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Descriptive epidemiology of domain-specific sitting in working adults: The Stormont Study

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3 **Descriptive epidemiology of domain-specific sitting in working adults: The Stormont**
4 **Study**
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Abstract

Background: Given links between sedentary behaviour and unfavourable health outcomes, there is a need to understand the influence of socio-demographic factors on sedentary behaviour to inform effective interventions. This study examined domain-specific sitting times reported across socio-demographic groups of office workers.

Methods: The analyses are cross-sectional and based on a survey conducted within the Stormont Study, which is tracking employees in the Northern Ireland Civil Service. Participants self-reported their daily sitting times across multiple domains (work, TV, travel, PC use, leisure) on workdays and non-workdays, along with their physical activity and socio-demographic variables (sex, age, marital status, BMI, educational attainment, work pattern). Total and domain-specific sitting on workdays and non-workdays were compared across socio-demographic groups using Multivariate Analyses of Covariance.

Results: Completed responses were obtained from 4,436 participants. For the whole sample, total daily sitting times were higher on workdays in comparison to non-workdays (625±168 vs 469±210 mins/day, $p<0.001$). On workdays and non-workdays, higher sitting times were reported by individuals aged 18-29 years, obese individuals, full-time workers, and single/divorced/widowed individuals ($p<0.001$).

Conclusions: Interventions are needed to combat the high levels of sedentary behaviour observed in office workers, particularly among the highlighted demographic groups. Interventions should target workplace and leisure-time sitting.

Keywords: Sedentary behaviour, office workers, TV viewing, screen time, occupational health interventions.

Introduction

Sedentary behaviour, defined as “any waking behaviour characterised by an energy expenditure ≤ 1.5 METs while in a sitting or reclining posture”(page 540),¹ is an independent risk factor for numerous adverse health outcomes, including obesity,^{2,3} some cancers,^{4,5} type 2 diabetes,² the metabolic syndrome,⁶ and mortality from all-causes and cardiovascular disease.^{7,8} Adults typically spend time sitting in three domains: the workplace, during leisure and for transport.⁹ Data from Australian workers suggests that 50% of daily sitting takes place at work,^{10,11} it has also been shown that those who sit for long periods at work do not compensate by reducing their leisure-time sitting.¹¹⁻¹⁴

Early research into sedentary behaviour focused heavily on TV viewing, however as this is only one domain of sedentary time, research has highlighted the importance of measuring all types of sedentary behaviour, across a range of contexts, if we are to truly understand patterns and determinants.^{15,16} A greater understanding of sedentary behaviour accumulated across multiple domains, along with potential links between sedentary time accumulated during and outside working hours, will be necessary to inform interventions and public health guidelines aimed at reducing sedentary behaviour.¹⁶

In addition, there is a need for research describing the descriptive epidemiology of sedentary behaviour to help highlight at-risk groups. Research conducted on US adults has shown that self-reported sitting times increase with increasing age and increased educational attainment,¹⁷ whilst research on Australian adults has shown complex associations between self-reported sitting times and socio-demographic variables.¹⁸ Proper et al.¹⁸ reported positive associations between age and self-reported sitting times on weekdays, and inverse associations between age and reported sitting times during leisure-time. It was also observed that those with lower levels of education reported less sitting on weekdays, but higher levels on weekend days.¹⁸ This study highlights the importance of assessing sedentary behaviour on both weekdays and weekend days given the potential differences in sitting across socio-demographic groups.

Limited research has described sedentary behaviour occurring across multiple domains on weekdays (or workdays) and weekend days (non-workdays) across socio-demographic groups. Furthermore, no research has examined the descriptive epidemiology of sedentary behaviour in UK adults. Our understanding of the prevalence of sedentary behaviour in UK adults is limited, and has largely been restricted to the study of leisure-time screen-based sedentary behaviours,¹⁹ small samples,^{20,21} or to specific occupational groups, such as postal workers.¹³ Differences in patterns of sedentary behaviour have been observed

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3 between Australian and UK office workers, highlighting the importance of studying such
4 lifestyle behaviours in different populations due to environmental and cultural differences.²⁰
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6 The aim of this study therefore was to investigate sedentary times reported across multiple
7 domains on both workdays and non-workdays according to socio-demographic
8 characteristics from a large sample of UK office workers. A secondary aim was to examine
9 links between occupational and leisure-time sitting.
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12 13 **Methods**

14 ***Participants***

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16 The present analyses are cross-sectional and based on a survey conducted as part of the
17 Stormont Study in September 2012, which is tracking a large cohort of employees within the
18 Northern Ireland Civil Service (NICS).²² All NICS employees (civil servants are public sector
19 workers, employed within a UK national government department or agency) with an
20 occupational email address (~26,000) were invited to participate in an online survey. 5,235
21 employees (20% response rate) completed the survey. The Ethics Committee of the
22 University of Ulster approved the study.
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28 ***Measurement of sedentary behaviour and physical activity***

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30 Participants reported the time they usually spend sitting (hours/minutes) across 5-domains
31 (travel, at work, watching television, using a computer at home, other leisure activities) on a
32 typical workday and non-workday using the Domain-Specific Sitting Time questionnaire.²³
33 This self-report tool provides a valid and reliable measure of total sitting time,^{15,23,24} and
34 domain-specific sitting on workdays^{23,24} in adults, and is recommended for use in research
35 examining links between sedentary time and health in working populations.²⁴ Total daily
36 sitting times on workdays and non-workdays were calculated for each participant by
37 summing reported sitting times across the domains.
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44 Participants reported their activity levels using a valid and reliable single-item measure of
45 physical activity.^{25,26} This provided an assessment of physical activity against the 2004
46 physical activity guidelines for England.²⁷ Participants reported the number of days they
47 conducted at least 30-minutes of moderate-to-vigorous activity over the past week.
48 Participants were classified as meeting the 2004 guidelines if they reported participating in at
49 least 30-minutes of moderate-to-vigorous activity on 5 days or more.
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53 ***Socio-demographic variables***

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55 Participants reported their sex, age, educational attainment, marital status, full-time or part-
56 time work pattern, and salary band. For the analyses, age was coded into five groups (18-29,
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3 30-39, 40-49, 50-59 and 60-70 years); while educational attainment was coded into four
4 groups (school level, further education, university degree, or higher degree). Marital status
5 was recoded into two groups (married/cohabiting and single/divorced/widowed). BMI was
6 calculated from self-reported height and weight, participants were categorised as normal-
7 weight (BMI <25 kg/m²), overweight (BMI 25–29.9 kg/m²) or obese (BMI ≥30 kg/m²).²⁸
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10 11 12 **Statistical analyses**

13 Analyses were conducted using IBM SPSS Statistics for Windows version 21. For the
14 sample as a whole, total daily sitting times were compared between workdays and non-
15 workdays using a paired t-test. To understand any differences in sitting behaviour on
16 workdays and non-workdays across socio-demographic groups a series of multivariate
17 analyses of covariance (MANCOVAs) compared total daily sitting times, and domain-specific
18 sitting according to sex, age group, BMI category, educational group, marital status,
19 individuals meeting/not meeting activity guidelines, full-time/part-time workers, and salary
20 band. Age, sex and part-time/full-time work status were included as covariates within each
21 MANCOVA model, with the exception of when one of these variables was the independent
22 variable. To account for the multiple domains of sitting included in each between-group
23 comparison the significance level for between group differences was set at $p < 0.004$ ($0.05 \times$
24 12 sitting time variables). The significance value was reduced further ($p < 0.001$) for any post
25 hoc analyses resulting from a significant MANCOVA result.
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35 Participants were grouped into quartiles based on the amount of time reported sitting at work
36 on workdays. Quartile 1 (low work sitters) consisted of individuals who reported sitting under
37 345 minutes/day at work. Participants in quartile 2 (low-medium work sitters) reported sitting
38 at work between 345 – 394 minutes/day. Quartile 3 (medium-high work sitters) reported
39 sitting between 395 – 449 minutes/day, while quartile 4 (high work sitters) reported sitting at
40 work for over 450 minutes/day. Comparisons were undertaken between these work-time
41 sitting groups to examine whether the groups differed in terms of reported sitting across
42 other domains. These comparisons were undertaken using a MANCOVA, with sex, age,
43 part-time/full-time working status and physical activity included as covariates. Bonferroni-
44 corrected post hoc comparisons were undertaken in the event of a significant MANCOVA
45 result.
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53 **Results**

54 Of the 5,235 participants who completed the survey, 4,436 (85%) office workers provided
55 complete responses on the domain-specific sitting time questionnaire. The sample included
56 in the analyses did not differ significantly to the overall NICS employee cohort in terms of
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3 age (mean age: 44.2 versus 43.0 years [NICS employees], $p>0.05$), gender proportion (56%
4 versus 50.2% female [NICS employees], $p>0.05$), and proportion of full-time/part-time
5 workers (82.8% versus 81.7% full-time [NICS employees], $p>0.05$).
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9 For the sample as a whole, total daily sitting times were significantly higher on workdays in
10 comparison to non-workdays ($p<0.001$) (Table 1). On workdays, sitting at work accounted
11 for 60% of total daily sitting time, followed by watching television (15%), travelling (12%),
12 using a computer at home (7%) and other leisure activities (6%). On non-workdays the
13 largest contributor to total daily sitting was watching television (36%), followed by other
14 leisure activities (23%), using a computer at home (14%), work (14%) and travelling (13%).
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19 Total daily sitting times did not vary significantly between males and females on workdays,
20 however males reported sitting for significantly longer on non-workdays ($p<0.001$). Males
21 reported sitting for significantly longer whilst watching television and using a computer at
22 home on workdays and non-workdays, whilst females reported sitting for significantly longer
23 at work on workdays and in other leisure activities on non-workdays (all $p<0.001$) (Table 1).
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29 *Table 1*
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32 Total daily sitting times on workdays and non-workdays were significantly higher amongst
33 the 18-29 year olds than all other groups ($p<0.001$). Participants aged 18-29 and 30-39
34 years reported sitting for significantly longer at work on workdays, and whilst using a
35 computer at home on non-workdays than the remaining groups (all $p<0.001$). On non-
36 workdays 18-29 year olds reported sitting for significantly longer in other leisure activities
37 than all other groups ($p<0.001$).
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42 Obese participants reported significantly higher total daily sitting times on workdays and non-
43 workdays in comparison to normal-weight and overweight individuals ($p<0.001$). On
44 workdays and non-workdays overweight and obese participants reported sitting for
45 significantly longer whilst watching television in comparison to normal-weight participants
46 ($p<0.001$).
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51 Those educated to school level reported sitting in transport for significantly less time than the
52 remaining educational groups on workdays ($p<0.001$). No other significant differences
53 occurred for workday sitting between educational groups. On non-workdays participants
54 educated up to school level reported sitting for significantly longer whilst watching television
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3 in comparison to all other groups, this group also reported significantly higher total daily
4 sitting times than those educated to degree, or higher degree levels ($p<0.001$).
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8 Participants who were single/divorced/widowed reported significantly higher total daily sitting
9 times on both workdays and non-workdays in comparison to those who were
10 married/cohabiting ($p<0.001$). On workdays, participants who were single/divorced/widowed
11 reported sitting for significantly longer in leisure activities, whilst on non-workdays these
12 individuals reported sitting for significantly longer whilst watching television, using a
13 computer at home and in other leisure activities (all $p<0.001$).
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18 On workdays, total daily sitting times were significantly higher in those not meeting the 2004
19 physical activity guidelines ($p<0.001$). These individuals reported sitting for significantly
20 longer whilst travelling, at work and whilst watching television. Individuals who did not meet
21 the physical activity guidelines also reported sitting for significantly longer whilst watching
22 television on non-workdays (all $p<0.001$).
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28 Full-time workers reported significantly higher total daily sitting times on both workdays and
29 non-workdays in comparison to part-time workers ($p<0.001$) (Table 2). These individuals
30 reported sitting for significantly longer whilst at work on workdays, and whilst watching
31 television and in other leisure activities on non-workdays (all $p<0.001$).
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35 *Table 2*
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39 Participants with reported annual incomes below £20k reported significantly lower total daily
40 sitting times on workdays, and less sitting whilst travelling and at work on workdays, in
41 comparison to all other groups (all $p<0.001$) (Table 2). This finding was reversed however
42 on non-workdays, where individuals with reported incomes below £20k reported significantly
43 higher total daily sitting times than all other groups ($p<0.001$). Participants earning above
44 £40k reported significantly lower amounts of sitting whilst watching television on non-work
45 days in comparison to all other groups ($p<0.001$).
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51 When split into quartiles according to the time reported sitting at work on a workday,
52 significant differences in reported sitting times in domains outside work were observed
53 between groups (after controlling for age, sex, physical activity and part-time/full-time status,
54 $p<0.001$). On non-workdays, total daily sitting times increased incrementally across the 4
55 quartiles for workplace sitting (Table 3), with individuals in the lowest quartile for workplace
56 sitting reporting significantly lower total daily sitting times in comparison to participants in the
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3 remaining quartiles ($p < 0.001$). On both workdays and non-workdays participants in the
4 medium-high and high workplace sitting quartiles reported sitting whilst watching television
5 for significantly longer than those in the lowest quartile. Those in the highest quartile for
6 workplace sitting reported engaging in physical activity on less days per week in comparison
7 to those in the lowest quartile (2 days/week versus 3 days/week, $p < 0.001$).
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12 *Table 3*
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15 **Discussion**

16 ***Main finding of this study***

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18 This study examined sedentary behaviour across multiple domains on workdays and non-
19 workdays in office workers from Northern Ireland in the UK. Participants accumulated high
20 volumes of sedentary behaviour on workdays (10 hours, 25 minutes) and non-workdays (7
21 hours, 50 minutes). It was observed that those who reported sitting the longest at work also
22 reported sitting for significantly longer on non-workdays. These individuals reported
23 significantly less leisure-time physical activity than those in the lowest quartile for workplace
24 sitting, suggesting that those who are highly sedentary at work do not compensate by
25 reducing their sedentary behaviour outside work, and/or increasing their physical activity.
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32 The most prominent sedentary behaviours reported outside work, where differences
33 between socio-demographic groups were most evident, were television viewing and using a
34 computer at home. These screen-based behaviours were most prevalent amongst males,
35 younger adults, obese individuals, individuals educated up to school level, those not meeting
36 physical activity guidelines, single/divorced/widowed adults, full-time workers and high work-
37 time sitters. The links between screen-based sedentary behaviours and poor health
38 outcomes in adults have been widely reported^{19,29} and it is suggested that interventions
39 targeting reductions in sedentary behaviour outside the workplace target these popular
40 leisure-time sedentary pursuits. Encouraging individuals to stand and move during television
41 advert breaks, and/or between programmes; or encouraging individuals to adhere to weekly
42 limits of screen time could lead to reductions in these behaviours.³⁰
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50 ***What is already known on this topic***

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52 It is becoming widely acknowledged that sedentary behaviour is an independent risk factor
53 for numerous adverse health outcomes.^{7,8} Despite this, sedentary behaviour is the most
54 prevalent behaviour seen throughout waking hours in adults^{11,17,31} and children.³² Evidence
55 from Australian workers has shown that half of their total daily sitting time takes place at
56 work.^{10,11} The findings from the current study, and other UK-based studies^{20,21} suggest
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3 however that sitting at work contributes a greater (>60%) proportion of total daily sitting in
4 UK workers. Limited evidence currently exists on socio-demographic differences in sitting.
5 Studies examining such differences have largely been restricted to total daily sitting time,
6 with limited research exploring socio-demographic differences in sitting across different
7 domains.^{17,18,31}
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12 As observed in an Australian sample,¹⁸ in the present study males reported sitting for
13 significantly longer on non-workdays than females. This study has demonstrated however
14 that screen-based sedentary behaviours account for the largest differences in sitting
15 between the sexes outside working hours. As reported elsewhere,³¹ the present study also
16 found that sitting times were higher amongst younger adults (18-29 year olds). This finding
17 could reflect differences in cultural norms across age groups, with younger adults engaging
18 with more technology-driven entertainment in their leisure-time.³¹ The high volumes of
19 sedentary behaviour observed in young adults is concerning and could suggest that these
20 individuals will have an increased risk of chronic diseases later in life.³¹ The present study
21 observed that those educated up to school level reported significantly higher total daily
22 sitting times on non-workdays. This finding is similar to that of Proper et al.¹⁸ who observed
23 that those with lower levels of education reported sitting less on weekdays, but more on
24 weekend days.
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33 ***What this study adds***

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35 This study extends our knowledge on sedentary behaviour accumulated across multiple
36 domains among different socio-demographic groups. It is one of the first to examine a range
37 of sedentary behaviours on both workdays and non-workdays. The differential influences of
38 some socio-demographic variables, such as educational attainment, on workday and non-
39 workday sedentary behaviours highlights the importance of measuring sedentary behaviour
40 on both types of day if we are to truly understand the effects of different determinants of
41 sedentary behaviour. While the sample as a whole accumulated high volumes of sedentary
42 behaviour, the highest levels of sitting were seen amongst younger adults, obese individuals,
43 full-time workers and single/divorced participants. These socio-demographic groups should
44 be targeted for interventions designed to reduce sedentary behaviour. Whilst differences in
45 total workday sitting between demographic groups may appear modest, for example, total
46 daily sitting was greater by 30 minutes/day in obese individuals compared to normal-weight
47 individuals, it has been shown that reallocating 30 minutes of sedentary time per day to light
48 movement is associated with a 2-4% improvement in blood biomarkers such as triglycerides
49 and insulin levels.³³ Reductions in sitting by just 30 minutes per day could therefore have
50 clinically meaningful effects on health.³⁴
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4 The findings add to the growing evidence highlighting the workplace as an important setting
5 for the accumulation of high volumes of sedentary behaviour.^{10-12,16} Given its large
6 contribution to sedentary time on workdays, workplace interventions designed to reduce, or
7 break up, sedentary behaviour are urgently needed in UK office workers. Research in
8 Australian and Swedish workers has started to investigate the effectiveness of sit-to-stand
9 workstations for reducing sedentary time at work.^{35,36} If successful, the incorporation of sit-to-
10 stand workstations in offices within the UK could be an effective strategy for reducing
11 sedentary behaviour, and associated disease risk. Current findings suggest that worksite
12 interventions should also target reducing leisure-time sedentary behaviours, particularly
13 screen-based behaviours.
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20 21 **Limitations of this study**

22 Whilst the analyses were based on a large sample, the poor response rate (20%) is a
23 limitation. However, response rates between 20-25% are common in workplace
24 organisational and wellbeing studies such as this (for example: Houdmont et al.³⁷ – 23%;
25 Kinman and Court³⁸ – 23%; Allisey et al.³⁹ – 25%). Participants included in the analyses did
26 not differ to the NICS employee cohort in terms of age, gender proportion and part-time/full-
27 time working patterns, suggesting the current sample were largely representative of NICS
28 employees. The wide age-range of the sample (19 – 70 years), and the relatively even
29 gender split, suggest the sample were also reflective of office workers outside the NICS.
30 Reported total daily sitting times, and time reported sitting at work, are similar to sitting times
31 reported from office workers recruited from private and public sector organisations in
32 England.^{20,21,40} Whilst the domain-specific sitting time questionnaire is a valid and reliable
33 measure of total daily sitting time, and domain-specific sitting on workdays,^{23,24} validity
34 coefficients are lower for this measure on non-workdays. This study was restricted to office
35 workers, the findings therefore cannot be generalized to individuals employed in non-office
36 based occupations. The cross-sectional design prevents us from making conclusions about
37 causality; it is not possible to determine whether being sedentary at work leads to an
38 individual being more sedentary out of working hours. Longitudinal research is required to
39 understand long-term relationships between sedentary behaviour accumulated during and
40 outside working hours. Despite these limitations, the large sample size, the number of
41 different socio-demographic characteristics examined along with the multiple domains of
42 sitting reported on both workdays and non-workdays are strengths of the study.
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Table 1. Mean (\pm SD) total and domain-specific daily sitting times (minutes/day) reported on workdays and non-workdays by the sample as a whole, and according to sex, age group, BMI category, highest level of educational attainment, marital status, and physical activity level.

	Workday domain specific sitting and total sitting (mins/day)							Non-workday domain specific sitting and total sitting (mins/day)					
	n	Travel	Work	TV	Computer home	Other leisure	Total sitting	Travel	Work	TV	Computer home	Other leisure	Total sitting
Total sample	4436	79 \pm 56	376 \pm 106	91 \pm 74	44 \pm 76	36 \pm 49	625 \pm 168	60 \pm 60	64 \pm 106	170 \pm 104	65 \pm 67	110 \pm 91	469 \pm 210
Sex													
Males	1945	81 \pm 57	362 \pm 113 ^a	99 \pm 77	50 \pm 68	38 \pm 50	630 \pm 174	61 \pm 61	68 \pm 114	183 \pm 114 ^a	78 \pm 73 ^a	103 \pm 88 ^a	493 \pm 214 ^a
Females	2491	77 \pm 55	386 \pm 99	85 \pm 72	40 \pm 80	34 \pm 48	622 \pm 163	59 \pm 60	61 \pm 98	161 \pm 95	55 \pm 59	115 \pm 93	451 \pm 204
Age group													
18 - 29 years	391	76 \pm 49	397 \pm 91 ^a	86 \pm 77	48 \pm 84	41 \pm 50	647 \pm 162 ^a	56 \pm 51	67 \pm 112	183 \pm 114	79 \pm 83 ^a	140 \pm 100 ^a	524 \pm 216 ^a
30 - 39 years	1055	78 \pm 55	389 \pm 96 ^a	88 \pm 71	44 \pm 74	32 \pm 46	632 \pm 163	56 \pm 54	57 \pm 102	174 \pm 108	72 \pm 71 ^a	109 \pm 90	468 \pm 208
40 - 49 years	1419	80 \pm 56	370 \pm 106	87 \pm 71	44 \pm 75	33 \pm 48	613 \pm 164	64 \pm 73	60 \pm 102	167 \pm 103	62 \pm 62	107 \pm 92	461 \pm 208
50 - 59 years	1400	79 \pm 59	368 \pm 115	98 \pm 78	45 \pm 76	39 \pm 51	628 \pm 176	59 \pm 53	70 \pm 107	168 \pm 99	60 \pm 62	106 \pm 88	462 \pm 209
60 - 70 years	171	77 \pm 54	355 \pm 103	105 \pm 81	43 \pm 65	41 \pm 52	622 \pm 170	59 \pm 54	83 \pm 123	172 \pm 105	63 \pm 59	105 \pm 81	483 \pm 213
BMI group													
Normal weight	1605	77 \pm 53	377 \pm 105	83 \pm 69	42 \pm 74	35 \pm 46	614 \pm 162	59 \pm 58	61 \pm 102	157 \pm 96	59 \pm 60	109 \pm 89	445 \pm 200
Overweight	1774	79 \pm 59	371 \pm 109	94 \pm 74 ^a	45 \pm 74	36 \pm 51	625 \pm 169	61 \pm 62	63 \pm 105	171 \pm 105 ^a	65 \pm 64	110 \pm 93	469 \pm 210
Obese	1045	80 \pm 55	381 \pm 101	99 \pm 82 ^a	47 \pm 78	37 \pm 51	643 \pm 171 ^a	60 \pm 59	70 \pm 113	190 \pm 111 ^a	77 \pm 78 ^a	110 \pm 91	507 \pm 219 ^a
Education													
School level	912	71 \pm 54 ^a	377 \pm 107	93 \pm 78	46 \pm 88	34 \pm 49	622 \pm 183	62 \pm 62	72 \pm 110	178 \pm 110 ^{b,c}	59 \pm 69	108 \pm 93	479 \pm 224 ^b
Further education	1431	77 \pm 54	369 \pm 111	92 \pm 77	43 \pm 75	35 \pm 50	616 \pm 174	63 \pm 71	65 \pm 105	175 \pm 107	63 \pm 65	109 \pm 93	476 \pm 216
University degree	880	80 \pm 59	382 \pm 98	93 \pm 72	46 \pm 73	38 \pm 47	639 \pm 158	55 \pm 50	58 \pm 102	170 \pm 100 ^d	72 \pm 70	115 \pm 93	470 \pm 201
Higher degree	1192	85 \pm 57	379 \pm 104	87 \pm 68	44 \pm 67	37 \pm 49	631 \pm 153	58 \pm 51	59 \pm 105	159 \pm 97 ^c	69 \pm 64	109 \pm 85	453 \pm 196 ^b
Marital status													
Married/cohabiting	3091	80 \pm 57	373 \pm 108	90 \pm 73	44 \pm 75	33 \pm 47	619 \pm 168	60 \pm 58	62 \pm 103	167 \pm 100	61 \pm 61	103 \pm 86	453 \pm 206
Single/divorced	1345	76 \pm 54	382 \pm 100	94 \pm 77	46 \pm 76	42 \pm 53 ^a	640 \pm 167 ^a	60 \pm 65	68 \pm 111	179 \pm 112 ^a	75 \pm 78 ^a	126 \pm 100 ^a	508 \pm 214 ^a
Meets PA guidelines													
Yes	890	74 \pm 60	364 \pm 107	87 \pm 73	44 \pm 76	39 \pm 53	607 \pm 167	59 \pm 60	67 \pm 105	161 \pm 94	65 \pm 66	109 \pm 89	462 \pm 206
No	3544	80 \pm 55 ^a	378 \pm 105 ^a	92 \pm 75 ^a	45 \pm 75	35 \pm 48	630 \pm 168 ^a	60 \pm 60	63 \pm 106	173 \pm 106 ^a	66 \pm 67	110 \pm 91	471 \pm 211

^a sitting times were significantly different to the remaining group(s) within each socio-demographic category

^{b,c} sitting times were significantly different between specific sub-groups with the same superscript

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Table 2. Mean (\pm SD) total and domain-specific daily sitting times (minutes/day) reported on workdays and non-workdays according to full time/part time working patterns and salary band.

	Workday domain specific sitting and total sitting (mins/day)							Non-workday domain specific sitting and total sitting (mins/day)					
	n	Travel	Work	TV	Computer home	Other leisure	Total sitting	Travel	Work	TV	Computer home	Other leisure	Total sitting
Full time/part time													
Full-time	3672	79 \pm 56	378 \pm 108 ^a	93 \pm 74	45 \pm 75	37 \pm 49	631 \pm 168 ^a	60 \pm 60	65 \pm 108	175 \pm 106 ^a	68 \pm 69	112 \pm 92 ^a	480 \pm 211 ^a
Part-time	764	76 \pm 56	363 \pm 95	85 \pm 73	43 \pm 80	31 \pm 48	598 \pm 163	60 \pm 59	57 \pm 92	147 \pm 89	53 \pm 53	100 \pm 85	417 \pm 195
Salary band													
<£20,000	805	70 \pm 51 ^a	368 \pm 110 ^a	83 \pm 78	47 \pm 83	37 \pm 56	604 \pm 188 ^a	63 \pm 72	65 \pm 104	170 \pm 111	70 \pm 79	123 \pm 104	490 \pm 232 ^a
£20,001-25,000	1280	75 \pm 59	378 \pm 101	93 \pm 78	44 \pm 83	34 \pm 46	624 \pm 171	60 \pm 64	69 \pm 110	181 \pm 113	60 \pm 64	106 \pm 89	476 \pm 217
£25,001-30,000	1034	82 \pm 57	370 \pm 116	93 \pm 73	43 \pm 68	35 \pm 47	624 \pm 166	59 \pm 52	61 \pm 104	167 \pm 99	68 \pm 67	101 \pm 84	456 \pm 198
£30,001-35,000	498	83 \pm 53	388 \pm 91	92 \pm 69	45 \pm 73	36 \pm 50	644 \pm 152	56 \pm 46	59 \pm 103	169 \pm 92	67 \pm 62	111 \pm 85	462 \pm 190
£35,001-40,000	432	85 \pm 53	378 \pm 101	96 \pm 70	47 \pm 73	37 \pm 47	644 \pm 153	60 \pm 59	62 \pm 103	168 \pm 100	65 \pm 63	111 \pm 83	465 \pm 205
£40,001+	387	87 \pm 57	381 \pm 106	88 \pm 68	41 \pm 52	39 \pm 46	636 \pm 148	62 \pm 56	60 \pm 107	151 \pm 85 ^a	66 \pm 55	113 \pm 96	453 \pm 191

^a sitting times were significantly different to the remaining group(s) within each socio-demographic category

Table 3. Mean (\pm SD) total and domain-specific daily sitting times (minutes/day) reported on workdays and non-workdays for participants grouped into quartiles according to reported time spent sitting at work on workdays.

	Workday domain specific sitting and total sitting (mins/day)							Non-workday domain specific sitting and total sitting (mins/day)					
	n	Travel	Work	TV	Computer home	Other leisure	Total sitting	Travel	Work	TV	Computer home	Other leisure	Total sitting
Quartile for time spent sitting at work													
1 - low	1111	86 \pm 64	233 \pm 98	84 \pm 74 ^{b,c}	47 \pm 78	37 \pm 52	487 \pm 171 ^a	66 \pm 66	65 \pm 104	153 \pm 93 ^{b,c}	59 \pm 59 ^a	104 \pm 87	447 \pm 208 ^a
2 - low/medium	1125	75 \pm 56	368 \pm 13	92 \pm 76	44 \pm 73	38 \pm 49	617 \pm 138	61 \pm 65	66 \pm 104	172 \pm 103	67 \pm 66	109 \pm 91	475 \pm 209
3 - medium/high	1115	73 \pm 52	423 \pm 9	94 \pm 74 ^b	48 \pm 84	34 \pm 46	671 \pm 130	56 \pm 53	63 \pm 105	175 \pm 110 ^b	68 \pm 72	110 \pm 91	471 \pm 206
4 - high	1085	80 \pm 51	481 \pm 33	95 \pm 73 ^c	39 \pm 65	34 \pm 49	729 \pm 125	56 \pm 55	62 \pm 110	182 \pm 107 ^c	68 \pm 69	116 \pm 94	485 \pm 214

^a sitting times were significantly different to the remaining groups

^{b,c} sitting times were significantly different between specific sub-groups with the same superscript