the key economic cost components (i.e. the direct, indirect, and intangible cost) considered as important when deriving estimates of the financial burden posed by work-related stress and its associated psychological health consequences. Finally, we aim to highlight and recognise that estimating the financial burden posed by work-related stress and poor mental health at work can be represented at various levels: worker, employer, and society. In this section, we seek to examine and discuss this posed theoretical model.

Psychosocial hazards, work-related stress, and mental health

At an individual level, we know that the experience of work can have positive or negative impacts. Work can contribute to the experience of work-related stress and, in the long term, the development of mental ill-health through poor working conditions and work organisation issues (Black, 2008; Leka and Jain, 2010; Eurofound & EU-OSHA, 2014; Farmer and Stevenson, 2017; NICE, 2019). Conversely, we know that employment can provide individuals with purpose, financial resources, and a source of identity; which has been shown

to promote increased positive mental wellbeing (Bakker, Rodriguez-Munoz and Derks, 2012). The aim of this section is to provide a cursory introduction into the link between work and workers' mental health; and how this relationship, in turn, is associated with indicators of organisational health and performance. For a more substantive discussion and review of the impact of work and organisational factors on workers' (physical, psychological, and social) health see Leka and Jain (2010).

It is important to note that work-related stress is not an illness or health outcome in its own right; but rather is understood as an adverse (psychological and emotional) reaction people have to excessive pressures or other types of demands placed on them at work (Health and Safety Executive, n.d.). When the experience of work-related stress is excessive, chronic, and prolonged then mental and/or physical illness may develop (Cox, Griffiths and Rial-Gonzalez, 2000). This includes (but of course is not restricted to) a variety of mental health outcomes, including common mental health disorders or complaints (e.g. depression and anxiety; Stansfeld & Candy, 2006), burnout (Alarcon, 2011), and post-traumatic stress disorders (Cieslak *et al.*, 2011). The empirical literature recognises several sources, or risk factors, of work-related stress and mental ill-health (often termed 'work-related psychosocial hazards').

Work-related psychosocial hazards concern those aspects of work design and the organisation and management of work within their social and environmental contexts; which have the potential for causing psychological, social, or physical harm (Cox, Griffiths and Rial-Gonzalez, 2000). These risk factors for work-related stress can broadly include stressors intrinsic to the job, role in the organisation, relationships at work, career development, organisational structure and climate, and the home-work interface. Figure 1 illustrates the causes of stress, (short-term) stress reactions, long-term health consequences, individual characteristics, as well as their interrelationships. It is important to note that such interrelationships are dynamic in nature and are typically the result of the transaction between the individual and their socio-environmental context.

Stress reactions may result when people are exposed to risk factors at work, particularly when individuals perceive these demands and challenges outweigh their perceived ability or available resources to cope. The role of cognitive appraisal (Folkman and Lazarus, 1984) is central, therefore, to understanding this transaction between the individual and their work environment. Experienced stress reactions (often viewed as the 'early warning signs' of stress) may be cognitive (e.g. reduced attention and perception, forgetfulness), emotional (e.g. feeling nervous or irritated, low mood, cognitive), behavioural (e.g. aggressive, impulsive behaviour or making mistakes), and/or physiological strain-based reactions (e.g. increase in heart rate, blood pressure and hyperventilation). A growing body of evidence (Leka and Jain, 2010) indicates that when exposure to work-related psychosocial hazards, and associated short-term stress reactions, persist over a prolonged period of time this can result in long-term health outcomes and impairments, negative attitudinal (e.g. job satisfaction and motivation at work), and behavioral changes (e.g., problem drinking, unhealthy eating patterns or decreased physical activity). Mental health outcomes (e.g. depression and anxiety) are commonly viewed as a long-term consequence of work-related stress and exposure to a poor psychosocial work environment (Stansfeld and Candy, 2006).

However, there is an increased understanding of the role played by those more positive (health-enhancing/ protecting) factors at work in both mitigating the experience of and long-term health impact of work-related stress; but also their direct role in cultivating psychological wellbeing (Bakker, Rodriguez-Munoz and Derks, 2012; Bauer and Jenny, 2012). These more positive (health enhancing/ protecting) factors are typically conceptually

understood as job³ and personal⁴ resources. However, a wider set of individual characteristics (such as personality, values, goals, age, gender, level of education and family situation) can influence one's ability to cope; and therefore, play an important role in mitigating the impact of work-related stress. Broadly speaking, these characteristics can either exacerbate or alleviate the effects of risk factors at work and, in turn, the experience of stress and its long and short-term health impacts (Cox, Griffiths and Rial-Gonzalez, 2000; Semmer, 2003). Support for these pathways is growing and is evidenced by both meta-analytic reviews and longitudinal studies (e.g., Verkuil, Atasay, & Molendijk, 2015).

Linking work-related mental ill-health to economic costs

As stated previously, the economic estimates of the burden posed by poor mental health at work can be represented at the individual, organizational, and societal-level. From an economic perspective, at the individual level, the cost of poor mental health may be related to increased medical/insurance costs related to mental health issues and reduced income through loss working time and capacity can have monetary implications. The consequences of poor mental health at work are typically represented in the estimated direct and (to lesser degree) indirect costs in COI studies. However, the costs that go beyond financial measures are termed 'human costs' (Hoel, Sparks and Cooper, 2001). This refers to the emotional strain, declining health, and reduction in quality of life by the individual. Beyond the associated consequences to individual's health, there is also evidence that workplace stress is related to poorer relationship quality with spouse, children and other family members (Dembe, 2001; Amick and Mustard, 2005), marital disharmony and divorce (Sutherland and Cooper, 1996), as well as negative impacts on the health of the family (Crouter *et al.*, 2001). In economic terms, these associated costs should be captured in 'intangible costs'. Consequently, from an COI perspective, we argue that when considering the cost to individuals associated with work-related stress and poor mental health we should consider (and account for) both direct and 'intangible costs'.

The health impact of psychosocial hazards and work-related stress extends beyond individual health and can also affect the productivity and resiliency of the organisation (a concept termed 'organisational healthiness'; see Hassard, Leka, and Jain, 2012 for a conceptual review). At the organisational level, poor mental health at work may have significant detrimental implications in relation to: productivity; levels of absenteeism; employee turnover; early retirement and, ultimately, financial performance. These associated consequences of poor mental health at work are, typically, represented in indirect (productivity-related) cost components. Should workers have to take time off work or leave employment due to stress-related illness or poor mental health this could have a direct impact on their level of earnings. Compensation practices differ between countries; with some workers being able to take a finite amount of paid sick leave, whilst others seeing a reduction in their wages (Hoel, Sparks and Cooper, 2001). Even within the European Union (Scheil-Adlung and Sandner, 2010) there are different practices surrounding sick leave (Scheil-

³ **Job resources:** physical, psychological, social, or organisational aspects of the job that are either or: functional in achieving work goals; reduce job demands and the associated physiological and psychological cost; stimulate personal growth, learning, and development. Examples are, career opportunities, supervisor coaching, role-clarity, and autonomy (Bakker, Rodriguez-Munoz and Derks, 2012).

⁴ **Personal resources** are aspects of the self that are generally linked to resiliency and refer to individuals' sense of their ability to control and impact upon their environment successfully (Hobfoll, Johnson, Ennis, & Jackson, 2003).

Adlung and Sandner, 2010). Alternatively, some workers might have to leave employment completely, losing their salary and possibly their healthcare benefits as well. Therefore, when considering the cost to employers (see next section more a detailed discussion) estimates should take into account both *direct* and *indirect* cost components. However, we argue later in this chapter that intangible costs associated with human suffering could and do extend to the organisational level; and, therefore, such estimated sub-cost should be considered in economic estimates. While conceptually the psychological literature provides a robust case for their inclusion, the challenges posed in quantifying such intangible aspects of human and organisational suffering in economic terms is challenging; due, in part, to the lack of/availability of good quality data on such parameters. However, we argue that inclusion of such intangible costs is important to consider when estimating the cost for employers.

Finally at a social level, the implications of disease and ill-health associated with chronic work-related stress and prolong exposure to psychosocial risks at work can increase costs associated with primary and secondary health services and welfare benefits, reduces economic productivity and can have a significant detrimental impact on a country's Gross Domestic Product (Hoel, Sparks and Cooper, 2001; Béjean and Sultan-Taïeb, 2005). The long-term impacts of work-related stress and poor mental health at work is, we argue, typically observed in the costs associated with job loss and unemployment, work capacity, and increased early retirement. In this context, all three cost components should be accounted for to provide an accurate estimate of the 'total' cost of poor mental health at work. However, it is important to note that few COI studies account for all three cost components in their estimates; and, therefore, it is fair to conclude that those available estimates are conservative (at best).

Understanding the costs to employers due to poor mental health at work

A psychologically unhealthy workplace has adverse economic consequences for business. Even very minor levels of depression are associated with productivity losses (Beck *et al.*, 2011, 2014) and increases in turnover with the associated costs of additional recruitment and training, with ultimate impacts on the retention of highly skilled workers lost to poor health (McDaid, Knappe, & Medieros, 2008). In general, many estimates tend to focus on the cost for employers by examining the indirect costs (typically, costs associated with sickness absence, presenteeism and staff turnover) associated with work-related stress and mental ill-health at work. In this section, we aim to look at in more detail the estimated costs for employers due to poor mental health due to these three indicators.

There can be substantial immediate productivity losses due to sickness absenteeism. Absence trends in the UK have, by and large, been decreasing; with the exception, however, of periods of leave due to mental health, which have been in recent years observed to be on the rise. For example, the proportion of total days lost due to poor mental health rose from 9.1 to 11.5% between 2009 to 2016 (British Office for National Statistics, 2017). In the UK, mental ill-health is the fourth most commonly reported reason for spells of sickness absence (British Office for National Statistics, 2019). However, it is commonly agreed that the total days lost due to mental health at work is vastly under-reported (OECD, 2012). The reasons for this vary, but it is well-known that employees can feel reluctant to disclose their mental health condition or experience due to the continued social stigma related to mental illness, and there is also a perceived lack of understanding around mental health conditions by employers, managers and co-workers (Brohan *et al.*, 2012). The methods used to calculate the cost of sickness absence at work (e.g. human capital method and friction cost approach, see Pike & Grosse, 2018 for further details) are heterogenous; and, consequently, the nature and scale of

such figures will and do vary (sometimes quite markedly). A recent review by Pick and Grosse (2018) observed that in COI studies in general there is a lack of standardisation of methods used to calculate productivity loss, which makes derived estimates difficult (if not impossible) to compare across studies.

Table 2 aims to provide a comparative overview of approaches used by the two studies to provide an exemplar of the different approaches that can be used to derive estimates of the cost of sickness absence due to mental ill-health in the United Kingdom. When calculating the cost absence from work due to mental health often immediate costs is calculated (time off work due that specific spell of absence). However, we know that mental health is also linked with increased risks of developing physical health problems (e.g. coronary heart disease and diabetes) which can lead to risk of further spells of work absenteeism (McDaid and Park, 2014). Therefore, when considering the business case it is important to consider the costs associated with initial spells of absence and the risk future spells directly or indirectly associated with mental health.

[insert Table 2 here]

Presenteeism is the lost of productivity that occurs when employees come to work ill and perform below par because of illness (Navarro *et al.*, 2019). However, it is important to note there exist some level of debate on this definition and its measurement (Navarro *et al.*, 2019), which, in turn, makes it difficult to quantify consistently. In general, presenteeism is hard to measure and many commonly used measures suffer from low levels of validity (Ospina *et al.*, 2015); and few estimates of its costs have been made (McDaid and Park, 2014). Despite these challenges, there is growing evidence to indicate that the economic impact of presenteeism far exceeds that resulting from sickness absence. Some estimates suggest the costs associated with presenteeism are three (Deloitte, 2017) to seven (RAND Europe, 2015) times greater than sickness absence. Such estimates need to be, however, understood within their given national context. For example, in the US, coverage of occupational sick pay is considerably lower than in many other Western countries and so within this context sickness absence imposes a larger financial penalty for employees, likely resulting in fewer days absence due to stress and mental health problems (Hassard, Jain, & Leka, in press).

The higher costs attributable to presenteeism may to some extent be associated with the continued fear of stigma and discrimination by employers and co-workers among employees. For example, employees may continue to turn up to work even when feeling unwell, rather than taking time off, for which an explicit reason often has to be given (e.g. through medical certification process for approved sick leave/ sick pay). During periods of recession, levels of presenteeism may increase further, in part due to job insecurity and fear of job loss impacting on decisions to take leave when unwell (Galon *et al.*, 2014). For this reason, we speculate that the costs of presenteeism are likely to be considerably higher during and directly following the COVID-19 pandemic since the drastic impacts of COVID-19 on the global economy present a significant challenge to job security for working-age adults globally. Furthermore, presenteeism is, itself, a strong predictor of future poor mental and physical health (Bergström *et al.*, 2009), which may result in economic costs for employers in both the immediate but also long-term through future sickness absence and presenteeism. From an economic perspective, considering and accounting for such additional costs would yield further insights into the true financial burden to employers of mental ill-health.

The final (indirect) cost component that is typically accounted for in estimates of the cost of mental health to employers is that associated with staff turnover – that is the costs associated with the exit and entry of staff members in a workplace. The estimated proportion of turnover that can be attributed to mental health is estimated to be 7% (Deloitte, 2017).

However, it is important to note that such estimated costs can be impacted by several key factors: type of sector, size of organisation, and type of worker. It is common for estimates to use an average cost estimate, which may not accurately represent or account for variability in the ‘true’ costs associated with staff turnover across sectors, professions, or size of organisations. While a certain level of imprecision in economic exists, many argue that the costs associated with staff turnover are (comparatively) much smaller than sickness absence and presenteeism; and, in the grand scheme of things, this level of imprecision will probably not effect (too dramatically) such cost estimates (Parsonage and Saini, 2017).

Moving from costs to benefits

With the rise in the field of positive occupational health psychology (Bakker, Rodrguez-Munoz and Derks, 2012; Bauer and Jenny, 2012; Christensen, Saksvik and Karanika-Murray, 2017) and, in turn, a growing empirical understanding of the role and impact of those more positive (health enhancing and protecting) factors in workplace in relation to individuals’ wellbeing and organisations’ resiliency and productivity. It is our view that this empirical movement could or should be considered from an economic perspective. A movement from “*what is the economic cost of a poor working conditions and mental ill health at work?*” to (or inclusive of) “*what is the economic benefit for employers for investing in a psychologically safe and healthy work environment through enhanced and varied work and personal resources?*”

Some examples of this conceptual paradigm shift include (but are not limited by):

- From a focus on productivity losses to gains (including, enhanced workplace innovation, creativity, and adaptability).
- From impaired/ reduced performance to optimal human functioning (e.g. achieving the ‘flow’ at work; Nielsen and Cleal, 2010).
- From reduced workforce capacity and worker capability (e.g. pre mature death, early retirement) to sustainable working lives and sustainable employment.

It is our view that achieving a better understanding of both the human and economic benefits (alongside the associated costs) accrued from a psychologically healthy work environment is important to understanding (and quantifying) the total costs of health care and lost production due to mental ill-health at work; but also provides a complimentary set of arguments to further develop and extend the business the case for business for action. We speculate that this is, or should be, an important future avenue of research and provides an important arena for the inter-disciplinary work between economics and psychology.

Conclusion

What is certain is that cost estimates for the cost of mental health at work (from the employer perspective or beyond) should not be taken at face value. Critical understanding of their context and the methodology used is paramount, and we hope that this introductory chapter has help in better understanding and deciphering such sources of evidence. We would argue that such cost estimates only provide a context-dependent ‘snap-shot’ of the estimated financial burden posed by mental health at work and are not without their methodological limitation. These estimates do, however, act as an important catalyst in encouraging necessary debate in research, policy and practice; and can (and often do) act as important ‘conversational guesstimates’ highlighting the respective burden posed by psychological unhealthy workplaces and workers (Hassard *et al.*, 2018a). Furthermore, it is also important

to further strengthen research that aims to assess the economic value and impact of interventions that seek to enhancing and promoting well-being at work or preventing poor well-being. Such sources of evidence are, we believe, vital in communicating the potential economic benefits of such interventions. Despite some of the methodological limitations and conceptual challenges, the (empirical and practical) value of such sources of evidence is clear.

Table 1. Examples of typically examined costs components observed in systematic reviews (Hassard *et al.*, 2018a, 2018b; Hassard, Teoh and Cox, 2019) occupational health and management focused COI studies

| Topic | Direct | Indirect | Intangible |
|---|---|--|----------------------------------|
| Work-related stress | <p><i>Medical:</i> Medical services, medication, treatment, rehabilitation.</p> <p><i>Non-medical:</i> travel expenses, legal costs, loss of income, fines and penalties, aids and modifications.</p> | <p>Productivity-focused: Sickness absence, presenteeism, early retirement, early death, staff turnover and loss of production.</p> <p>Nonproductivity: none.</p> | Non-financial human cost |
| Bullying and harassment at work | <p>Medical: Doctor visits; Medication</p> <p>Non -medical: Compensation; Legal; Redundancy & Early retirement</p> | <p>Productivity-focused: Presenteeism; Sickness absence; Turnover.</p> <p>Nonproductivity: Procedures & policies; workplace support (e.g., EAP, HR)</p> | None |
| Work-related physical violence and psychological aggression | <p>Medical: Medical costs, physician & nursing services, hospital charges, drug costs, rehabilitation services, ambulance fees, and payments for medical equipment & supplies.</p> <p>Non medical: Legal, compensation, vocational rehabilitation, partial permanent disability benefits, indemnity (fatal)</p> | <p>Productivity- focused: Early death, loss earnings, sickness absence.</p> <p>Nonproductivity: household production losses (e.g. childcare and housework).</p> | Upset and inconvenience suffered |

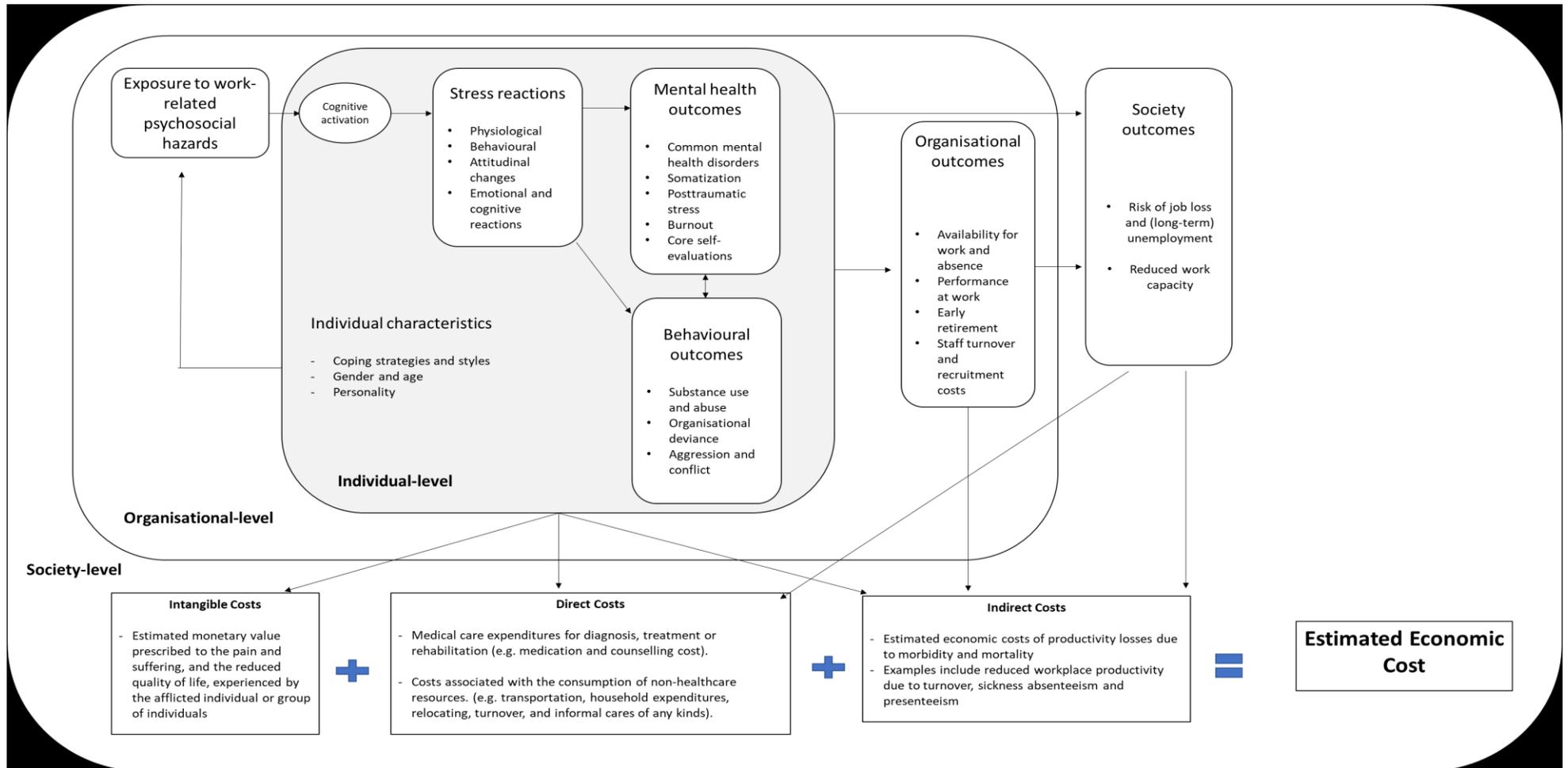
Table 2. Comparative summary of estimates and cost methods for sickness absence, presenteeism and staff turnover.

| Source | Cost Method | Estimated cost (£billion) |
|-------------------------|--|---------------------------|
| Sickness absence | | |
| CMH | Cost of working day lost because of sickness absence X absence days at national-level (Centre for Mental Health, 2017). | 10.6 |
| Deloitte | Absence days by industry X industry workforce X absence day costs by industry X mental health proportion by industry | 7.9 |
| Presenteeism | | |
| CMH | Applying a cost multiplier of 2.0 (this figure was derived and informed by the evidence-base) to the estimated cost of sickness absenteeism. | 21.2 |
| Deloitte | Method 1: Presenteeism days by industry X industry workforce X absence day costs by industry X proportion of mental health presenteeism Method 2: mental health absence cost by industry x presenteeism magnitude by sector | 16.8-24.4 |
| Staff turnover | | |
| Deloitte | Method one (salaries \geq 25 k):staff turnover exit/ entry costs x industry workforce x staff turnover exit/ entry costs x mental health related staff turnover. Method two: (salaries < 25 k): salary X exist/entry cost proportion X industry workface x staff turnover exit/entry rate x mental health related staff turnover. | 7.9 |
| CMH | Proportion of total staff turnover X the average unit cost to employers of staff turnover. | 3.1 |

Table 3. Summary of key costs and considerations around cost to employers due to mental health at work (adapted from Deilotte, 2017).

| | | | |
|---|---------------------------------|--|---|
| Cost to employers | Costs linked to individual | Absence costs | |
| | | Presenteeism costs | |
| | Cost linked to teams | Reduction in team productivity resulting in individual absenteeism or presenteeism. A so called ‘ripple effect’ in productivity losses, and increased future risks to team members’ mental health (e.g. due increased workload) and further productivity losses (through sickness absence or presenteeism). <i>Not typically examined in economic costs.</i> | |
| | Cost linked to the organisation | Staff turnover: exit costs | Staff turnover: entry costs |
| | | Cover all costs with bringing a new employee up to speed in the organisation and any productivity losses from this. | Cover all the logistical costs associated with having to attract and recruited new talent (e.g. cost of advertising, temporary workers, interviewing and inducting a new employee). |
| Other costs may include medical insurance premiums, occupational health costs, group income protection, sick pay, progression impact, risk of legal and compensation costs. <i>These are, among others, not typically included in cost estimates.</i> | | | |

Figure 1. A theoretical model on the cost of mental ill-health at work



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