

# Factors Associated with the Risk of Work-related Illnesses

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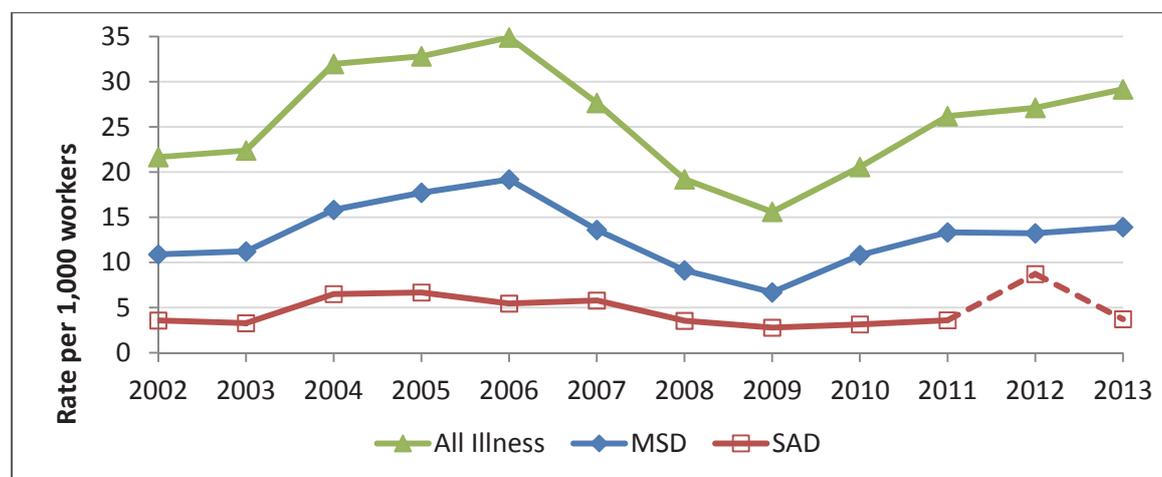
The results presented in this research briefing are drawn from a report that examines the trends and determinants for work-related Musculoskeletal Disorders (MSD) and Stress, Anxiety and Depression (SAD) in Ireland over a period of rapid economic and labour market change (2002 to 2013)<sup>i</sup>. The report is based on an analysis of the annual special module on work-related accidents and illness from the Quarterly National Household Survey (QNHS), collected by the CSO.

Work-related illness includes any physical or mental illness caused or aggravated by work. In 2013, an estimated 55,000 workers in Ireland suffered from a work-related illness and over 790,000 days of work were lost as a consequence (HSA, 2015). In Ireland and in many other European countries MSD and SAD are the two main types of work-related illness, accounting for 50 per cent and 18 per cent, respectively, of all work-related illnesses recorded between 2002 and 2013.

- Work-related MSDs can affect different parts of the body that are used for body movement involving for example the skeleton, muscles, tendons and ligaments.
- The World Health Organization defines work-related stress as ‘the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope’. Depression and Anxiety, on the other hand, are two distinct psychiatric disorders with defined diagnostic criteria.
- The present study is based on workers’ self reports of work-related illness over the preceding 12 month period, which may or may not have been medically diagnosed.

The research measured the number of days absent for the most recent illness reported by workers in a 12-month reference period. The average length of absence was 15.9 days for MSD and 17 days for SAD. Both involve longer absences than the average for all other types of work-related illnesses (12.8 days).

**Figure 1: Rates of All Work-related Illness, MSD and SAD Illness in Ireland, QNHS 2002–2013**



Source: QNHS, Special Module on Work-Related Accidents and Illnesses, Authors’ Analysis

Note: The peak for SAD in 2012 is likely due to changes in question wording in that year.

MSD and SAD illnesses are both found to be pro-cyclical, that is, they rise and fall along with the economic cycle. However, Figure 1 shows that this relationship is considerably stronger for MSD than for SAD illnesses. The study also found that the prevalence of reported MSD and SAD decreased as the health and safety inspection rate increased, holding all other factors constant.

### Factors that contribute to the probability of MSD and SAD illnesses

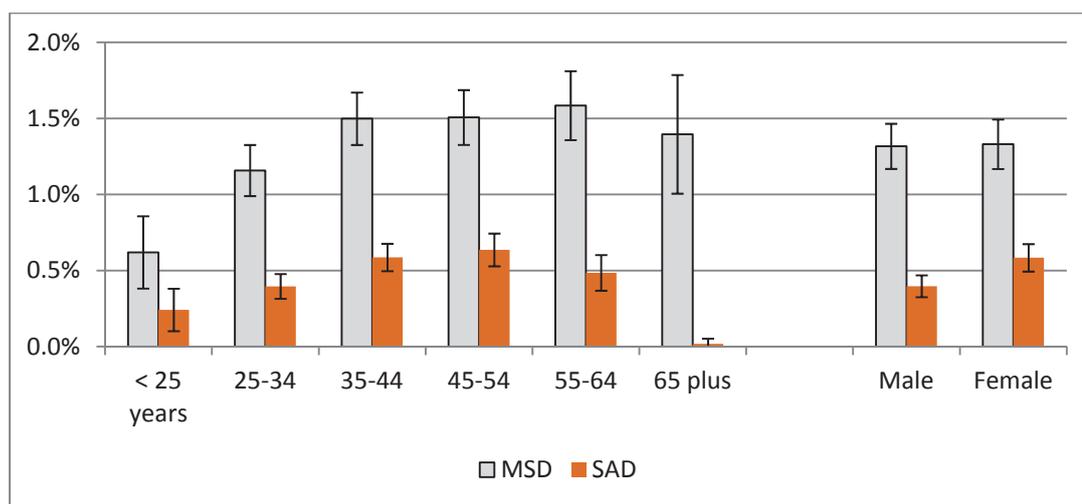
A wide range of factors influence the risk of MSD and SAD. These include characteristics of the workers themselves and aspects of their working environment and we present some of them below (see full report for detailed analysis).

#### Gender and Age

Holding constant other relevant factors, such as sector/industry, working hours, and self-employment, the study finds that:

- Women have a higher risk of work-related SAD illnesses, which mirrors the gender patterns of depression and anxiety across the population as a whole: 5.8 per 1,000 female workers (0.58%) experienced SAD compared to 4.0 per 1,000 male workers (0.4%).
- There is no gender difference in the risk of MSD independent of sector and work conditions.
- The risks of work-related MSD and SAD are strongly related to age. Workers aged 35 to 64 years are 2.5 times more likely to experience MSD than workers aged under 25 years. Among workers aged 55-64 years, 16 per 1000 workers experienced MSD.
- The risk of work-related SAD illness is highest among workers aged 35–54 years (0.6% or 6 per 1,000 workers in this age bracket experienced SAD). The risk of SAD among the oldest group of workers is negligible, which is likely to be a selection effect whereby those experiencing SAD do not remain working beyond retirement age.

**Figure 2: Adjusted Percentage Experiencing MSD & SAD by Personal Characteristics, 2002-2013**



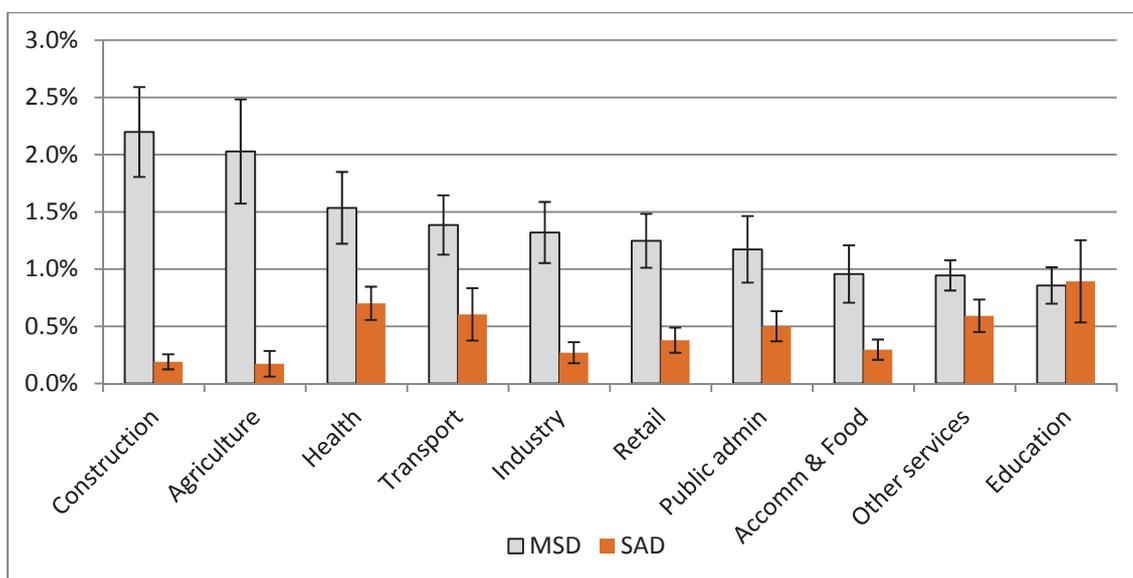
Source: QNHS, Special Module on Work-Related Accidents and Illnesses, Authors' Analysis. For full results see main report Table 3.2 & 3.3, Appendix Figures A1 & A2. The error bars show the confidence interval around each percentage. Where the intervals do not overlap, the difference between groups for MSD or SAD is statistically significant.

### Economic sectors and working patterns

The nature of the tasks executed by workers, the organisation of work, and economic sector/industry, all have a strong influence on the level of risk for MSD and SAD. Holding other worker characteristics and working conditions constant to assess the independent effect of sector, we find that:

- The risk of MSD is greatest for workers in construction (2.2% or 22 per 1,000 workers), agriculture (2% or 20 per 1,000 workers) and the health services sector (1.5% or 15 per 1,000 workers), and lowest for workers in education and all other services<sup>ii</sup> (<1%).
- The risk of SAD illness is the highest for workers in the education sector followed by those in health, public administration, transport and other services. Workers employed in the agriculture, construction, industry and retail and accommodation/food have significantly lower rates of SAD compared to workers in the other services sector.

**Figure 3: Adjusted Percentage Experiencing MSD & SAD Illness by Economic Sector, 2002 to 2013**



See notes to Figure 2.

While the QNHS lacks information on work tasks, the study examined factors such as working schedules and hours, job experience, shift work and night work. The analysis shows that:

- Controlling for sector, the self-employed have a greater risk of MSD than employees but a somewhat lower risk of SAD.
- There is a significantly greater risk of SAD illness for those working long weekly hours. For example, those working 50 hours and over are three times more likely to experience SAD illness than those working under 30 hours.
- The risk of MSD is not strongly linked to working hours, except for those working 40 to 49 hours, who have a lower risk than those working under 30 hours. This could be due to those with MSD reducing their working hours.
- Shift workers face a greater risk of both MSD and SAD (1.5 and 1.3 times greater than other workers). Night work is also associated with a higher rate of MSD.
- Workers in their jobs for less than 6 months face a greater risk of MSD per month worked compared to workers with tenure of over 5 years. Similarly, workers with short tenure have a higher risk of SAD per month worked.

## Lessons for Policy

Work-related illness has costs for workers, employers and the wider society – not just the burden of illness itself, but also lost income and productivity and the costs of social protection and health care – so strategies to prevent and reduce such illnesses are important. There is also a legal responsibility on employers to manage such risks.<sup>iii</sup> Although the data are cross-sectional and cannot establish causality in the relationships described, the research nevertheless points to some lessons for policy.

- The pro-cyclical nature of work-related illness, particularly MSD, means that concerted policy efforts are needed to prevent rates rising in the recovery.
- The ageing workforce, together with the higher prevalence of work-related MSD among older workers, means that efforts to minimise the risks and accommodate workers with such conditions are becoming increasingly important.
- The increasing proportion of women in the workforce and the greater risk of SAD among female workers suggest a need to focus on the mental health side of work-related illness.
- Supporting employers by raising awareness and improving risk assessment of psychosocial risk is important. Recent European research (EU-OSHA, 2016) reported that half of Irish employers felt that they did not have sufficient information to assess stress risks.
- The higher prevalence of MSD among self-employed workers suggests that programmes to monitor and prevent MSD should target this group. Policies may need to be adapted to take into account the special conditions facing self-employed workers, e.g. difficulty in taking time off work due to illness.
- There is a need to maintain high levels of monitoring and preventative measures in economic sectors facing greater risk of MSD and SAD, i.e. construction, agriculture and health for MSD and education, health and other services for SAD illnesses.
- Organisations operating shift work and night work practices, and their employees, should be made aware of the potential health effects for workers.
- Tackling the ‘long hours’ culture and implementing existing regulation on working hours is likely to help prevent work-related SAD.
- Particular attention should be given to new recruits in terms of training and work practice as they face greater risks of MSD and SAD illnesses.
- Further longitudinal research is needed to investigate the role of work-related illness in job moves and exits from employment.

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<sup>i</sup> The research briefing summarises the findings from Russell, H., Maitre, B., & Watson, D. (2016) *Work-related Musculoskeletal Disorders and Stress, Anxiety and Depression*, Dublin, ESRI. Please see the full report for further details of the study and reference list. The report is available to download on the ESRI website at [www.esri.ie/publications/work-related-illness](http://www.esri.ie/publications/work-related-illness)

<sup>ii</sup> Other services are: Information and Communication; Finance; Real Estate; Professional, Scientific and Technical; Admin & Support; Arts and Entertainment; Other service activities

<sup>iii</sup> For guidance relating to MSDs see [http://www.hsa.ie/eng/Publications\\_and\\_Forms/Publications/~/Guide\\_on\\_Prevention\\_and\\_Management\\_of\\_Musculoskeletal\\_Disorders\\_MSDs\\_.pdf](http://www.hsa.ie/eng/Publications_and_Forms/Publications/~/Guide_on_Prevention_and_Management_of_Musculoskeletal_Disorders_MSDs_.pdf)