

Presenteeism related to Musculoskeletal Disorders in UK Construction

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Executive summary

This research was funded by B&CE (a non-profit organisation providing products and benefits to workers in the construction sector).

Musculoskeletal disorders (MSDs) are the leading cause of sickness absence and work disability. Previous research has highlighted that 'ill-health presenteeism' may actually be more costly to the employer than sickness absence and that levels of presenteeism may be increasing. However, there is limited UK data available concerning the impact of MSD-presenteeism. Therefore, this research sought to understand if and why MSD-presenteeism occurs in the construction sector.

Questionnaires and interviews were the chosen data collection methods. Worker participants were engaged to understand how MSDs may affect people who work in construction; whether it stops them going to work, and how they decide whether or not to attend work if they are in pain and how they manage at work. Workers' were also asked about their perceived performance at work when suffering with MSD pain. Participants proposed various suggestions/interventions that they believed could help those suffering with MSDs in the workplace and also prevent others from experiencing the condition. 'Experts' provided feedback on the opportunities and challenges of these proposed suggestions.

The findings suggest that construction employers are underestimating rates of MSDs and the impact on a worker's safety and productivity. Some workers said there were benefits to their mental and physical health of remaining in the workplace even when in pain, while others said they had no choice but to remain in the workplace due to financial implications. It would appear the pay structure is one key reason why many are working when in pain, when sickness absence may have been the best choice.

Health management and access to health advice needs improving for many workers. An improved awareness of MSDs throughout the organisation is also needed, so that better support can be offered. By investing in interventions suggested by participants, construction workers could enjoy a longer and improved quality of working life and employers could benefit from reduced costs associated with both MSD presenteeism and absence.

Acronyms

CDM	Construction (Design and Management) Regulations
CIPD	Chartered Institute of Personnel and Development
EU	European Union
GB	Great Britain
GP	General Practitioner
HSE	Health and Safety Executive
ICE	Institution of Civil Engineers
MSDs	Musculoskeletal Disorder(s)
NHS	National Health Service
PPE	Personal Protective Equipment
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrence Regulations
SSP	Statutory Sick Pay
UK	United Kingdom

Acknowledgements

The research team acknowledges the financial support from B&CE and is grateful for the contribution of everyone who participated in this research.

Research background

Musculoskeletal disorders (MSDs) cover any damage, disorders or injury to tissue or joints in the upper/lower limbs and back (HSE 2019a). They may not always be caused by work, but work may aggravate the condition. Estimations suggest that every year about 20% of the adult population may consult their GP about MSDs (Ingram and Symmons, 2018).

Symptoms may include pain or abnormalities that may be apparent to the person or doctor upon examination and may be accompanied by function changes; such as reduction of capability, or restrictions in range of movement of the affected part. Furthermore, these symptoms may have an impact on a worker's general health and quality of life (HSE, 2010). MSDs are the leading cause of sickness absence and work disability and it has been estimated that lost productivity attributed to MSDs could be as high as 2% of gross domestic product across the EU (Bevan 2015). This could increase in the future with an older workforce (Garrow, 2016).

In 2019 it was believed there were around 2.7 million people employed in the construction sector in the UK (Sonnichsen, 2019). Statistics reveal there are around 42,000 construction workers suffering from MSDs related to their work, with a rate (per 100,000 workers) almost twice that of 'all industries' (HSE 2019b) see figure1.

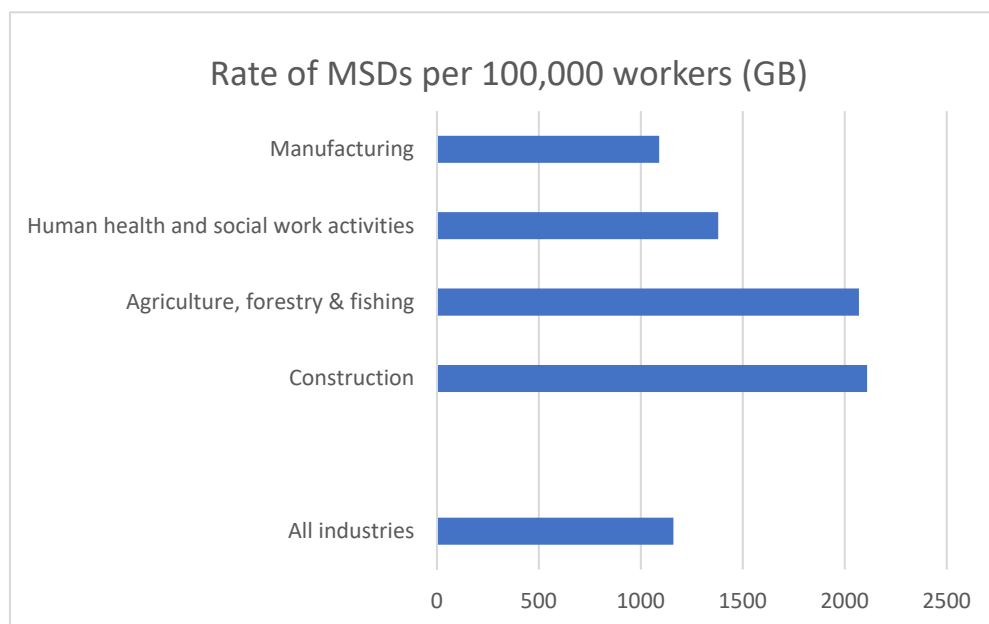


Figure 1: Industries with higher than average rates of MSDs (averaged 2016/17-2018/19 GB) adapted from Labour Force Survey (HSE, 2019c)

De Vries et al (2012) noted that workers suffering with chronic nonspecific MSDs rarely took sick leave or consulted with health care professionals about their condition. A recent Institution of Civil Engineers (ICE) report (Gibb et al 2018) suggests that ill-health costs to

construction employers relating to MSDs are around £650 million per annum. The ICE report suggests that a significant part of this cost to employers is caused by presenteeism (~£600 million per annum). However, this figure is an estimate, based on assumptions and extrapolating data from other reports, therefore it is essential that this is explored further in the construction sector context.

Traditionally employers have only measured sickness absence, but research has highlighted that 'ill-health presenteeism' may actually be more costly to the employer than sickness absence and that levels of presenteeism may be increasing (CIPD 2016, ERS 2016, Nagata et al 2018, CIPD 2019, Lohaus and Habermann 2019). The Chartered Institute of Personnel and Development (CIPD) survey of over a 1000 organisations (across all sectors and organisation size) identified that 83% of organisations had observed presenteeism in the last 12 months, although the causes are quite complex (CIPD 2019). The Office of National Statistics (ONS 2018) stated that sickness absence rates have reached an all-time low and suggest this may cause an increase in presenteeism. However, unlike sickness absence, presenteeism may not always be apparent (Hemp 2004).

There are multiple definitions for 'ill-health presenteeism' (sickness presenteeism), but the one commonly defined in research is 'people going to work when unwell' (Johns 2010, CIPD 2016, Garrow 2016, Whysall et al 2018). However, research shows this definition should be used with caution as, although workers may attend work while sick, their conditions may not always have a detrimental impact on work (Johns 2010, Whysall et al 2018). Many organisations look to reduce absence and research demonstrates there may be benefits to workers staying at work while ill (Howard et al 2009, Whysall et al 2018). However, depending on the ill-health condition, presenteeism could impact on performance, may exacerbate existing health conditions and could increase safety risks (Johns 2010, Bierla et al 2012).

To date there has been limited published UK data regarding presenteeism. Most of the research on presenteeism tends to be associated with stress and focused on workers in permanent employment (CIPD 2016, Hampson et al 2017). For example, in a Deloitte study, presenteeism costs for stress-related conditions were believed to be 2½ to 3 times the absence costs (Hampson et al 2017). Limited data is also available regarding presenteeism and MSDs (examples of workers in Netherlands, Spain, Sweden) (Hansson et al 2006, de Vries et al 2012, Galon et al 2014). In a recent study conducted within a single UK utilities organisation, it was calculated that presenteeism may cost employers around £4,000 per person per annum in mean lost productivity (Whysall et al 2018). This research reported that MSDs may account for the highest number of days affected by presenteeism.

It has been highlighted that, although sickness absence and presenteeism are different, they are the result of the same decision-making process regarding a worker's motivation to decide whether to attend work or not (Bierla et al 2012). Both are interlinked, should health conditions deteriorate, presenteeism today could lead to sickness absence in the future.

Not only is there limited UK data available concerning the impact of presenteeism, especially MSD-presenteeism, there is also a need to understand presenteeism alongside other factors (e.g. characteristics such as age, employment status, role). The UK

construction sector employs around 2.7 million workers and the impact of MSDs is clearly substantial, affecting organisations of all types and sizes, however, how much more is invisible?

This research aims to understand if and why MSD-presenteeism occurs, if productivity is likely to be compromised and to help employers address underlying causes of MSDs presenteeism, thus reduce costs associated with both presenteeism and absence.

Research Scope and Methodology

To understand the impact of MSD-related presenteeism in the UK construction sector, this research explored the following:

1. What has caused MSDs?
2. Workers decision-making - how they choose whether or not to be absent and whether they use “holiday leave” instead of sickness absence?
3. Does presenteeism have an impact on performance?
 - a. Additional factors explored are age and severity of pain on performance
4. Does the employer have knowledge of the condition; and if so, what support has been offered from supervisor/colleagues?
5. What do workers believe are the advantages/disadvantages of staying at, or returning to work when suffering from MSDs?
6. What are useful interventions or prevention measures?

In 2018, the HSE issued a report stating that there may be confusion around the term MSDs, with both employers and workers often believing MSDs were the result of an accident, rather than conditions that developed gradually (HSE, 2018). With this in mind, care was taken during our interviews and wording used on our questionnaires to avoid misunderstanding. To be consistent during data gathering, “muscle/joint aches and pains” was used as a general catch-all definition instead of MSDs.

In total 89 participants engaged with this research at various stages (table 1).

Table 1: Breakdown of research participants

Participants	Method of data capture		Totals
	Questionnaire	Interview	
Workers - to understand the impact of MSDs in the workplace	62	16	78
Experts - to gather feedback on the feasibility of suggestions offered by workers to help them in the workplace to prevent or mitigate MSDs	2	8	10
Labour Agency Manager - to gain an insight in to ‘contract labour’ which is endemic in construction		1	1
		Total	89

The worker participants were categorised by job role (table 2) and age (table 3). As there were only four female worker participants, gender split was not analysed.

Table 2: Hierarchy of job role of worker participants

Manager	Supervisor	Front Line
29 (37%)	19 (24%)	30 (39%)

It should be noted that some managers stated that their previous roles involved front-line work and many of the supervisors still undertake front-line work.

Table 3: Number of worker participants within each age range

18-24	25-34	35-44	45-54	55+
10 (13%)	15 (19%)	14 (18%)	20 (26%)	19 (24%)

Worker participants were asked for their suggestions on adjustments / control measures that could be used to help prevent or mitigate MSDs in the workplace. Ten 'experts' provided their opinion on the opportunities and challenges of these suggestions. The experts consisted of site and project managers and health and safety and occupational hygiene specialists.

Findings

Context of MSDs

Of the 78 worker participants who completed a questionnaire or were interviewed, 59 (76%) said they suffered with MSDs. Three of the 59 sufferers failed to fully complete a questionnaire so their responses have been excluded from the research. The following findings are based on the responses from the remaining 56 participants who all suffer MSDs. Table 4 shows the age range split of those suffering with MSDs. The two largest groups by age were those 55 years and older (30%) and participants 45-54 years old (29%).

Table 4: Number of worker participants within each age range with MSDs included in the results

18-24	25-34	35-44	45-54	55+
4 (7%)	9 (16%)	10 (18%)	16 (29%)	17 (30%)

Participants were asked about the location(s) of their pain, as shown in figure 2. Nearly half (46%) stated they suffered pain in more than one body area. Pain in the lower back was the most prevalent (68% suffered with lower back pain). The findings here are consistent with other research stating that lower back MSDs are more common and more likely to result in reduced work activity (Parkes & Farmer, 2005).

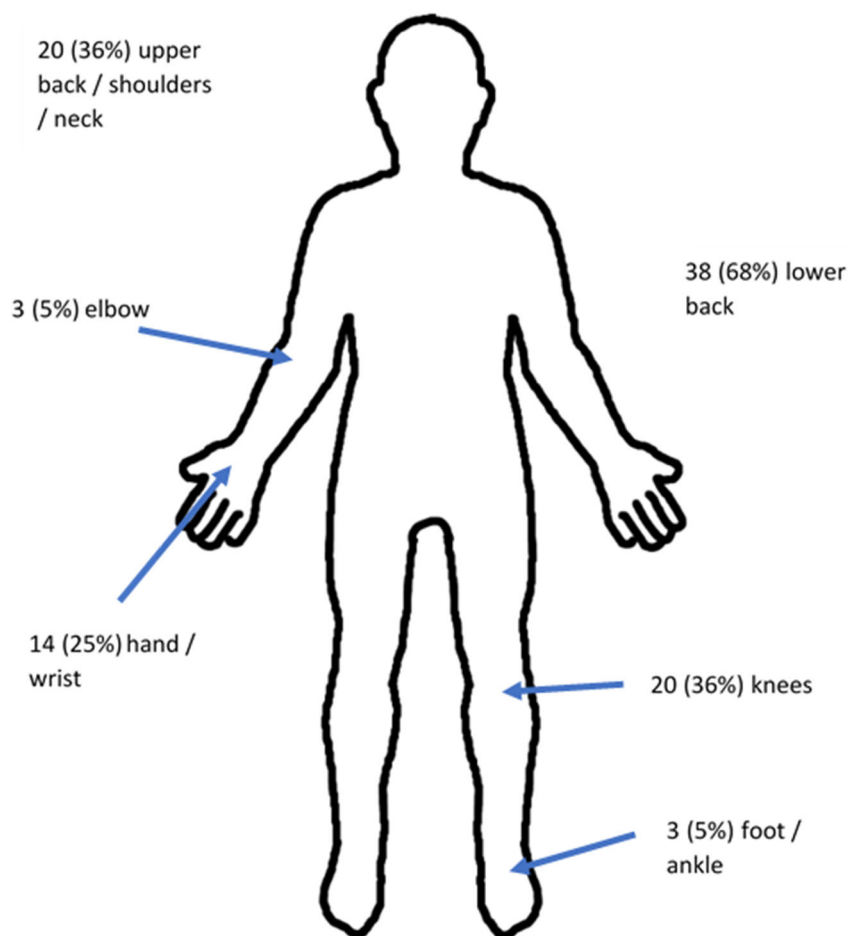


Figure 2: Location(s) of participants' musculoskeletal conditions

Participants were also asked what had caused their MSD (figure 3). Nearly half said their MSDs were work-related (48%), 30% said that they were not, with sports being one of the main reasons cited for causing their non-work-related pain.

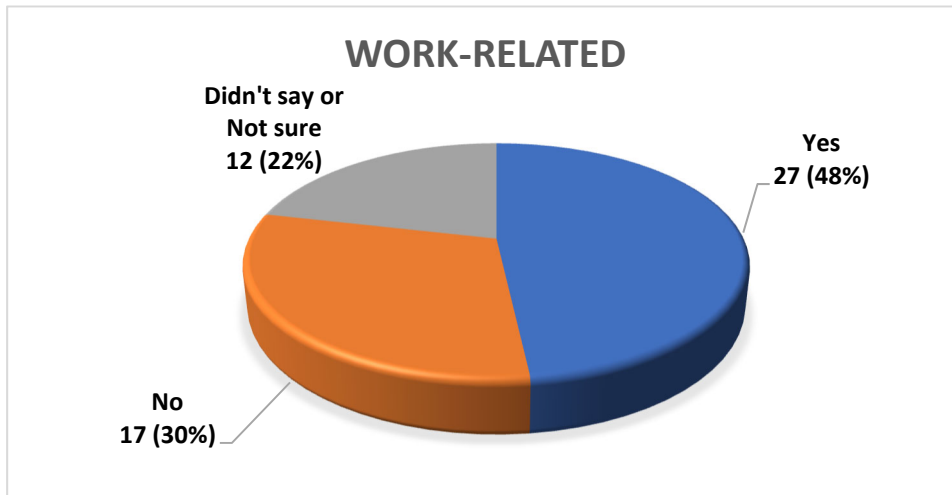


Figure 3: Causes of MSDs

Participants were asked how long they had been suffering with MSDs with more than half stating they had been living with MSDs for over five years (figure 4).

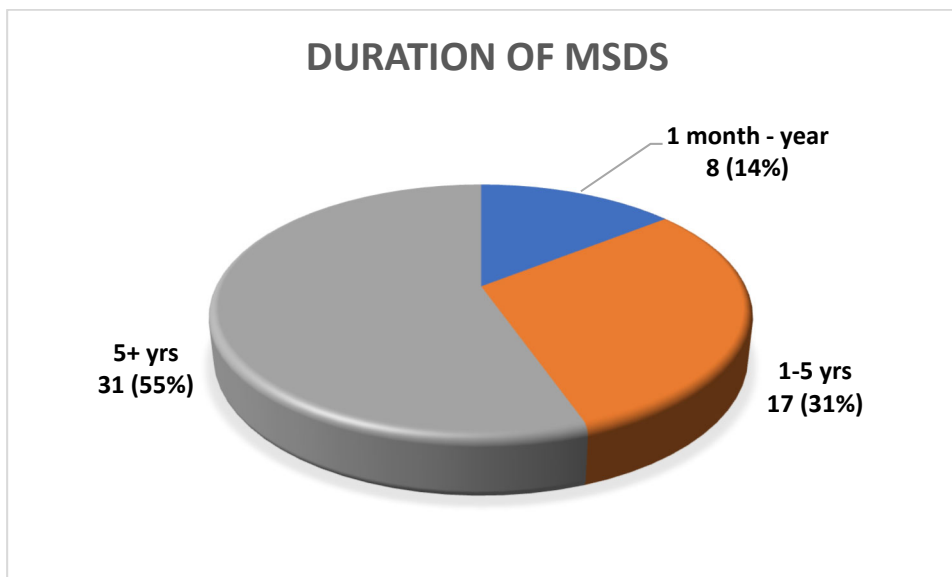


Figure 4: MSDs duration

Participants were then asked how often they experienced pain with their MSDs (figure 5). Over half (54%) said they experienced pain most days or at least once a week, with a further 14% saying they were in pain constantly.

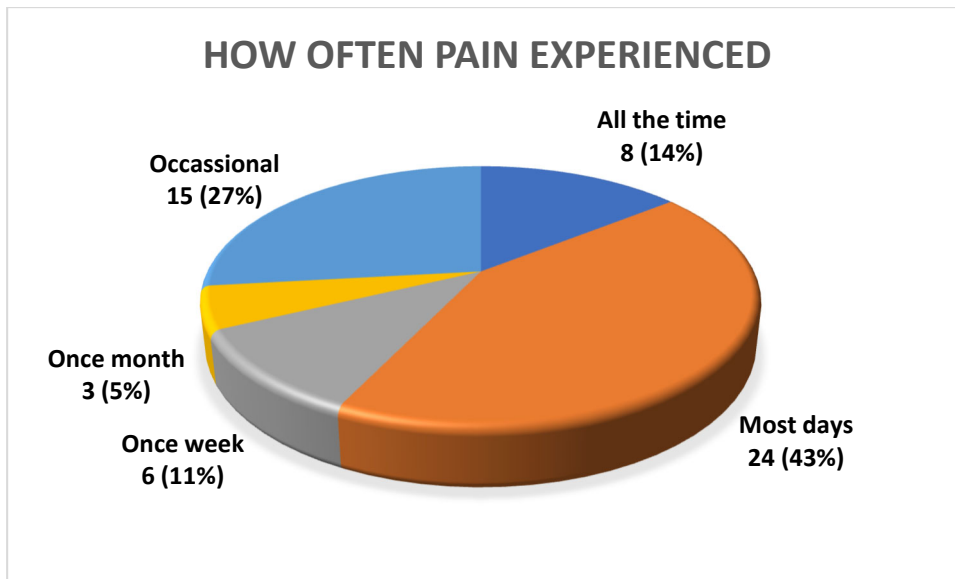


Figure 5: How often is MSDs pain experienced

Participants were asked to gauge the severity of their pain (figure 6). More than half (57%) said it was moderate, with 21% perceiving their pain to be severe. Of those who gauged their pain as severe, nearly a quarter (24%) experienced this level of pain at least once per week, with one saying they experienced severe MSDs pain all the time.

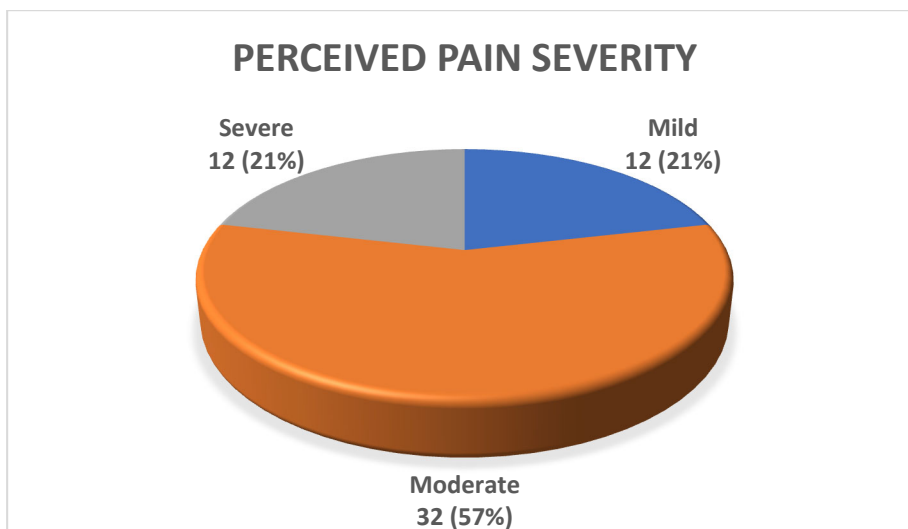


Figure 6: Pain severity

Pain severity was also analysed by age with the first figure (figure 7) showing actual numbers of workers suffering mild, moderate and severe pain.

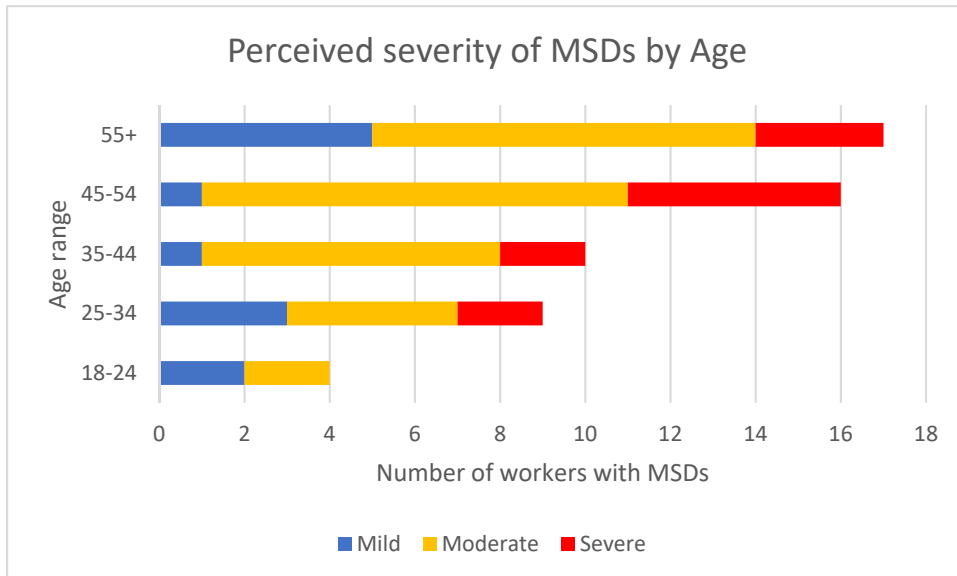


Figure 7: Perceived severity by age

These statistics were then analysed within each age range (table 5). This highlighted that the age range suffering the highest percentage of moderate MSD pain was the 35-44 year olds (70%), followed by the 45-54 year olds (63%). The age range suffering the highest severe MSD pain were 45-54 year olds (31%). Half of the 18-24 year olds said they were suffering with moderate MSD pain, with the other half saying they suffered mild MSD pain.

Table 5: Numbers of those suffering mild, moderate and severe pain by age range

Age range	Perceived pain		
	Mild	Moderate	Severe
55+	5 (29%)	9 (53%)	3 (18%)
45-54	1 (6%)	10 (63%)	5 (31%)
35-44	1 (10%)	7 (70%)	2 (20%)
25-34	3 (34%)	4 (44%)	2 (22%)
18-24	2 (50%)	2 (50%)	0

Employer knowledge of MSD condition and support offered

Research by Hansson et al (2006) identified that workers may be hiding painful conditions from employers. It was believed workers may be reluctant to disclose the extent of their MSDs discomfort as this may jeopardise their employment. Early reporting of symptoms can help most people recover from their injuries and return to work (HSE 2019d).

Although 86% of participants in our research had suffered with MSDs for more than a year, only 29 (52%) had told their supervisor. See table 6 for percentage split by role.

Table 6: Job role split of those who have told their supervisor

Manager	Supervisor	Front-line
8 (33%)	10 (63%)	11 (69%)

Of those who had told their supervisor, 35% specifically reported that ‘nothing’ had been done to help them and two had been told to ‘get another job’.

Of the 48% who had not told their supervisor that they have MSDs, the main reasons given why they had not told their supervisor were:

- They were not work-related
- They didn’t affect their job
- They were not serious enough yet
- MSDs were normal in the line of work they are in
- They fear losing their job

“I can still do my job so I manage it myself, you just carry on. That may not be the right thing to do, but that seems to be the norm” (*Interview 2*)

“It doesn’t happen all the time, so it’s probably not worth mentioning” (*Interview 9*)

“I haven’t officially told them, but they often joke about it. It’s probably not very PC, but that’s life” (*Interview 3*)

“The problem is how people are employed, brought in, they are not going to declare any vulnerabilities if they are on a week’s contract”. (*Interview 18*)

“I can understand why some of the guys aren’t telling people about their conditions. Some of the people they work for are quite ruthless. They have deadlines for projects and because these guys are just agency staff they will just ask for them to be replaced and say get me someone who can do the job. That’s sounds ruthless but it’s true.” (*Interview 25*)

“The feeling I have is if they ask if you are alright, you say yes, because your job could be at risk.... at the end of the day they want the business doing, it’s about money. I don’t think there is a great deal of sympathy, you know you can either do the job or you can’t”. (*Interview 14*)

The later comments support a CIPD annual report (2015) that suggests presenteeism is more likely to have increased where operational demands take precedence over well-being.

Participants in our research were also asked if their colleagues knew they had a problem(s). Of those that stated their colleagues were aware of their problem, over half responded that their colleagues were not sympathetic, had the perception they were 'moaning' about their condition, with colleagues tending to view their condition as a joke.

One participant stated that the construction sector was male-orientated and men generally do not like to admit they have problems.

Research suggests that psychosocial risk factors such as reduced social support at work can be an independent risk factor for MSDs (HSE NI, 2020). Other studies have also identified that reduced supervisor support acts to accentuate increases in MSDs (Parkes & Carnell 2005, MacGregor & Cunningham 2018). Previous research in a German industrial setting identified that costs of presenteeism were generally higher where workers perceived the leaders/managers demonstrated unsupportive behaviours (Schmid et al 2017).

In our research, of those who stated their pain was severe, 42% (5 participants) had not told their supervisor.

How do workers decide whether to take 'sickness absence' as a result of their MSD or have 'sickness presenteeism'?

Research by Bergstrom et al (2009) suggests that "those who are present when sick today are the ones who will be sick and absent in the future". Knowledge of what motivates workers' decision-making process is important, as it can help organisations and society to develop preventative actions (Lohaus and Habermann, 2019). Previous research suggests that the decision is not completely determined by the medical condition, but by personal and work-related demands (Aronsson and Gustafsson, 2005, Miraglia and Johns, 2016). Others have found that those suffering with non-specific complaints such as lower back pain, have found it difficult to gauge whether absenteeism is justified. This is partly due to their condition not being visible and for some because their conditions are undiagnosed. Other considerations were the seriousness of the condition and whether their colleagues would consider them 'slackers' (Hooftman et al, 2008). This may well also be the case in construction.

The following flow chart (figure 8) shows the workers' decision-making process regarding whether to be absent from work or not due to their MSDs. If the worker remains at work but in pain with MSDs (MSD-presenteeism), their reasons are split into two categories: whether the worker felt they had a choice or not (voluntary presenteeism or involuntary presenteeism); and what they felt the consequences may be of remaining at work.

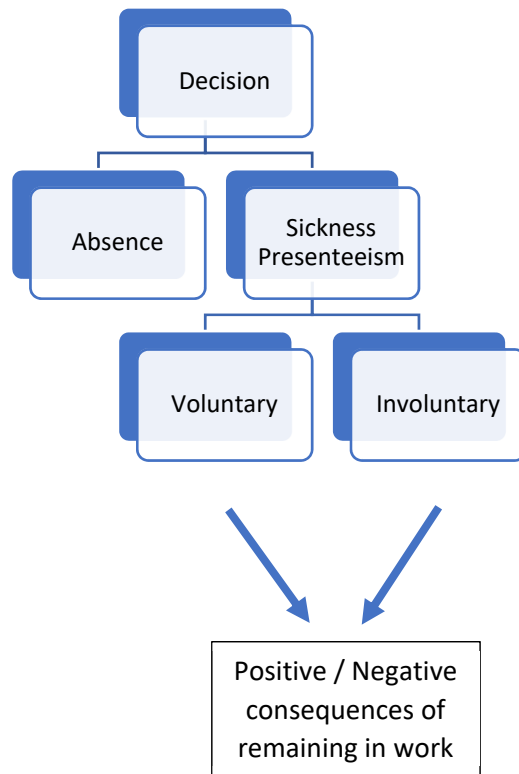


Figure 8: Workers' decision-making process regarding remaining at work

Absence

Although 81% of the total worker participants classed themselves as permanent employees, that did not equate to them receiving money similar to their hourly rate of pay during sickness absence. Only 42% received full pay for any sickness absence, with 45 workers (58%) stating they only received statutory sick pay (SSP) or 'nothing at all'. (table 7).

Table 7: Job role split of those who only receive SSP or 'nothing'

Manager	Supervisor	Front-line
9	8	28
(31%)	(42%)	(93%)

In our research a high percentage of participants identified themselves as 'permanent employees' and, while it would seem logical that permanency of employment should reduce job insecurity and financial worries, only 27% had taken sickness absence in the previous 12 months as a result of their MSDs, totalling 398 lost work days. Included in that figure was one person who had been absent for a total of 198 days in the last 12 months.

20% decided to use their holiday leave instead of sickness absence. On average they used five holiday days each in the last 12 months. Comments why they used holiday instead of sickness absence included :

- You get paid
- It keeps your MSD condition off your record

“It's easier, you don't have to do a ‘return to work’ interview” (*Questionnaire 16*)

“When I was on building sites I did feel the pressure to take holiday when I was struggling, because I wouldn't have been paid otherwise” (*Interview 1*)

Other comments suggested holidays were preferable to sickness absence as it avoided any negativity against the worker's name.

“People use holiday instead of sickness recorded. Go off sick and you get put on a list which is used to select those for redundancy.” (*Interview 17*)

“I know they use a point scale when looking at who they want to get rid of and will see how many sick days you have had, so you will hide problems.” (*Interview 14*)

The labour agency contact interviewee explained that agency workers had the choice how they would be paid. One option was to be paid a standard hourly rate and then be paid holiday pay; another option was to receive an enhanced hourly rate which included holiday pay. A disadvantage of working for an agency is that workers do not benefit from full sick pay, but only receive SSP. The contact added that 90% of workers on their books chose to get the enhanced hourly rate where the rate includes holiday pay. In discussions with worker participants there seems to be a culture in the industry of maximising normal weekly income with no intention of having any time off.

“Never took holidays as you would lose money. Pay [rate] included it, but if you had time off you wouldn't [actually] get paid so you had to subsidise it yourself.” (*Interview 15*)

Presenteeism

According to the CIPD (2019), identifying the causes of presenteeism is a vital step to dealing with the issue.

In our research 79% reported presenteeism related to MSDs in the last 12 months. The reasons participants reported why they stayed at work rather than having time off have

been collated in to 'voluntary' and 'involuntary'. The main 'voluntary' reasons for remaining in work are:

- Keeps your muscles and joints moving
- Keeps your mind off pain

“Keeps your mind off it, so stops you getting depressed.” (*interview 4*)

Ten of our participants said it was best to remain in work and keep moving. Others stated mental advantages of staying at work. This finding supports results from several studies discussing the benefits of supporting workers, by helping them remain in the workplace, instead of taking sickness absence (e.g. Waddell and Burton 2006, Garrow 2016).

The NHS advice is to keep active as this is seen as an essential part of recovery (NHS, 2019). Research by Howard et al (2009) also concluded that both workers and employers would benefit if those suffering with chronic MSDs remained in work. However, experts from BUPA (2018) and research by Hansen and Andersen (2009) stressed that workers need to be careful that their recovery is not delayed with MSDs exacerbated by attending work. BUPA's research found that more than one in four workers “ignore their doctor's orders to stay at home”, missing the recuperative benefits of sickness absence.

In our research the main 'involuntary' reasons why people are staying at work when they would rather not have to are :

- Financial (fear of loss of income when they are not at work)
- Too busy (work does not get done when they are absent)

Sixteen of our participants mentioned the main reason they had to stay at work was monetary, when ideally they should have taken sickness absence because of their MSDs. This reason is consistent with research conducted by Merrill et al (2012) and Galon et al (2014) who stated that work-related factors such as financial concerns had the greatest influence on the occurrence of presenteeism.

“If I don't work, I don't get paid. Some days I feel absolutely crap and don't want to even get out of bed because it hurts so much, but I have to physically force myself to, because otherwise I wouldn't get paid.” (*Interview 12*)

“There will be some who turn up to work 'no matter what' because they won't get paid. I think whenever its price work it's a situation we are stuck with.” (*Interview 9*)

“I think to some extent there is loyalty, we want to get the job done. But pay is obviously the main reason, if you don't work you don't get paid.” (*Interview 16*)

Eight of our participants discussed their worries about 'making their condition worse' by remaining in work. Another was worried about the possibility of safety implications and causing harm to others:

“Safety - if I'm in pain I may put someone else at risk as I'm distracted” (*Interview 11*)

This participant's worries have also been highlighted in research by Lohaus and Habermann (2019) who state that organisations may face additional risks from presenteeism, including the possibility of increased workplace accidents and higher rates of mistakes.

One participant in our research believed that “a high proportion of ground workers are using illegal drugs to mask the pain” (*Interview 3*). He argued that drugs, whether legal or illegal, could pose an additional hazard. Further research is needed to understand the scale of this comment.

MSD-presenteeism and performance

It must be acknowledged that there is difficulty in quantifying the different factors that affect work performance and the concept of productivity. Productivity could refer to a person's ability to conduct a task (work-ability) which could be 'observed' (e.g. their productivity measured), or it could be 'perceived' (e.g. self-report - how they feel they have performed conducting their tasks) (Escorpizo, 2008). Our research has assumed performance rated against a person's perception of their ability to perform their tasks, rather than observed measurements of actual work completed.

While it should not be readily assumed that working when in pain is necessarily associated with reduced productivity, studies do suggest presenteeism is linked with productivity loss (Garrow 2016). Research by van den Heuvel et al (2010) sampled 80,000 workers and determined that workers with a longstanding health condition generally perform well at work, although those with psychological complaints and MSDs were significantly associated with reduced performance at work.

Our research supports that view as when participants were asked to rate their performance, when they were suffering with MSD pain at work over the last 12 months, 79% (44 participants) perceived their performance had reduced as a result of their MSDs (figure 9). While the responses to this question are subjective and open to possible false recollection, many of the participants are living with chronic MSDs on a regular/daily basis. No participant said that they were unable to complete their tasks.

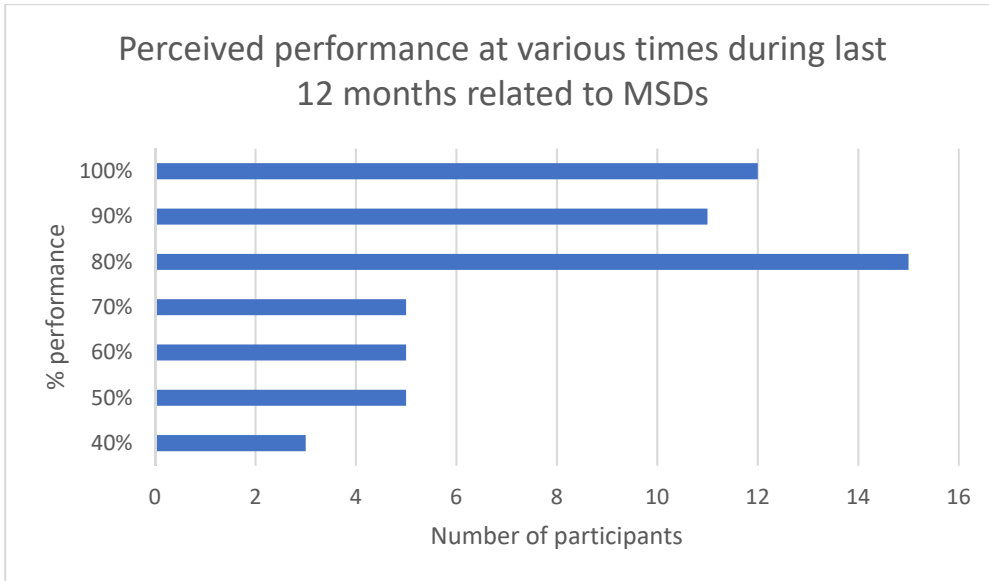


Figure 9: Perceived performance (related to MSDs) in last 12 months

Further analysis then identified reduced performance within age ranges (table 8 and figure 10).

Table 8: Perceived performance by age range

	40%	50%	60%	70%	80%	90%	100%	Totals
18-24	0	0	0	0	0	0	4	4
25-34	0	0	2	0	4	1	2	9
35-44	1	3	0	1	2	2	1	10
45-54	2	0	1	2	2	6	3	16
55+	0	2	2	2	7	2	2	17
Totals	3	5	5	5	15	11	12	56

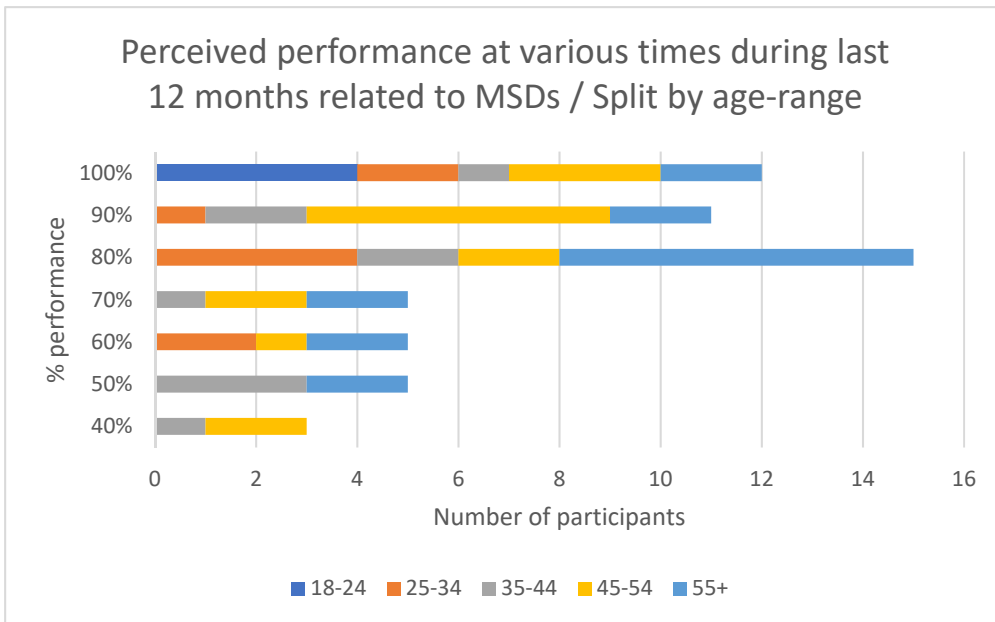


Figure 10: Perceived performance by age range

Calculations were then performed on each age range to identify which age group had the largest drop in performance over the previous 12 months as a result of their MSDs (figure 11). Assessing overall performance reduction by age, the 35-44 year olds perceive they have the highest reduction in performance.

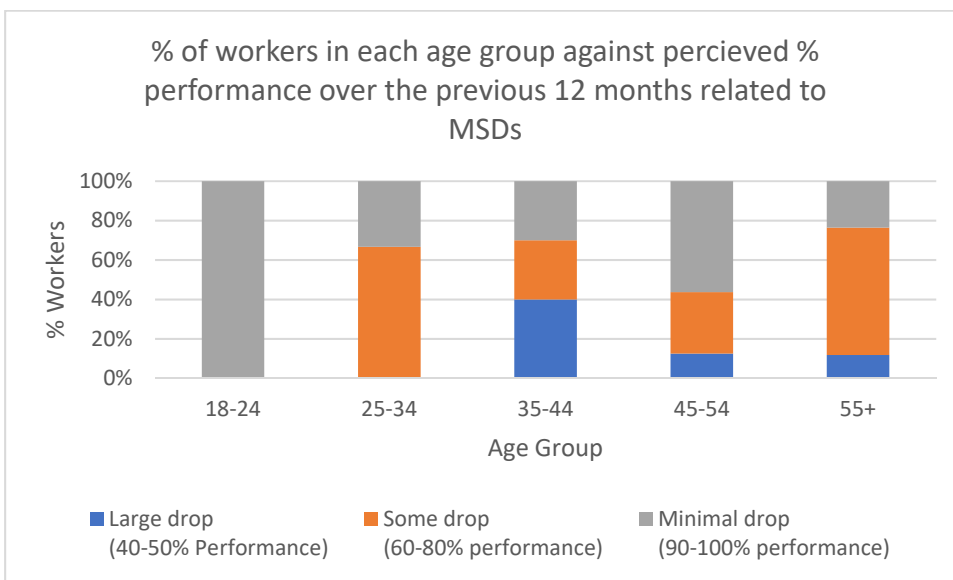


Figure 11: Overall reduced performance by percentage of workers in each age group related to MSDs over the previous 12 months

Research by Eaves et al (2016) found that, while both age and time spent in the construction sector increased the risk of MSDs, workers under 50 years old tended to experience more acute aches and pains. Eaves et al argued that the ‘macho’ construction culture may lead to poor working practices such as higher physical exertion. Research by Merrill et al (2012) also concluded that presenteeism was greatest for those ages 30–49.

Further analysis was undertaken in our research to identify performance reduction by job role (figure 12).

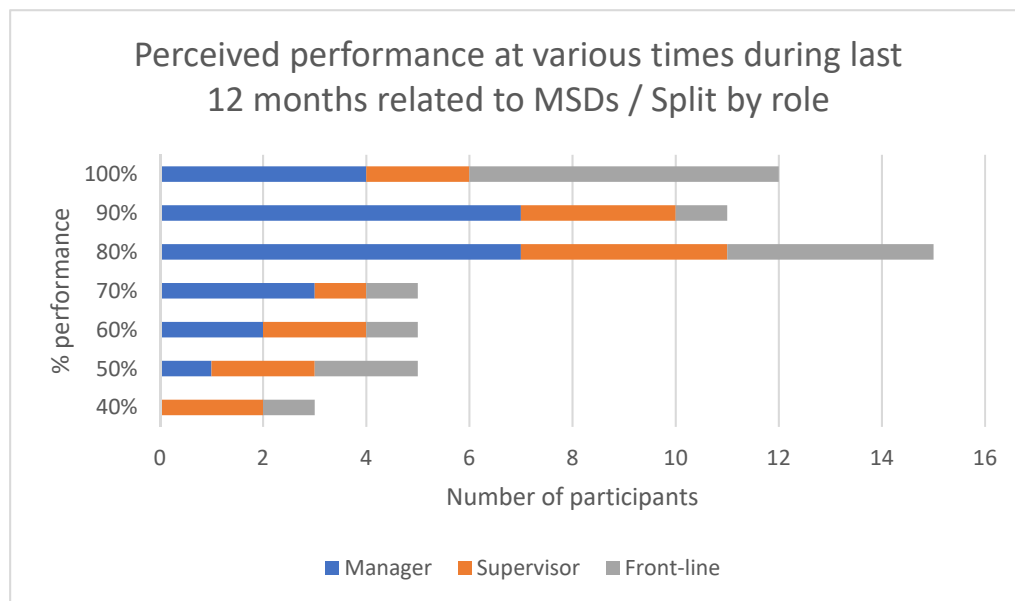


Figure 12: Perceived performance by job role

No further analysis was undertaken for performance reduction by job role; as previously stated the job roles appear to be categorised along ‘blurred’ lines e.g. many of the supervisors also participated in front-line work and many of the managers previously held front-line roles.

Further analysis was undertaken to determine performance reduction by perceived severity of pain (table 8). Just over half of those in severe pain reported a reduction in performance of 20 to 30 percent. While just under half of those reporting moderate pain believed their performance had only dropped by 10 to 20 percent, a quarter perceived a performance reduction of 40% or more. Of the participants reporting they suffered mild MSD pain, one said their performance had dropped by 40% when their pain was at its worst, while a half had noticed some decline in performance of between 10 to 20 per cent.

Table 8: Perceived performance by severity of pain

Performance reduction %	Perceived pain		
	Mild	Moderate	Severe
No reduction 100%	5 (42%)	7 (22%)	1 (8%)
90	2 (17%)	8 (25%)	1 (8%)
80	4 (33%)	7 (22%)	4 (33%)
70	-	2 (6%)	3 (25%)
60	1 (8%)	3 (9%)	-
50	-	4 (13%)	1 (8%)
40	-	1 (3%)	2 (17%)

It was interesting when analysing participants perceived reduction in performance, as noted above, one of the main reasons cited for not informing their supervisor about their MSDs was that it did not affect their work, or at least, that was their view.

During interviews two participants mentioned the impact of their pain and potential fatigue.

“With the pain at the moment I'm struggling to sleep more than four hours so maybe that has affected me at work.” (*Interview 1*)

“It impacts on my sleep and I'm tired all the time, but I don't know whether that's because of lack of sleep because of the pain, or the medication. Also, if I don't eat properly with the medication, I can feel light-headed.” (*Interview 12*)

Research by medical professionals at the Finnish Institute of Occupational Health studied 168 participants suffering with clinically diagnosed upper extremity disorders. They found that pain interference with sleep was associated with productivity loss, but only in those aged 46 years or older (Martimo et al, 2009). The interviewees (1 and 12) in our research, quoted above, were 56 years old and 46 years old respectively.

Our research found that participants who were interviewed tended to perceive a greater reduction in performance than those who completed the questionnaire. One possible reason for this is that they had longer to reflect on their performance during the discussions. Another potential reason could be that a large proportion of the questionnaires were administered by the workers' employing companies and this may have affected participants reporting of workability.

Reducing MSD-presenteeism : suggestions/interventions (challenges and opportunities)

The HSE advocate a participative approach to solution finding (HSE, 2010). During the course of our research, participants were asked how employers could help promote a healthy and productive workforce. Participants proposed various suggestions/interventions

that they believed could help those suffering with MSDs in the workplace and also prevent others from experiencing the condition. A list was compiled and then the ten 'experts' provided feedback on the opportunities and challenges of the items on the list (figure 13).

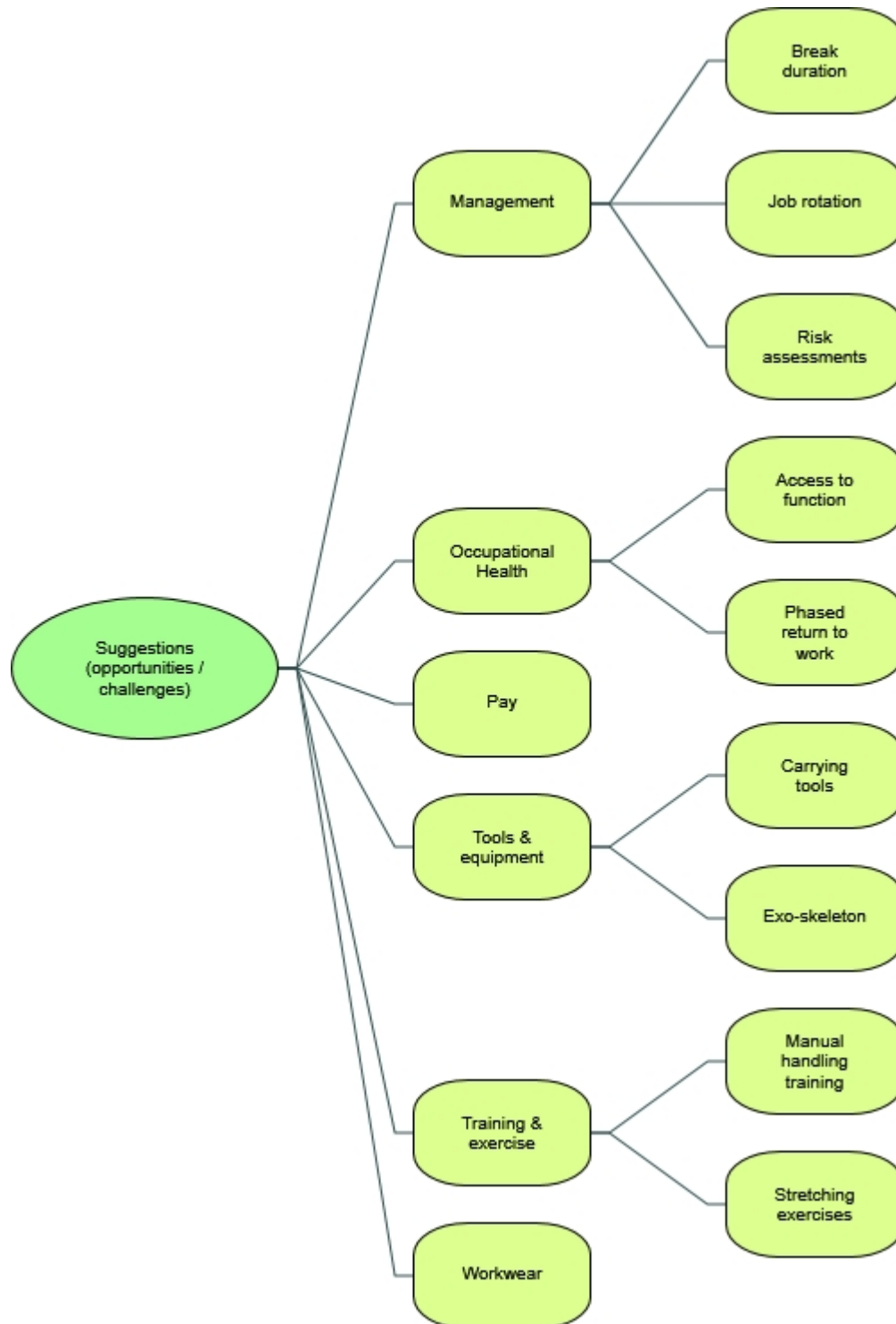


Figure 13: List of suggestions to help those with MSDs in the workplace

Management

Break duration

It was suggested that allowing workers to have shorter but more frequent breaks would allow them to stretch or rest more often. One expert believed there is a difference between formal breaks and rest breaks, stating that a formal break meant going to the canteen for a given period of time, whereas they believed more important was the opportunity within a task to have a natural rest break which enabled things like a change of posture or stretches. A main contractor stated that breaks were at the discretion of each workers' employing company, as the main priority was meeting targets.

“It’s about production, if they want eight breaks a day, but they are still meeting targets that’s fine. What is important is that the programme is realistic to allow breaks” (*Interview 21: Expert*)

However, some of the experts perceived challenges associated with more frequent breaks, believing they would be difficult to manage. They also raised concerns that workers on ‘price work’ would probably take even less time away from the job. Depending on the job, it was suggested that a team approach allowing for job rotation would be better than more breaks.

Job rotation

Although the experts agreed about the benefits of job rotation, allowing opportunity for using different muscles and adoption of different postures, challenges were identified and especially that job rotation of some roles was not feasible. Some challenges were related to skills levels, while others were related to the build programme.

“Within a gang there will be a variation of skills, but people won’t be trained to do everything. Some jobs you may have a skilled man and a labourer and if you put too many together to have job rotation they wouldn’t earn as much” (*Interview 23: Expert*)

“It’s like a production line, there will be particular tasks that needs doing that day, no choice” (*Interview 21: Expert*)

One expert had noticed, over the previous two or three years, that some skilled workers had started working shorter days. One expert said their company had undertaken a review of some operational tasks in the past and the following case study was an example of the findings.

Case study example

One company assessed the work of drylining ceiling and wall fixers. Weights of items over 5kg that were used during tasks were assessed (e.g. wallboard, joint filler, hangers, power tools).

Operatives' work postures when doing tasks were also observed. Twisting, bending, reaching, bending backwards and repetitive postures were observed.

The assessment concluded that, due to the nature of the work, some of the postures were unavoidable. However, it was concluded that job rotation of tasks would be beneficial. Ceiling work was found to be more demanding on the body compared to wall work. Therefore, it was recommended that, if possible, operatives rotate from ceiling to wall work after four hours.

Risk assessment

'Suitable and sufficient' risk assessments are a legal requirement (UK Statutory Instrument, 1999). A case study during the construction of the Olympic Park in 2012 identified the benefits of usability of procedures and the importance of following a structured process for risk assessments. This included ensuring that workers were engaged in the process and had an understanding of the risks (Healy and Sugden 2012).

An improved risk assessment process was identified by our participants. It was suggested that improving the quality of risk assessments would not only reduce costs but would also capture risks during the planning and scheduling stages, which would help reduce manual handling. In our research many experts agreed that the risk assessment process was too generic and tended to be 'copy and paste' from previous jobs.

"I think, across the industry, the risk assessments need more work. Unfortunately, you can get some really generic ones, then the opposite end of the spectrum you get some with 100 pages" (*Interview 21: Expert*)

Tools are available to help with assessing manual handling e.g. HSE's MAC (Manual handling Assessment Chart) and ART (Assessment of Repetitive Tasks). However, some of the experts felt these were not appropriate for construction work.

"The tools are better for someone sitting on a production line making the same kind of movement, they don't really apply to variable jobs". (*Interview 23: Expert*)

While efforts are made to minimise manual handling, it was emphasised by the experts that it cannot be eliminated.

One expert provided an example of erecting Heras fencing¹ :

“You get the pallet which might have 20 panels on it. You are okay putting the first one up next to the pallet, however it still requires manual lifting, but by the time you are on the 20th panel you will be carrying it about 40 to 60 metres. Even if you sited the pallet mid-way you are still having to carry panels to the furthestmost point on poor terrain”. (*Interview 23: Expert*)

Occupational Health

Access to advice (monitoring / health surveillance)

Research by Galon et al (2014) identified the importance of musculoskeletal health promotion measures to avoid health problems being made worse by those remaining in work. The HSE (2010) suggest there are two approaches to monitoring: passive (which may be more inexpensive) and active. While passive monitoring has value, active monitoring builds on information and looks at more specific risk factors. Examples of passive monitoring include reviewing existing data from absence, accident records, symptoms reported etc. Examples of active monitoring include task analysis, confidential questionnaires, health examinations etc.

Our research found that access to the occupational health function is variable, depending on employment status, size of company, size of construction project etc. This means there are many workers who may never have had any form of health surveillance. While companies may require health questionnaires to be completed at the commencement of work, there may be no further requirements for ongoing health testing. For instance, many of those employed as subcontractors may only work for a contractor for a short duration, may be working for four or five agencies and they may not have access to anyone to report issues. For others, they may not inform agencies about existing conditions for fear of losing work.

“I have never had any medical checks or health surveillance over the years.”
(*Interview 16*)

“It’s a grey area, some of the guys may only work for us for three weeks. We have many operatives out on site every day, but it doesn’t fall to us to do any yearly checks as they are not our employees” (*Interview 25: Labour Agency*)

“Some of the people they work for are quite ruthless. They have deadlines for projects and because these guys are just agency staff, they will ask for them to be replaced if they can’t do the job” (*Interview 25: Labour Agency*)

¹ Heras fencing is a trade name often used generically to describe free-standing, metal mesh fencing that is frequently used for construction site hoardings.

Some experts stated that, for many workers, their only option would be to see their own GP. However, comments about challenges to even this option were aired, for example:

- transient workforce working away from home so difficulty in accessing healthcare
- difficulty getting appointments unless its urgent
- lost earnings to attend appointment
- self-employed having to pay for their own health checks

One expert participant also commented that most construction workers are men and they tend to be more reluctant to see their GP.

“We need to change their mindset that they should seek help earlier and not wait until they are on the floor and can’t move” *(Interview 18: Expert)*

Phased return to work

A phased return to work can provide a worker with the opportunity to return to work before complete recovery, possibly working either reduced hours or modified duties. The NHS recommends staying at work or returning to work as quickly as possible during recovery. Advice suggests patients do not need to be pain and symptom-free to return to work (NHS 2019).

In our research positive comments regarding the suitability or benefits of phased return to work were variable, depending on employment status, size and ethos of company.

“There is a greater awareness now that employers need to invest in those they employ and then they are more likely to stay and be productive, but it’s slow” *(Interview 17: Expert)*

Comments from worker participants and experts would suggest that there are challenges to having a phased return to work process on many construction sites. Some said employers needed to be more understanding when people returned, with discussions held and acceptance that performance may not be 100%.

“They still expect 100% from you, you are put under pressure to perform, it’s excessive, you have to keep going regardless.” *(Interview 14)*

“I think there is nervousness from a lot of people not understanding how to manage it... So, their choice is to say well let’s just get someone who is 100% fit rather than someone who is 75% fit”. *(Interview 18: Expert)*

Others commented that money was an issue, with self-employed / agency workers losing money if they did not work full-time.

There was also a lack of understanding regarding how to manage those returning to work, especially for the organisations who had no access to occupational health expertise, which was raised as an issue by some experts.

One expert suggested that companies prefer not to offer return to work in order to 'protect' themselves from reporting formally under RIDDOR. They also felt there was a lack of information about what was happening at site level, in some cases with workers leaving site and not returning, but no knowledge why, unless it was directly related to an incident.

Pay

As noted earlier, financial implications would appear to be one of the main drivers of presenteeism for some workers as the payment structure incentivises workers to attend work when they should be resting? Some are using their holiday when they are in too much pain to work. Some are opting to receive a higher rate of pay, which includes holiday pay, however some workers then have no break, as they perceive even taking holiday they will lose money.

“Unfortunately, money is the main driver, they will work weekends and long hours. I don't think they would see it as holiday pay, they just see it as an hourly rate, so will work for months without having a day off” (*Interview 18: Expert*)

'Price work' was also raised as an issue by some experts, leading to workers doing more than they should. The expert concluded that because of the different price structures, the industry needs an overhaul of how people are paid.

Tools and equipment

Carrying tools

During interviews some workers said they were carrying excessively large amounts of tools around with them on site. Some sites have tried to overcome this issue by introducing lockable tool chests/containers that workers can use during the day. However, some experts commented that not all contractors will pay for this facility, therefore forcing the workers to carry heavy tool bags with them. One expert said that the lockable tool chest was not an option for those workers who had multiple jobs on site.

“A lot of the guys are working on multiple jobs on site, they may be pulled to different places during the day and are expected to carry what they need with them” (*interview 22: Expert*)

Exoskeleton robotics

Some experts believe there are potential benefits from introducing exoskeleton robotics into the construction sector, although others feel that this would be of limited value, mainly due to the high cost and questionable durability. Further concerns were raised that the workers perception of their capabilities may be increased erroneously. One expert had trialled an exoskeleton, but the workers in the trial reported it as being cumbersome, restricting movement. However, automation is a rapidly developing field and this situation may well change in the future as better equipment is designed and workers prejudice is eroded.

Training and in-work exercise

Manual handling training

As people age, their physical fitness declines. Previous research has identified that construction workers may be less able and willing to continue in their roles as they get older (Jebens et al 2014, Buckle 2015, Eaves et al 2016). Manual handling training is vital, not only for younger workers, but ongoing as refresher training.

Comments in our research regarding manual handling training varied considerably. Experts agreed that it was fundamental that workers should learn good technique through quality training, but some commented that this would possibly not be achieved due to the cost. Some responded that manual handling training was still 'tick box', with training providers not offering practical, realistic training sessions (learning to lift with an empty box was mentioned or online training given as examples of poor manual handling training).

"I had manual handling training, but it was an online course. You do it once a year, 20 generic multiple-choice questions. We really need someone watching you lift and then giving advice. The online course was not useful, it's just something we have to do to get on building sites. It's tick box. You jump to the end to the questions and ignore the videos. You get it done at home in your own time as quick as possible."
(Interview 16)

Comments suggest that subcontractors may not even be asked if they have received manual handling training.

"At induction we don't ask them if they have had manual handling training"
(Interview 23: Expert)

However, some companies have been aware of the benefits of realistic practical manual handling training for a number of years, even given the higher cost.

"When we do the training we get the plant department to deliver some full weight big stuff (cable jacks, drums etc) and that's what we train on". *(Interview 19: Expert)*

These comments mirror issues already identified in a report by the HSE, stating that manual handling “training content was widely felt to be uninspiring and lacking relevance to workers’ actual jobs”, with attendees too often sat down ‘watching’ rather than ‘doing’ (HSE, 2018). Research by Haslam et al (2007) and Gibb et al (2015) emphasised the importance of industry- and task-specific training, tailored to recipients, which would promote better risk awareness and help change behaviour long term.

Stretching exercise

Research has identified the benefits of workers participating in short exercise sessions. Ludwig and Borstad (2003) identified that construction workers routinely exposed to working overhead suffered with high rates of shoulder pain which frequently progressed to functional loss and disability. They evaluated a home-exercise programme of shoulder stretching and strengthening. Their results at follow-up testing at 8-12 weeks showed that a home-exercise programme could help reduce shoulder pain and improve function in the shoulder.

Research conducted over a three-month period by Holmström and Ahlborg (2005) to evaluate a 10-minute warm up exercise on a construction site identified beneficial results with significant increases in mobility of thoracic and lower back mobility, hamstring and muscle stretchability. During the construction of the London 2012 Olympic Park, ‘Stretch and Flex’ was launched. This campaign was introduced by an army sergeant to help gain interest and respect from the workers in using specific exercises (Healey and Sugden 2012). Research by Walker et al (2017) also found that promoting physical activity helped reduce and even prevent presenteeism.

When participants were asked their opinion about stretching exercise during our research their comments were at opposite ends of the spectrum from “it’s not necessary”, to “it’s an excellent idea”. Our experts believed that cost, suitable location and attitude were key challenges to introducing stretching exercises on site. Some experts had run trial sessions, but these were the exception. The trials were on larger sites able to accommodate sessions, although they were ad hoc and front-line workers did not want to participate and felt embarrassed.

“Everyone saw it as a bit of a joke, everyone complained ... but did it because they had too. If people understood the benefits of doing it, I think it would make a difference”.
(Interview 20: Expert)

Understanding the benefits of ‘warming up muscles’ prior to exercise was highlighted by another expert. They believed that front-line workers do not recognise that their work constitutes exercise, because it is broken up into various activities, rather than one constant form for a given period of time such as playing football.

Some experts discussed age differences, mentioning younger workers being aware of their physique calling them 'gym bunnies'. But they then suggested that the younger workers are not attending as they may be wary of what the older workers would think of them.

The nature of the business, transient workforce and lack of fixed working times were also raised as challenges.

"If you had a permanent fixed workforce, reporting to the same place every day, you could spend the first 10 minutes stretching, that would work". (*Interview 19*)

"I'm not sure how it would work because people start at different times and have breaks at different times, so unless you stop all work for 20 minutes, I'm not sure how it would work". (*Interview 23: Expert*)

Some experts believed that it would be beneficial, but it needed to be introduced in a structured way, with the employing company paying (cost of session during work time). One site that had introduced the sessions found that the managers and supervisors attended, but the front-line workers were not interested. This site has decided to keep promoting the sessions.

"We will keep doing the sessions and encouraging the guys to take part. Hopefully the more they see us doing it, the more normal it becomes". (*Interview 21: Expert*)

Workwear

Although there are PPE regulations, currently there is no specific industry guidance on workwear. Some companies have rules, such as no shorts on site, or provide company branded workwear, but there appears to a gap regarding advice on suitable clothing and how this might affect MSDs.

While some experts commented that workwear choices had improved over the last few years, with workers choosing more appropriate clothing e.g. cargo trousers with pockets, a particular concern was raised about workers wearing denim jeans: they recognised the benefits of denim, being hard wearing, but had noticed they caused a reduction in mobility. Others commented about ill-fitting 'cheap' work boots that workers may potentially be wearing for 16 hours/day. One expert explained that although workers had their footwear checked that it conformed to 'a certain level of protection', there was no check on the quality of the item. A few raised concerns about foot conditions having witnessed many workers requiring insoles. They believe this is a gap that needs improving, especially as the foot is the foundation for the body and can make a difference to posture.

Conclusions

This research has identified some important issues connected to presenteeism linked to MSDs. However, due to the relatively small sample size, the detailed findings need to be treated with caution. Therefore, it is important that further research is funded to explore these matters further.

- Presenteeism is not always a bad thing, however the word 'presenteeism' carries a negative connotation, which is at odds with the government view that people are better to be at work. There needs to be a balance, as long as workers are not going to do harm to themselves or others, presenteeism is beneficial. However, our research has identified that some construction workers would be better to have sickness absence, but they feel unable to choose that option.
- Our findings suggest that construction employers are underestimating rates of MSDs and the impact on a worker's safety and productivity. Absence is the traditional measurement for ill-health, but managers need to be aware of the growing evidence of the impact of MSD presenteeism on performance, which may be more costly than absence and that levels of presenteeism may be increasing. By only focusing on sickness absence, the business case for the requirement of workplace interventions will be understated.
- For some in the industry there appears to be an acceptance of MSDs. There needs to be an improved awareness of MSDs with better support offered. It is acknowledged that, within the construction sector, there will always be some level of manual handling. Irrespective of whether the MSDs are work-related or not, we need to make sure the MSDs are 'not made worse by work'. The construction sector has a large itinerant workforce where ill-health conditions may be unknown to employers. Supervisors could have better awareness of how to handle situations and offer suitable support. Comments suggest that some employers are simply accepting the fact that workers may not return the next day, without asking why they have not returned. Some workers themselves also seem to accept that MSDs are 'just a consequence of the job'. Others are inhibited from reporting in case they are seen to be 'moaning', so many are 'just getting on with the job', thus not getting the support they need. Many said they work every day with moderate pain so those feeling they need to take time off are really not in a fit state to work anyway. Workers need to know that they can openly say they have a problem. Relevant, good quality manual handling training is fundamental; workers need to know more about minimising risks.
- The pay structure in the industry needs reviewing. It would appear workers are hiding their MSDs due to financial implications and believing acknowledgement of their conditions could be career shortening. It has been suggested that some of the current pay options may result in increased MSDs; examples: piece work counter to breaks,

enhanced pay which includes holiday pay may result in workers not having any time off. Employment status also raised questions - the majority stated they were permanent employees, but more than half did not receive all the traditional benefits of this employment status e.g. stating they only received SSP or 'nothing at all', which deterred them from taking sickness absence. Taking holiday instead of sickness absence also underestimates the cost and makes it difficult to fully understand the scale of MSDs, with the consequence that the sector may not be motivated to fully fix the problem.

- Health management and access to health advice needs improving for many workers. Currently there appears to be workers who have 'slipped through the net' with regards to health checks/health surveillance. There needs to be better awareness of how to manage conditions on site, including the option of a phased return to work. Workplace adjustments could facilitate voluntary presenteeism.
- Planning and risk assessment were highlighted as areas where improvements could help avoid or reduce manual handling. Although the CDM Regulations stipulate designers and pre-construction planners should consider hazards for construction workers (e.g. manual handling risks), comments suggest more could be done. Risk assessments at all stages were viewed as too generic; there needs to be better pre-work risk assessment that extends to include not only hazards but the people themselves. Everyone should get together to discuss hazards then take account of individual capabilities; this creates opportunity for everyone to say what they can and cannot do that day. This would help remove the perception of 'moaning' and make the process more constructive. This stage could also be used to identify job rotation opportunities. Although job rotation of some roles was not feasible, due to skills levels, or build programme, even within a skill set, some 'tweaks' may be possible during the day as illustrated in the case study discussed in the findings.

This research aimed to understand if and why MSD-presenteeism occurs. The research has identified a number of voluntary and involuntary reasons why workers remain at work when in pain with their MSDs. Our research also identified that productivity is likely to be compromised as a result of MSD presenteeism. By investing in interventions suggested by participants, construction workers could enjoy a longer and improved quality of working life and employers could benefit from reduced costs associated with both MSD presenteeism and absence.

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