

# Physical activity in paid work time: a qualitative study of employers' and employees' perspectives

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## Research article

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# Abstract

**Background** Increasing levels of employee stress and poor mental health are a significant concern for workplaces. Physical activity (PA) has been shown as an effective strategy for preventing and treating numerous mental health issues as well as improving mental wellbeing. However, there are many barriers to taking part in PA (such as lack of time) with participation rates typically low. Providing PA in paid work time might be a way to overcome these issues, yet employers' and employees' opinions of this concept are unknown. The aim of this study was to explore employee and employer perspectives of PA in paid work time.

**Methods** Focus groups and interviews were conducted with employees and managers at workplaces in central Scotland that had large numbers of desk based employees. All discussions were digitally recorded and transcribed verbatim. Data were analysed thematically.

**Results** Three out of five organisations approached took part in this qualitative study. Interviews were held with two strategic managers, and focus groups with 16 middle managers and 45 employees. Barriers identified included organisational barriers (cost of lost time), the nature of the job (workload, logistical considerations) and existing workplace norms (colleague's expectations and a no break, be at your culture). Benefits were anticipated for both employees and the organisation and included improved mental health, productivity and external more favourable employee perceptions of the employer.

**Conclusion** This study suggests that there are significant barriers to PA in paid work time. Whilst numerous anticipated benefits were conveyed by both employees and managers, PA in paid work time is unlikely to become common place until changes in attitudes and the culture towards movement at work occur.

# Introduction

Poor mental health and high stress of employees create significant problems in the workplace. Work-related stress is the largest cause of sickness absence in the UK costing £13bn from lost days at work and productivity, with similarly high figures per population reported around the world including Australia, United States and across Europe.(1, 2) Many western workplace environments are predominantly desk based with high levels of sitting and limited movement occurring during work hours.(3-5) Low levels of physical activity (PA) at work are a concern given that physical inactivity is shown to have a negative effect on mental health and wellbeing and is associated with increased stress.(6-9). Increasing PA levels of employees could provide significant benefit to both workplaces and employees themselves and contribute towards improved population health.

However, intervention studies aiming to increase PA levels of employees in the workplace have shown only modest changes.(10, 11) Several reasons for this have been suggested, with low participation rates in interventions a commonly reported theme. In a study by Kirwan et al. (2016) only 15% of employees reported participating in any form of PA during working hours.(12) Numerous studies have therefore

aimed to investigate potential barriers to PA at work in order to increase participation. Consistent with national level PA surveillance data, lack of time is frequently cited as a significant barrier to participating in PA at work.(12-15) New insights into how to reduce this barrier and increase employee participation are therefore required.

Providing employees with time for PA not only during working hours but in paid work time might be a potential way to overcome the perceived lack of time and may improve participation rates. For the purpose of the current study, PA in paid work time is time off in addition to existing breaks to undertake physical activity. A systematic review of recruitment rates in workplace PA interventions suggested that interventions that provided employees with PA opportunities during paid work time had more favourable recruitment rate (>70% of employees recruited as a percentage of those in the workplace).(16) One such study included in the review examined the effects of supervised group aerobics and strength training sessions twice per week for 9 months in paid work time on employees physical health.(17) The study findings showed positive outcomes in relation to body fat, dynamic muscle performance and cardio respiratory fitness in addition to 100% of the workforce taking part in the study. Other studies have tried to incorporate PA activities into routine work practices. Yancey et al. 2004 implemented 10 minute exercise breaks into meetings lasting more than 60 minutes.(18) They reported that 90% of employee who could take part did engage in the exercise session.

While there are examples of interventions that have adopted the approach of incorporating PA into paid work time with positive effect on participation rates and health outcomes, most of this research has taken place in the US and Scandinavia. It is unclear whether similar interventions could be translated into the UK with potentially different work environments and cultures. Gaining perspectives on PA in paid work time from throughout the organisational hierarchy might be important in developing a greater understanding of the barriers to this concept. The aim of this study was therefore to explore employee and employer perspectives of PA in paid work time and to report the possible barriers and benefits of such an initiative.

## Methods

### Study design and recruitment

Workplaces in central Scotland with high numbers of desk based employees were approached to take part in this qualitative study. Out of five organisations approached, three agreed to take part in the study (a higher education and two non-governmental organisations). A local government authority and private sector organisation were unable to participate. Interviews were held with two strategic managers, and focus groups with 16 middle managers and 45 employees in total across all organisations. With only two strategic managers were available for interview, all managers' views are grouped together for the purpose of this paper.

A four stage recruitment strategy was implemented: 1) Key gate keepers in the organisation (typically Human Resources Managers) were identified using an opportunist sampling approach through existing

contacts of the research team and facilitated recruitment and access to the workplace; 2) Strategic managers (with an overview of the larger workplace agenda and priorities) were identified by the gate keepers and contacted by phone and a one-to-one interview arranged; 3) Middle managers (those with a responsibility for groups of employees) were then identified by either the gate keeper or strategic manager and invited to a focus group by email; and 4) Middle managers were then asked to send an email to their employees inviting them to take part in a focus group. All interviewees and focus group participants provided informed consent to participate and for publication of the results. The study was approved by the Research Ethics Committee of the Faculty of Health Sciences and Sport, University of Stirling.

## **Data collection**

Data collection took place between May and December 2014. All interviews and focus groups occurred during the working day at the participant's place of work. Where possible, two members of the research team were present for focus groups with GR facilitating all discussions and the second member (JE, MS) taking field notes. (19, 20) For interviews, GR only facilitated and took notes. A minimum of three participants were required for a focus group to proceed with a maximum of eight employees. Focus groups and interviews lasted no longer than 60 minutes. Two semi-structured schedules (one for employees and one for managers) were developed by GR and reviewed and edited by the research team. The schedules were developed to address key research questions relating to the acceptability, feasibility, barriers and benefits of PA in paid work time. At the beginning of the discussion and without prompting, employees were asked to respond to an initial hypothetical statement that their workplace is providing them with the opportunity to be physically active in paid work time. Employees were then given a definition of what is meant by PA in paid work time; time off in addition to existing breaks to undertake PA. They were also given some further parameters to help define the concept further; short (20 to 30 minutes), frequent (2 to 3 times per week) and including activities such as walking. Further questions then included whether they would take up the opportunity, if PA in paid work time is feasible in their workplace, potential barriers and ways of overcoming these barriers, anticipated benefits for employees and the workplace, their thoughts on their managers' views and logistical considerations (e.g. could a whole work team go out at once, how should this be implemented at their workplace, should it be compulsory). The manager's schedules included additional questions relating to their perceptions as managers about providing their employees with PA in paid work time and how future projects could promote this idea to managers.

After the discussion all participants were asked to complete a short questionnaire containing socio-demographic questions. The survey was used to assess age, social economic status (Scottish Index of Multiple Deprivation - a postcode measure of material deprivation) (21), ethnic background, qualifications, employment status, hours worked, days worked, office layout, flexible working and line management responsibilities. Activity at work was measured using a validated questionnaire (Occupational Sitting and PA questionnaire) (22) and leisure time PA measured using a validated single item question. (23)

## Analysis

All interviews and focus group discussions were digitally recorded and transcribed verbatim. Notes were written up immediately after the discussions. Data analysis started during the fieldwork phase of the study using the constant-comparative (24) so that unanticipated issues raised by the participants could be explored in subsequent interviews and focus groups. Data were analysed thematically.(25) This process involved several steps.

Familiarisation with data enabled construction of a first level coding framework (PA), informed by 1) *a priori* theoretical concepts and research questions underpinning the study, 2) topics and issues introduced by researchers during the focus groups and; 3) topics and issues discussed by participants during interviews and focus groups. NVivo (v10) was used to apply the first level coding framework to each transcript (PA). Initial coding was reviewed by GR, who identified a number of additional emergent codes or themes. Descriptive analysis and interpretation of coded data was undertaken by GR and PA through several in person discussions. In order to ensure validity of interpretation, a sample of coded data was selected and reviewed by other members of the research team (TG and JE).

Socio-demographic data were entered into SPSS (IBM Statistics 21). Continuous data are presented as mean  $\pm$  standard deviation. In text, age is also presented as median, minimum and maximum values. Categorical data are presented as *n* and %. Time spent sitting at work was calculated using the percentage of sitting time and the total hours worked.

## Results

### Employee demographics

Socio-demographic characteristics of employees are presented in Table 1. The median age was 43 years (23 to 58 years), with the majority living in affluent areas (80%) and University educated (81%). Most employees worked full time (81%) spending a mean of 35.9 hours per week at work. Employees were mostly worked in open plan offices (85%) and had no line management responsibilities (93%), with 67% describing themselves as having flexible working hours. Employees were largely in sedentary jobs and spent the most of their day sitting (87%). None of the employees reported any heavy labour at work. Leisure time PA varied greatly ranging from zero to 16 hours per week, with employees achieving a mean of 3.1 hours per week.

### Qualitative results

To place the results in context, we first explore attitudes towards the workplace as a setting for PA before discussing the specific concept of PA during paid work time.

### The workplace as a setting for physical activity

If they choose to, most employees could already be active on a work day in unpaid time such as immediately before or after work or during break time. Participants' previous or current experiences of PA in this time were discussed and it was typically 'exercise' type activities (i.e. swimming or exercise classes) that were undertaken. For these activities on a work day, participants discussed potential barriers such as logistics of needing to bring a change of clothing, time to shower and change as well as the location and provision of facilities (e.g. availability of showers).

In addition to these logistical considerations, for some, the idea of being active even if during unpaid, discretionary time but while at work such as lunchbreak, generated further barriers. For instance, feelings of guilt for not working were discussed:

"I know I should go to the gym and such like, but I just feel that there's never enough time to fit it in by the time you go down the sports centre, change, do your stuff, have a shower, change, it just completely eats over the hour and you feel that you're...you know, somewhat taking the Michael for your hour and a half lunch, so it's not great." [Employee, site 3]

This flagged up a key issue regarding attitudes towards the workplace as a setting for PA and the cultural norms and attitudes towards this idea. This issue became even more pronounced when we went on to consider the concept of PA during paid work time.

### **Physical activity during paid work time**

Both employees and managers discussed the anticipated benefits that could be gained as a result of being physically active during paid work time. Whilst some were specific to either employees or managers (employees noted the physical benefits whilst the managers placed less emphasis on this), these typically included improved productivity and mental health, reducing stress, reduced sick leave and employees having more favourable perceptions their employer. In relation to improved productivity one manager said:

"You might well – I'd hate to promise this – but you might well get back the investment of time"  
[Manager, site 3]

Despite widespread agreement of the anticipated benefits of PA, the idea of participating in PA during paid work time was viewed on the whole problematic. This was for two key sets of reasons: (i) *Structure and nature of the working day* and (ii) *Workplace culture and norms*.

#### *(i) Structure and nature of the working day*

*High workload:* One of the main barriers mentioned by employees was workload. Adding extra time in for PA without reduction of workload was seen as a challenge. One employee said there would be no point in taking the time for PA if a longer day is required to achieve the same work volume. Others mentioned that the main anticipated benefit they saw from this initiative, reducing stress, might be comprised if they were worried about their work output when away from their desk.

“Yeah, an awful lot of people would see that yeah, yeah, yeah this is a nice idea, but you'll still be expected to do this, this, this and this and you know “it's window-dressing” em, would be I think the criticism made, that you make this available but you don't really, the workplace doesn't really believe, it's not going to create extra time, it's not going to ease off on the pressures on you...” [Manager, site 3]

*Frontline job requirements and scheduling of breaks:* Having a frontline job where you are required to be present at your workstation was perceived to be a significant barrier. Often these roles are structured, with breaks having to be taken at set times. Employees in such roles noted issues such as requiring cover for their position from another member of staff and needing to have time scheduled in advance. This was seen as a significant problem in areas which are already understaffed and where resources are stretched

“We're really thinned down, so on a normal day, we've just got enough people, but, for example, someone calls in sick, we're at a crisis point if someone calls in sick..... I think you might get the staff would want to do it, but the fact is that there might not be people to cover if people are going to go and do exercise.” [Employee, site 3]

*Not knowing current break entitlement:* Some employees were unsure of their official break entitlement and different departments in the same organisation had different break schedules. They discussed that such discrepancies would make it difficult to operationalise a new break allowance and it would be important to articulate what this new break would mean in practice. When discussing their current break schedule one employee mentioned having 50 minutes for lunch but not any other break. A colleague then responded:

“Is it not an hour for lunch and two ten or 15 minute breaks, depending on how long you work?” [Employee, site 3]

*Existing flexible working arrangements:* Participants mentioned that many of their colleagues work condensed hours or have arrangements in place to leave early for personal reasons like collecting children from school. These employees already work through breaks to have more time out of work. Some were also concerned that formalising PA in paid work time might result in a reduction in existing privileges relating to breaks and these existing working arrangements.

“I mean, I do fixed hours so I work 8.30 till 4.30 because I have kids to collect, and I don't want to be late out of the office because then just snowballs out of control otherwise, so I can manage to have one break, maybe, before lunch or whatever, but if I had another break I would be like, well that's taking the Michael a bit, really, because I'm working those hours and I don't really have capacity to stay on an extra hour at the end of the day, because I would feel if I've had another break I need to work longer, so it kind of defeats the purpose.” [Employee, site 2]

## (ii) *Workplace culture and norms*

As with the idea of PA during the workday, existing workplace culture and norms would underpin whether PA during paid work time would be a feasible arrangement

*Resentment from colleagues:* There was a perception that colleagues who feel very stressed and overworked would be particularly resentful towards other colleagues taking part in PA in paid work time. A view was expressed that if a colleague has the time to participate in PA then they must not have enough work on.

“...you can be very, very busy, and you know, and there could be resentment when somebody is sitting there, really up to here with work. And then they see, oh that's their turn for getting off for their 20 minute exercise.” [Employee, site 1]

*Physical activity not accepted in the workplace:* Some participants questioned whether the workplace was an appropriate setting for PA, irrespective of the type of PA e.g. walking, desk based stretching, or traditional exercise.

“I like the idea though of the desk based ones where you can just do something. Though having said that I do remember a time when I was sitting doing my neck rolls because I was getting quite stressed and the person opposite he goes, what on earth are you doing? So that just totally broke my thing.”[Employee, site 3]

“ A business is a business at the end of the day... that was what I would argue, there are limits to what you can support” [Employee, site 1]

*A no break, be at your desk culture:* Employees discussed the idea of a ‘look busy’ culture. There was a feeling that employees at their desks are working hard and those who appear to be in for long days and not taking breaks are working the hardest. There was a concern that people who took up the opportunity to be active in paid work time would be perceived as not hard working.

“It's more if there's an expectation of you to be at your desk and if somebody comes and needs some information urgently which is the kind of responsive mode we're in, I wouldn't want anybody to say to those people, she's off on her exercise break. That would be a barrier to me taking an exercise break.” [Employee, site 3]

People also reported a ‘no break’ culture and not making use of existing break entitlements. Merely providing these people with more time even if specifically for PA is not likely to make any difference to their behaviours.

“I feel like this is, speaking for myself, this (PA in paid work time) would be like a secondary step. The first step is to be really proactive in getting people to use their lunchtime properly.”[Employee, site 3]

Employees expressed feeling guilty about taking existing breaks they were entitled to and even more guilt if this time were to be used for PA. The idea of a break for PA in addition to their existing break time generated even more discussions of guilt and being away from the desk at unexpected times.

“It would be nice to be able to fit it (PA) into your work day without feeling guilty that you’re not at your desk.” [Employee, site 3]

However, quite often when people talked about the guilt, this fear was internalised. Even those with colleagues and managers who were perceived as potentially supportive expressed some ambivalence. When asked who they thought would be disapproving one employee responded:

“No-one, I think it’s your inner voice really, isn’t it? You’ve just got to work...” [Employee, site 3]

*Cost of time lost.* At a managerial level, financial cost to the organisation from time lost to additional breaks was perceived as a significant barrier. It was often described in terms of man hours or ‘full time equivalents’ that would be lost.

“I mean if you add 30 times 1,200 people it's quite a lot of time, you know, every day, or twice a week; you know if you do the maths it looks like a lot of time” [Manager, site 1]

*Public and media perceptions of spending funds:* Non-governmental organisations at both a managerial and employee level had concerns over public and media perception of spending public resources on employee PA (even when the potential benefits and financial cost savings to the organisation were acknowledged).

“Even if we do change the culture and do 15 minutes of exercise, it’s the public perception, as well as an organisation, you are there to provide a service ... we are paid by public funds and we need to be seen to be working.” [Employee, site 2]

## Discussion

The aim of this study was to explore attitudes surrounding the opportunity to take part in PA in paid work time at the workplace, from both an employee and employer perspective and to assess perceived barriers and benefits of such an initiative. The underlying rationale was that this might overcome one of the main barriers to PA: perceived lack of time. This study found that there were many anticipated benefits from such an initiative, including productivity and reduced sick leave. Despite this, several additional barriers were raised including the structure and nature of the working day and workplace culture and norms that would need to be addressed before such an initiative would work in practice.

These results confounded our expectations in several ways. We anticipated that while managers might have reservations about the concept in relation to perceived ‘lost work’, that employees themselves would be largely supportive for the opportunity to have a break from work while enjoying the benefits of PA. However, what was not anticipated was the strength of the cultural and attitudinal factors which mitigate against the concept and that employees would share similar concerns to those of their employers. These comments underlined the importance of taking into account existing ingrained workplace cultures not only relating to PA but around the working day in general.

Other studies looking at reducing sedentary time at work have reported similar findings. (26, 27) In a group of 20 sedentary office workers in Australia, Hadgraft et al. (2016) reported workload and organisational social norms as key barriers to employees aspiring to sit less and move more at work. Unlike the current study, they reported a workplace culture that did support the use of existing breaks or moving around the office if it was for a permissible reason such as getting a coffee or for a work task. However, if you were moving around the office for something other than work or if you were seen taking part in exercise related activities in the office such as stretching, similar feelings of being self-conscious as found in the present study were reported. Changing attitudes in the workplace towards being away from the desk and assisting employees to take breaks they are entitled to would be the first steps required prior to implementing PA in paid work time.

When discussing potential barriers of PA in paid work time for employees, high workload was noted as the most significant barrier across all workplaces and employees. Bale et al. (2015) conducted a quantitative analysis of environmental barriers to 30 minutes of daily exercise provided in paid work time. (28) They found that those who reported having too much work were three times less likely to use their PA time than others who reported having more manageable workloads. Employers in the present study also noted a similar concern with regards to the potential cost of lost time with employees potentially working less time each day. Both employees and employers did acknowledge that there was an anticipated potential benefit to productivity which could counteract this lost time or workload. These results suggest that merely providing additional time for PA may without adjusting employees' workload or demonstrating a positive effect on productivity would not be enough to allow employees to take up this opportunity.

Other aspects relating to the nature of the job may need to be considered when providing time for PA during paid hours. Frontline employees for example are restricted in when they could use this time and are reliant upon both their managers scheduling cover and their colleagues providing. In contrast, those with more autonomy in their job need to ensure activity time is protected and not taken over by work, with motivation potentially a more relevant barrier for this group. Employees' personal circumstances also vary greatly even within the same job which may influence their ability to use time at work for PA. Someone who condenses their time for caring responsibilities for example may need to be assured these arrangements wouldn't be changed. However, these factors are largely related to logistical considerations and could be seen as not only easier to address but secondary to changing workload and workplace culture.

Support for this idea throughout the organisational hierarchy is essential and the idea of PA in paid work time being 'permissible' is clearly important to implementation. This is especially relevant given concerns raised about what colleagues and managers might think of this idea. However, engaging workplaces and strategic managers to take part in this qualitative study was difficult, with only two strategic manager interviewed. Even those managers who did take part expressed the potential need to see benefits as a result of taking time out of paid work for PA. Combined, the results might suggest that the workplace is

not currently an ideal setting for PA with significant cultural shifts required in order for such an initiative to work.

This study has several limitations which need to be considered. Although the study gained the perspectives of PA in paid work time from both active and inactive employees, the sample were relatively homogenous - largely affluent, not ethnically diverse, highly educated and from only three different organisations. More research is needed to assess whether the barriers presented in the current study are the same in a wider range of workplaces (private sector, small to medium enterprises) and in a more diverse employee population. This is critical given that those who are less educated or in lower paid jobs may have different views on their job autonomy and ability to control how their time at work is allocated. In workplaces such as the NHS or Local Authorities it may also be important to gain the perspectives of those in occupations where employees are on their feet or engaging in labour as part of their work in addition to those in sedentary roles. This is for two reasons. Firstly, although those in sedentary occupations are likely gain significant benefits of PA in paid work time, providing time off to one group and not others is unlikely to be acceptable in workplaces. Secondly, given recent systematic review evidence that suggest that males in physically demanding jobs such as labourers may have an increased risk of all-cause mortality, PA in paid work time might also be beneficial in this population.<sup>(29)</sup> Future research should also address ways to overcome the barriers presented in the current study and look to develop strategies and interventions that aim to implement PA in paid work time.

## **Conclusion**

This study suggests that even if PA opportunities were provided to employees in paid worktime, significant barriers for both employees and employers would need to be addressed in order for such as initiative to be successful. Whilst some barriers, such as the logistics of providing cover for front line staff, can potentially be overcome, there is an urgent need to challenge current attitudes and culture towards PA at work. Until this occurs, PA in paid work time is unlikely to be successful with workplace culture a key point for consideration in any workplace PA interventions whether in paid work time or not.

## **Declarations**

Ethics: This study was approved by the Research Ethics Committee of the Faculty of Health Sciences and Sport, University of Stirling.

Consent for publication: Participant's gave consent to participate and consent to publish.

Availability of data and material: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests

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Authors' contributions: Conception and design (GR and JE). Data collection (GR). Assisted with data collection (JE and MS). Analysis (GR, PA, JE, TG). Interpretation of data (All). Original paper draft (GR). Revised the manuscript in preparation for submission (All).

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## Tables

Table 1. Demographic and self-reported activity data of employees who attended focus	Total
Characteristics	
<b>Age</b> years, M ± SD (min to max)	42.9 ± 11.2 (24 to 58)
<b>Scottish Index of Multiple Deprivation</b> quintiles, ( <i>n</i> =21) <i>n</i> (%)	
1 (0-20%) most deprived	2 (10)
2 (20-40%)	3 (15)
3 (40-60%)	0 (0)
4 (60-80%)	8 (40)
5 (80-100%) least deprived	8 (40)
<b>Ethnic background</b> <i>n</i> (%)	
Other	3 (11)
White Scottish	24 (89)
<b>Qualification</b> <i>n</i> (%)	
University or higher	22 (81)
Certificate/diploma/trade	4 (15)
No formal qualification	1 (4)
<b>Employment status</b> <i>n</i> (%)	
Full time	22 (81)
Part time	5 (19)
<b>Hours worked</b> hrs/week, M ± SD (min to max)	35.9 ± 8.3 (14 to 60)
<b>Days worked</b> days/week, M ± SD (min to max)	4.7 ± 0.7 (2 to 5)
<b>Office layout</b> <i>n</i> (%)	
Open plan	23 (85)
Own office	4 (15)

<b>Flexible working</b> <i>n</i> (%)	
Yes	18 (67)
No	9 (33)
<b>Line management responsibilities</b> <i>n</i> (%)	
Yes	2 (7)
No	25 (93)
<b>Activity at work</b> % of work hours	
Sitting	87
Standing	7
Walking	6
Heavy labour	0
<b>Time spent sitting at work</b> hrs/week, M ± SD (min to max)	31.4 ± 7.9 (10 to 48)
<b>Leisure time physical activity</b> hrs per week, M ± SD (min to max)	3.1 ± 3.5 (0 to 16)
Achieving > 2.5 hrs leisure time physical activity per week <i>n</i> (%)	14 (52)
Achieving < 2.5 hrs leisure time physical activity per week <i>n</i> (%)	13 (48)

Based on n=27 unless otherwise stated

NA = Not applicable