HOW DID THE REMOTE WORK REVOLUTION CHANGE OUR WORK AND LEISURE TIME?

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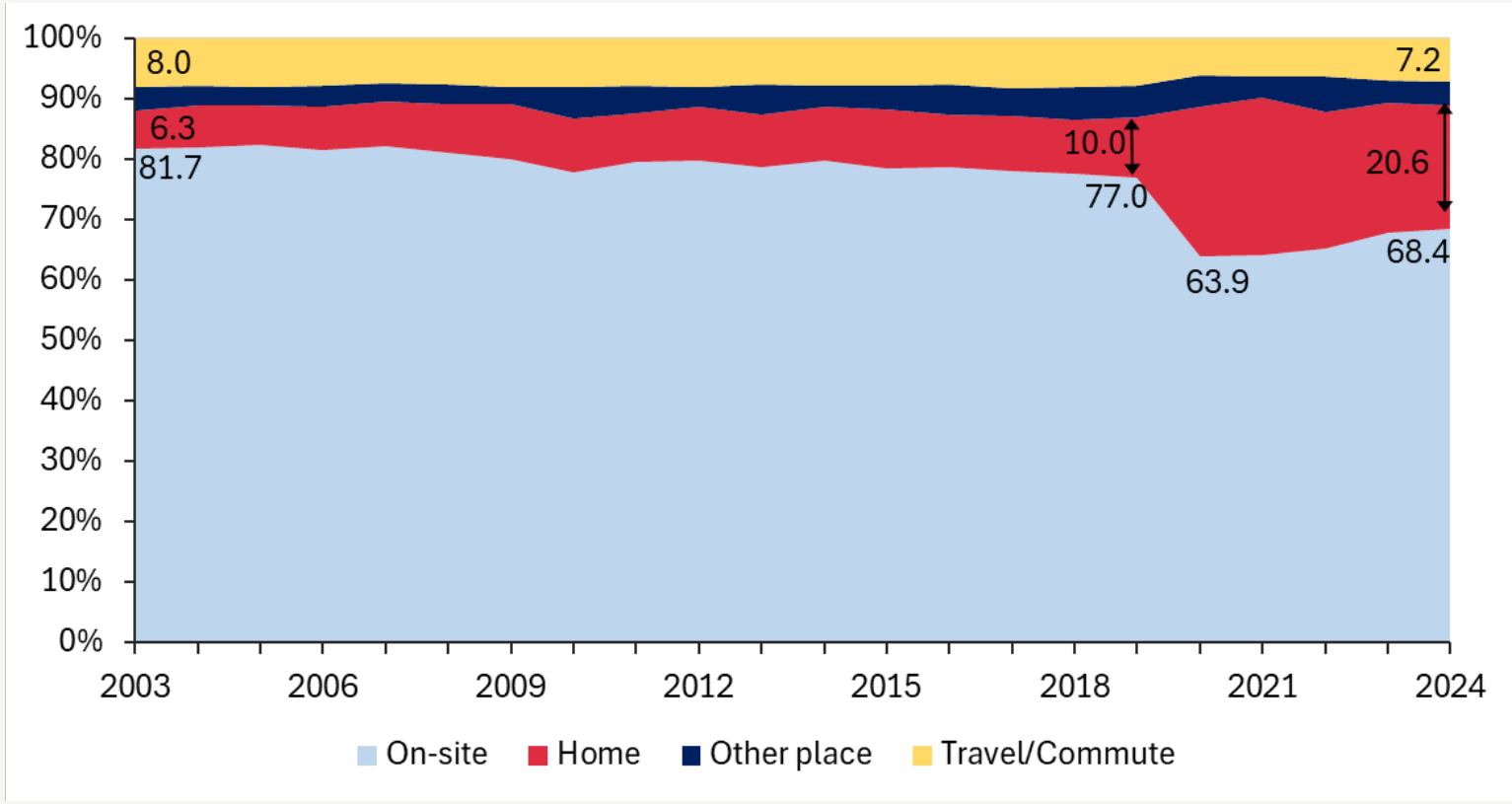
DISCLAIMER

The information in this presentation is being released for statistical purposes only. It is to inform interested parties and to encourage discussion of work in progress. All views expressed in this presentation are those of the authors and do not necessarily reflect the views or policies of the U.S. Bureau of Labor Statistics.

PERCENTAGE OF TOTAL TIME DEVOTED TO WORK BY LOCATION

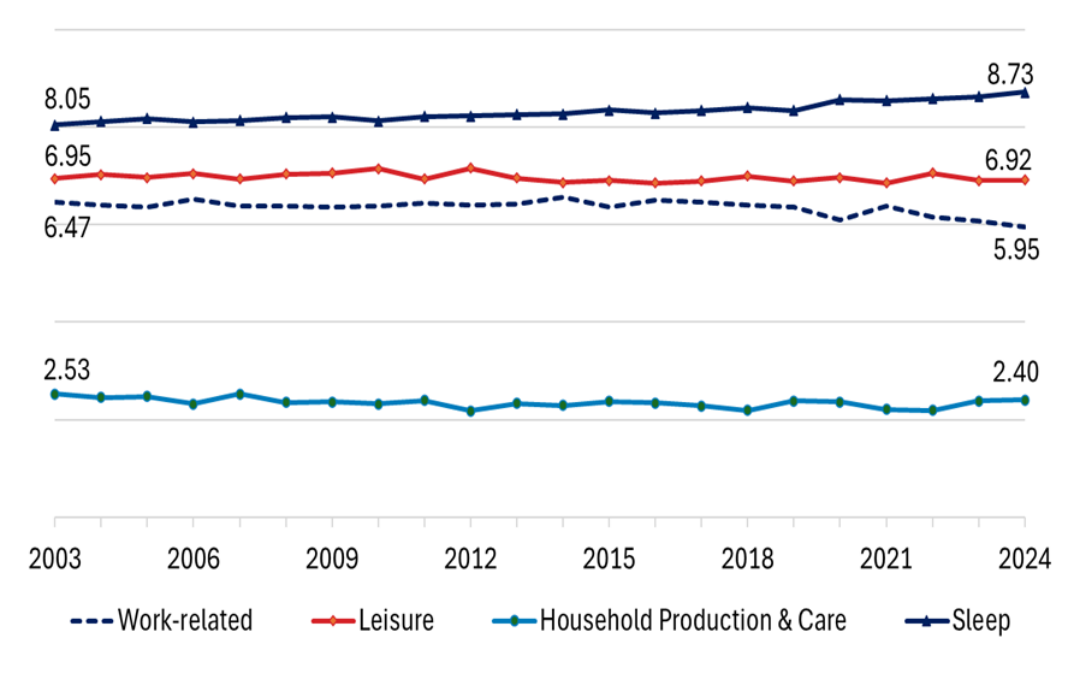
Remote work accelerated due to the pandemic, now comprising 20.6% of total work hours in the U.S.



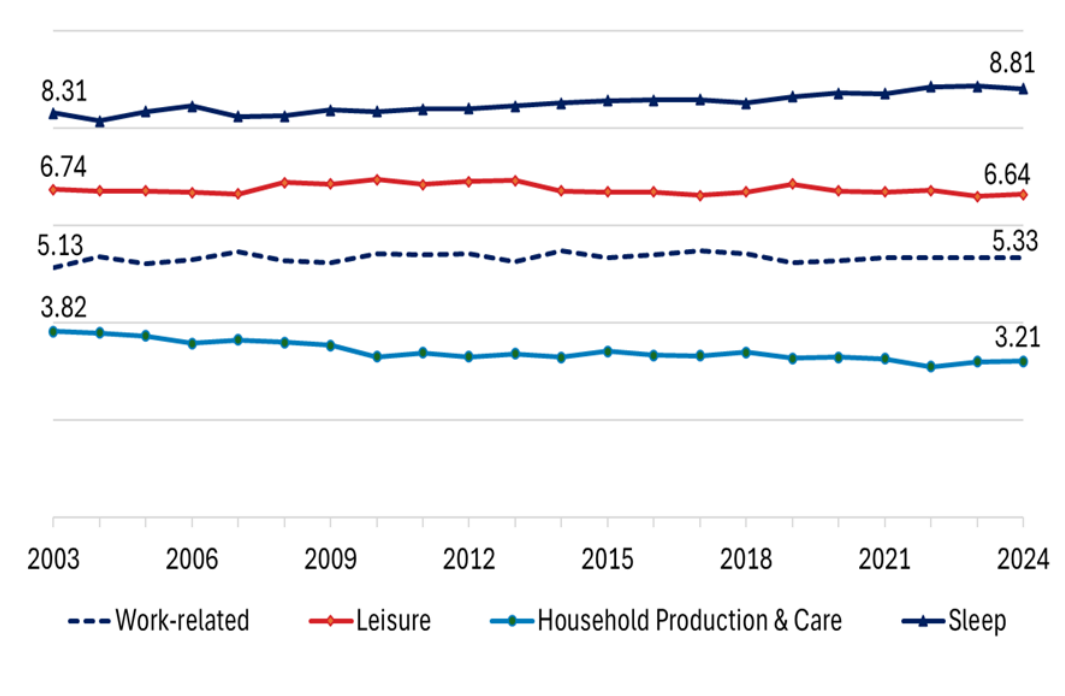
Source: 2003–2024 American Time Use Survey, author's calculations

TIME USE CHANGES OVER 21 YEARS

MEN

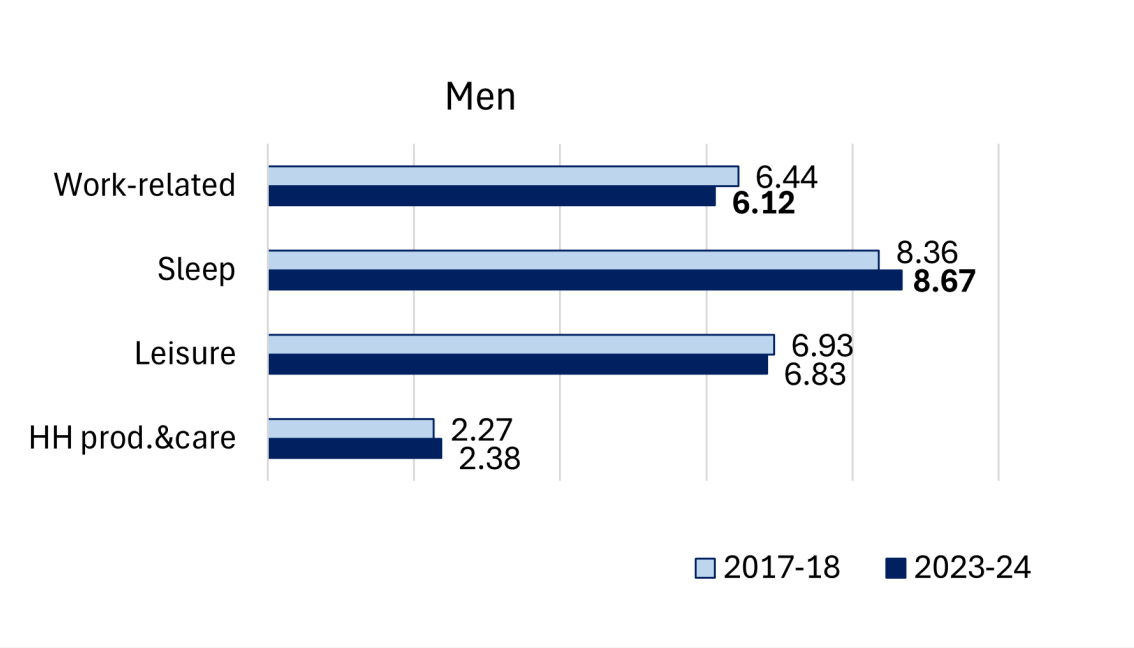


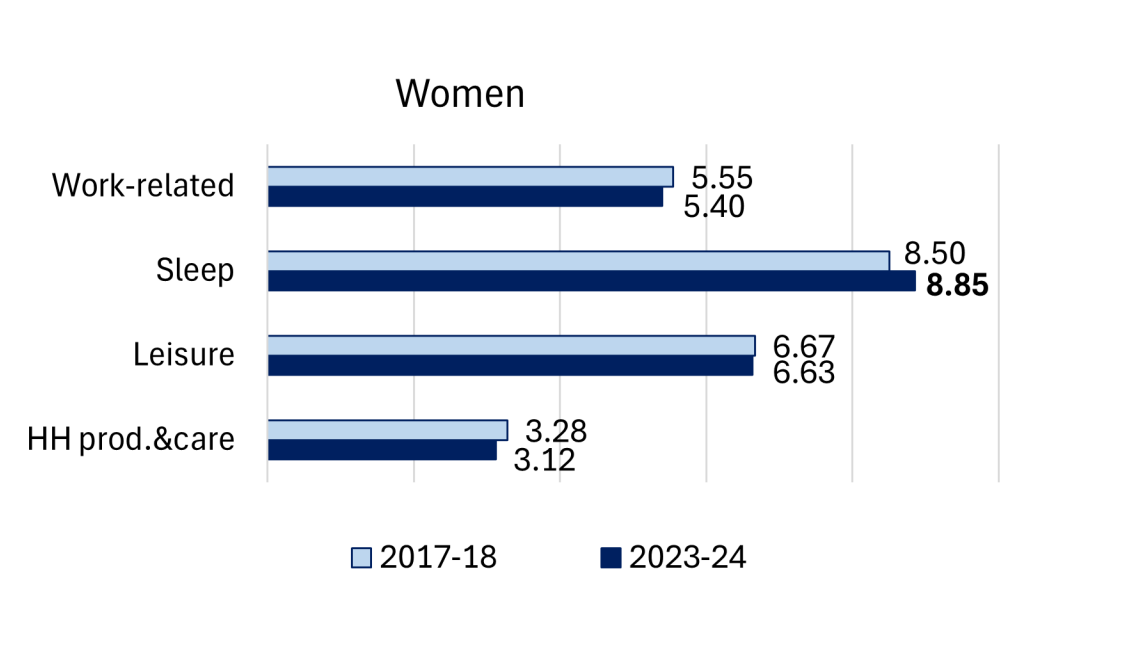
WOMEN



2003–2024 American Time Use Survey wage and salary workers aged 22–64 (hours/day)

TIME USE CHANGES SINCE 2017–18





DATA: PART 1

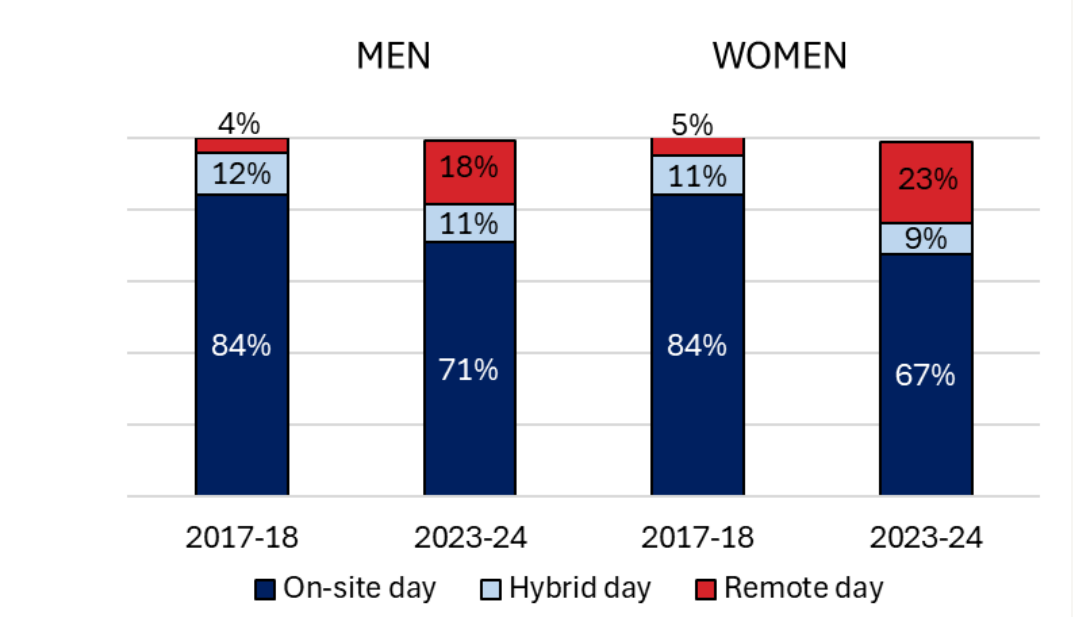
American Time Use Survey (ATUS) time diaries

- Wage and salary workers age 22–64

Sample 1: Weekday Workdays ≥ 4h work

We classify workdays into discrete types.

  - Remote: Work from home (WFH) > 0, Office = 0
  - On-site: Office > 0, WFH = 0
  - Hybrid: Office > 0, WFH > 0



DATA: PART 2

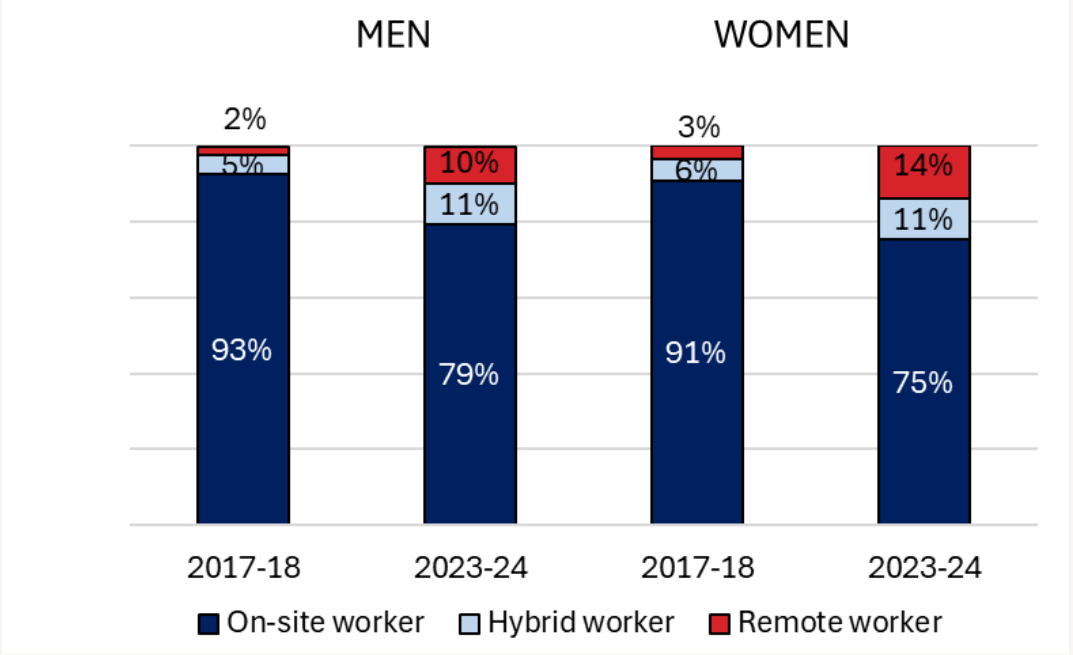
Sample 2: All days (no work requirement)

ATUS Leave and Job Flexibilities module 2017–18

- Remote worker: #WFH days = #usual workdays
- Hybrid worker: WFH ≥1 or more days per week but not all usual workdays
- On-site worker: WFH <1 day per week

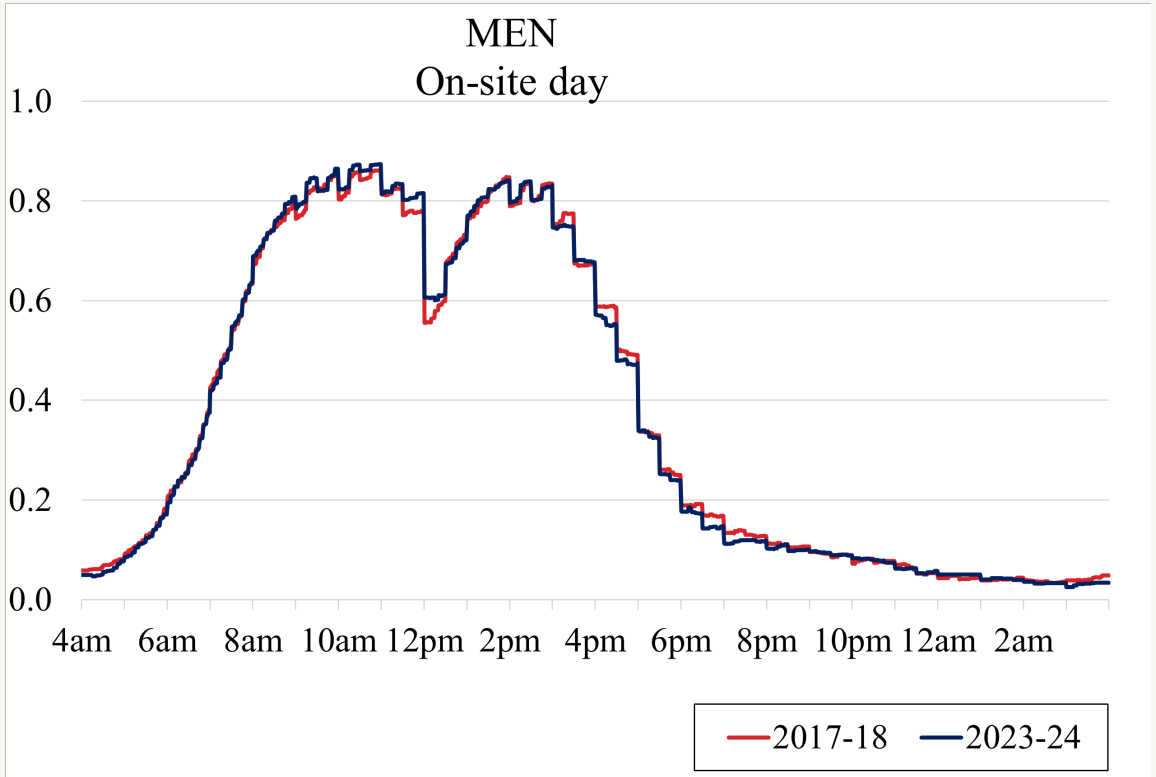
Current Population Survey 2022–24

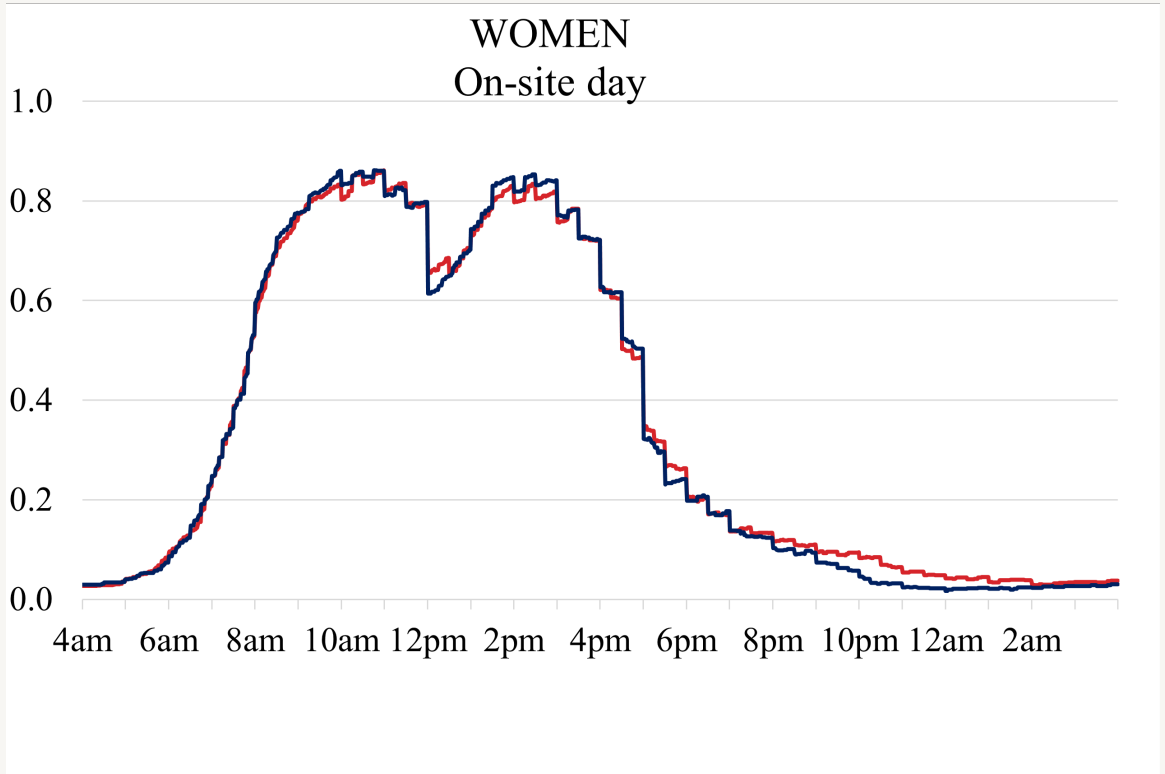
- Remote worker: 100% WFH last week
- Hybrid worker: 20–99% WFH last week
- On-site worker: 0–19% WFH



WEEKDAY
WORKDAYS

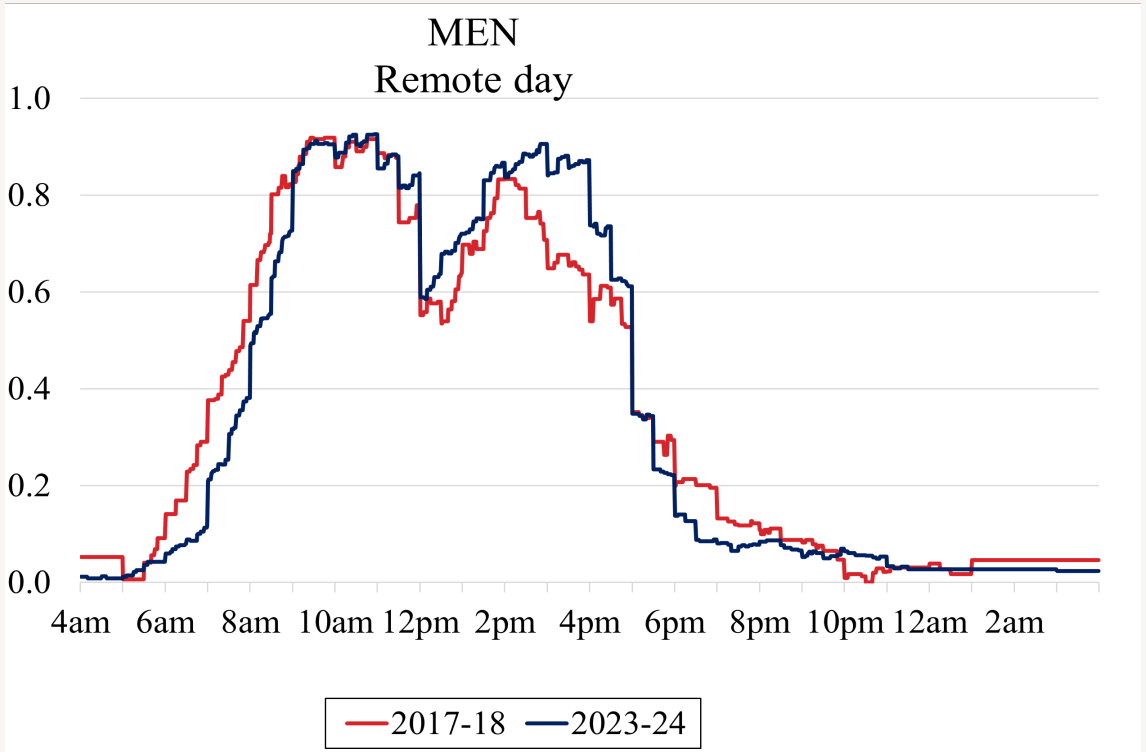
SHARE OF WORKERS ENGAGED IN CORE WORK ON ON-SITE DAYS

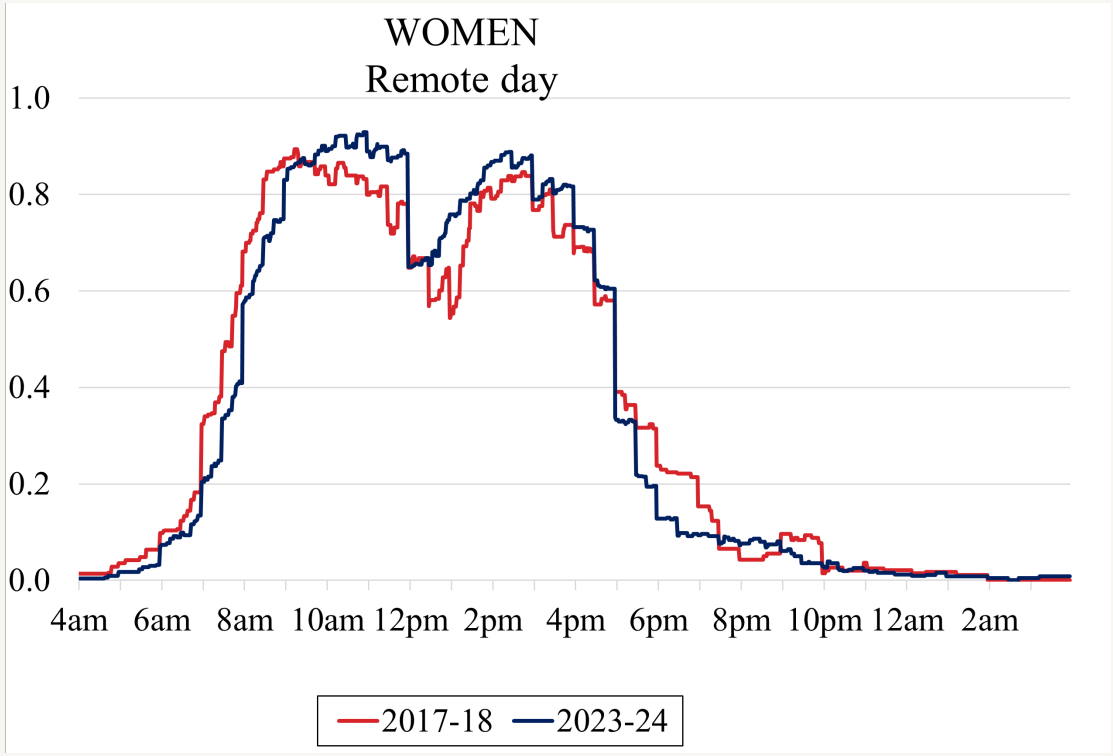




On-site days: no change

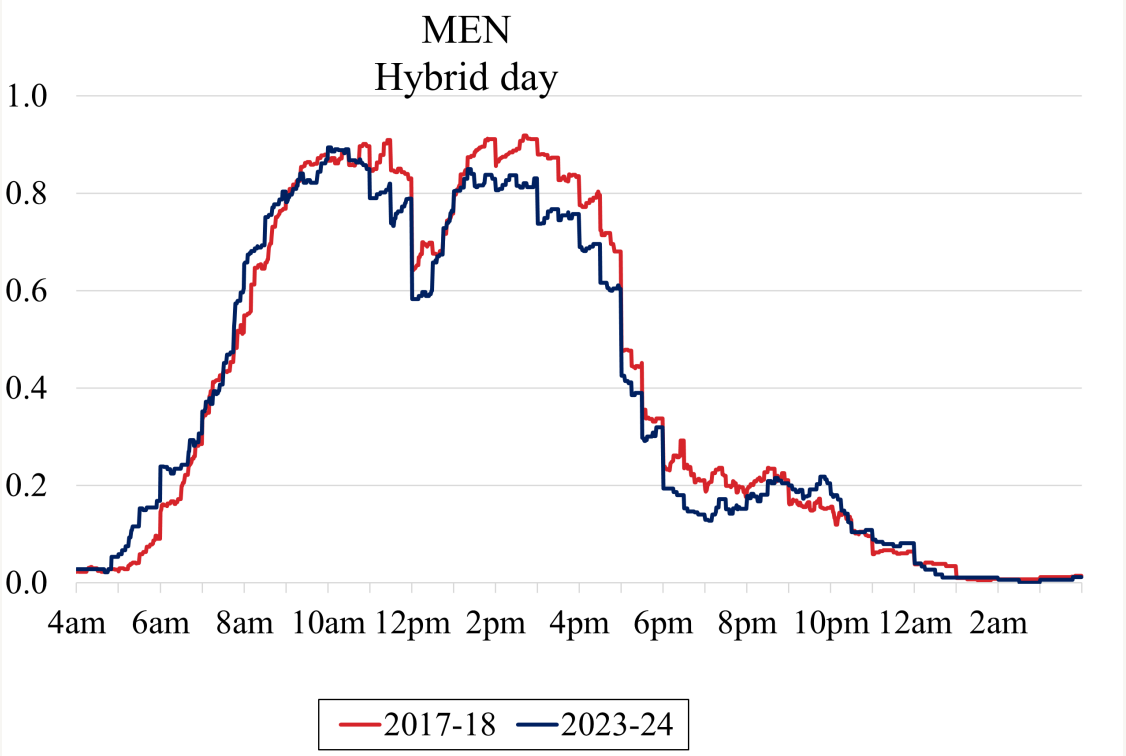
SHARE OF WORKERS ENGAGED IN CORE WORK ON REMOTE DAYS

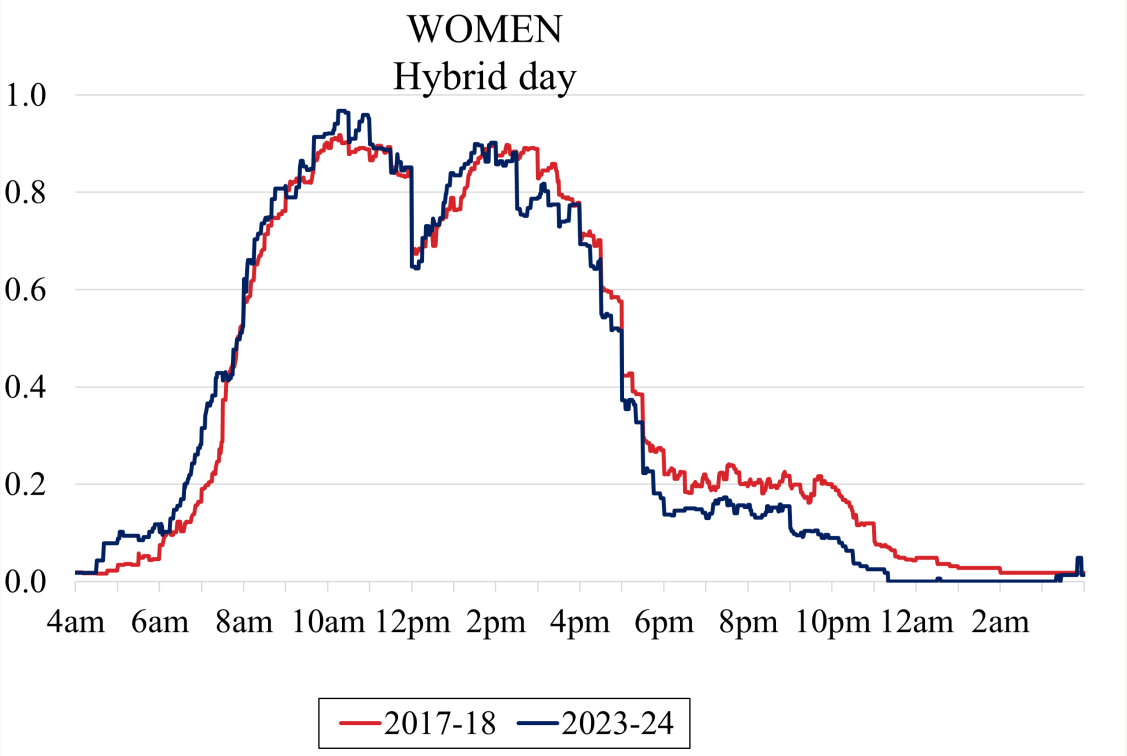




Remote days: start later, end earlier

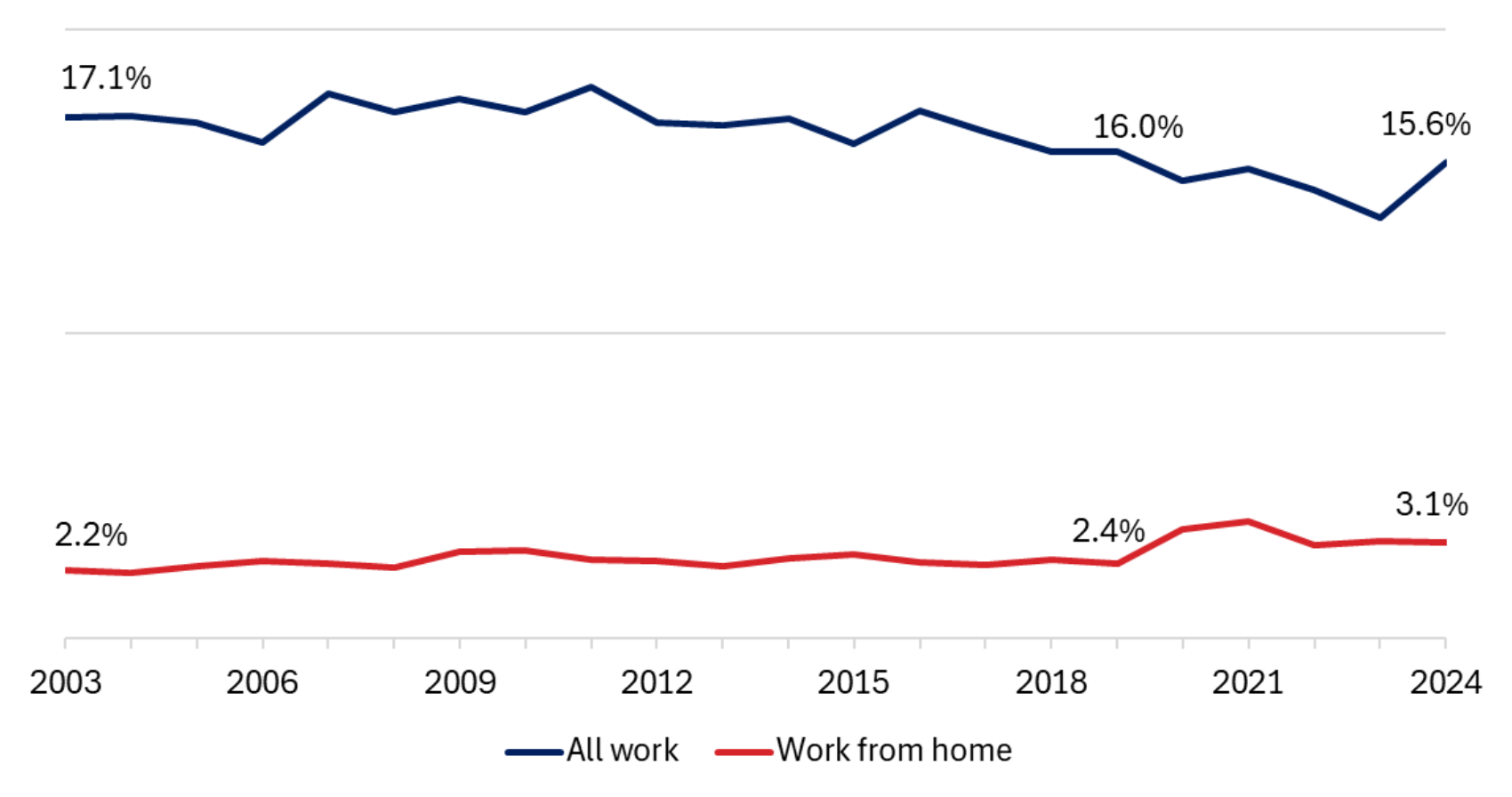
SHARE OF WORKERS ENGAGED IN CORE WORK ON HYBRID DAYS



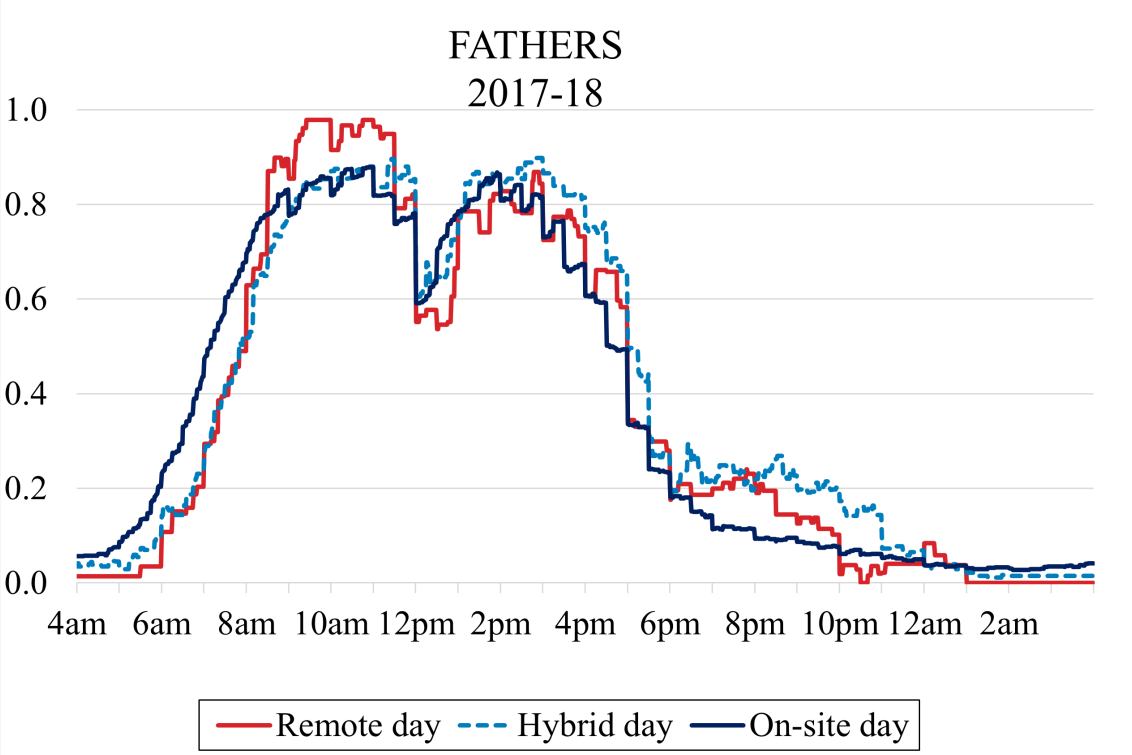


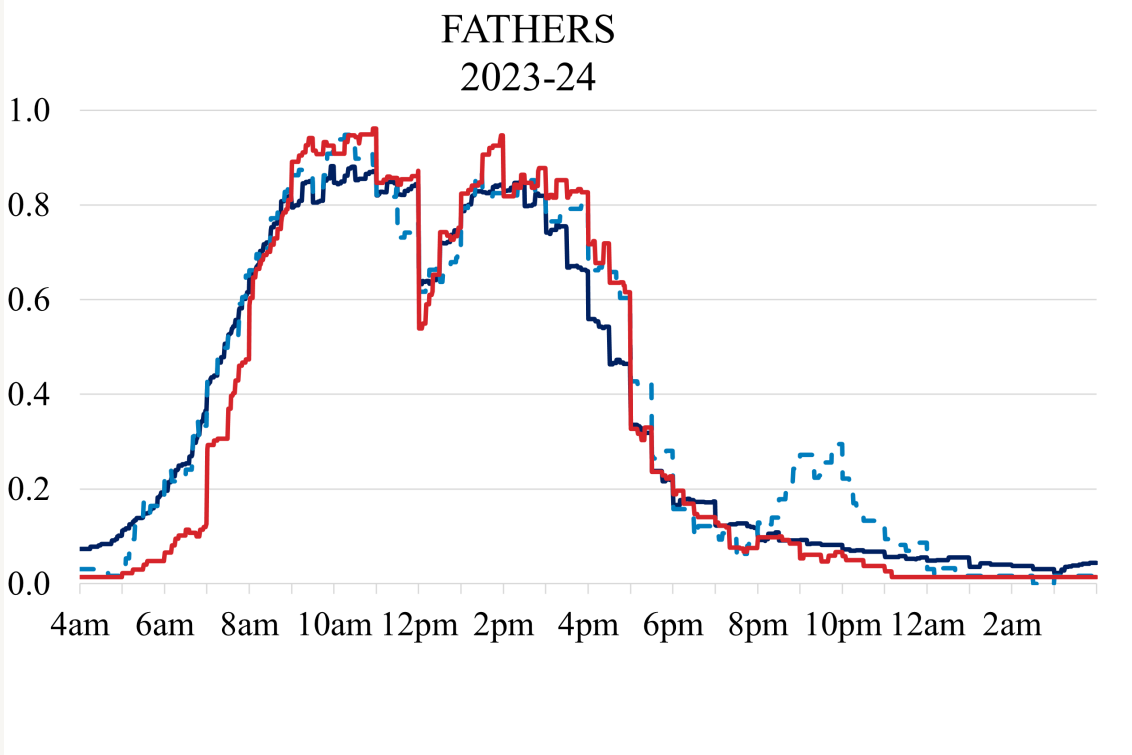
Hybrid days: decrease in evening work among women

PERCENTAGE OF TOTAL WORK AND WORK FROM HOME DONE OUTSIDE OF TRADITIONAL WORK HOURS (ON WEEKEND DAYS AND WEEKDAY EVENINGS FROM 6 P.M. TO MIDNIGHT)



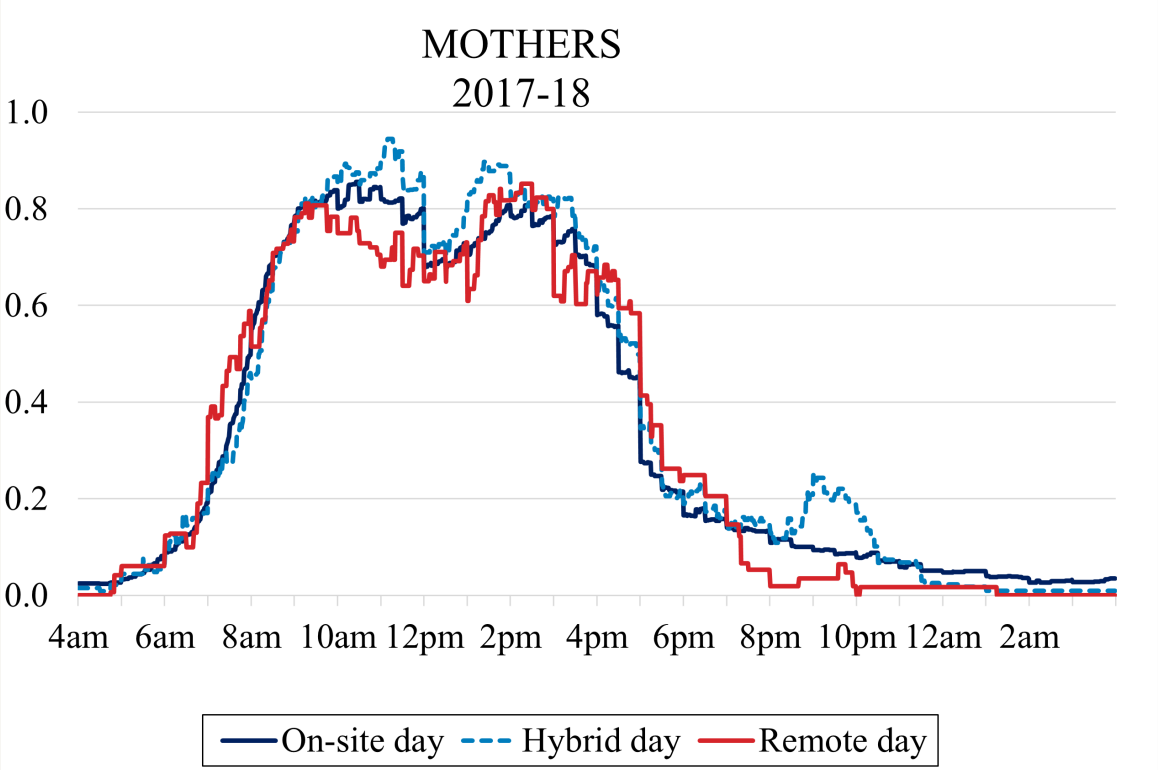
SHARE OF WORKING FATHERS ENGAGED IN CORE WORK

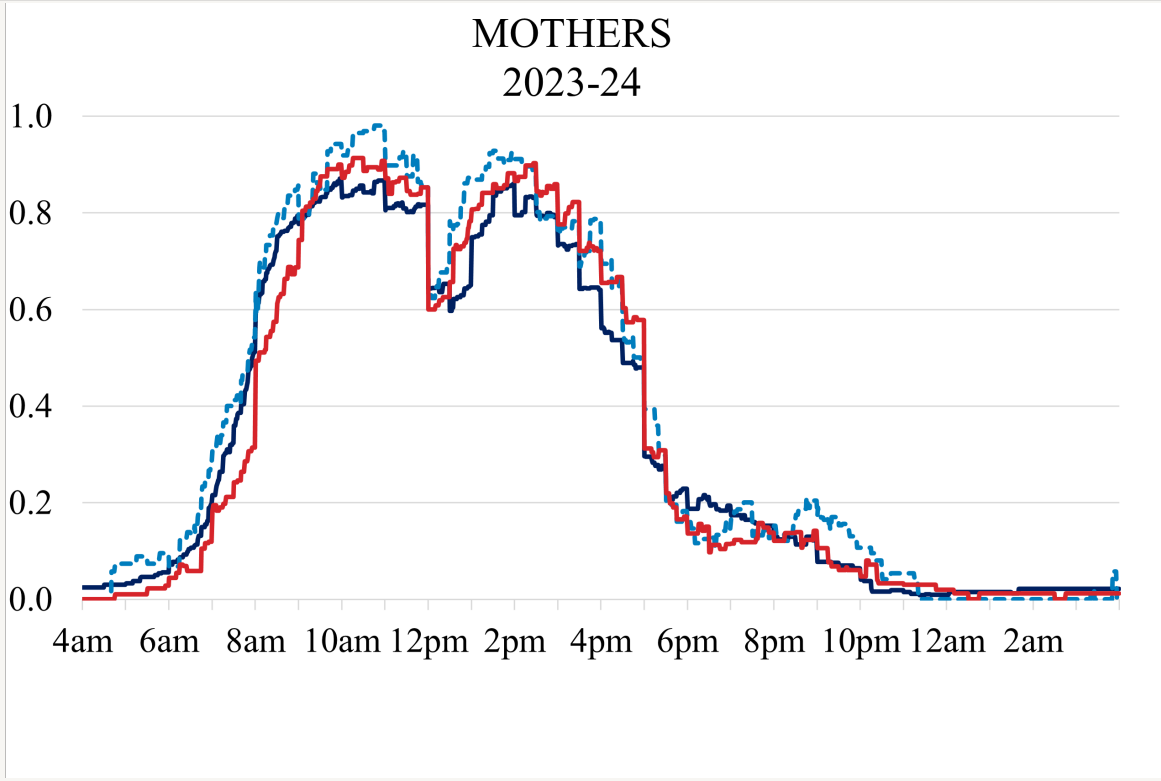




Hybrid days: bring work home to work in the evenings
Remote days: start later, no longer work in the evenings

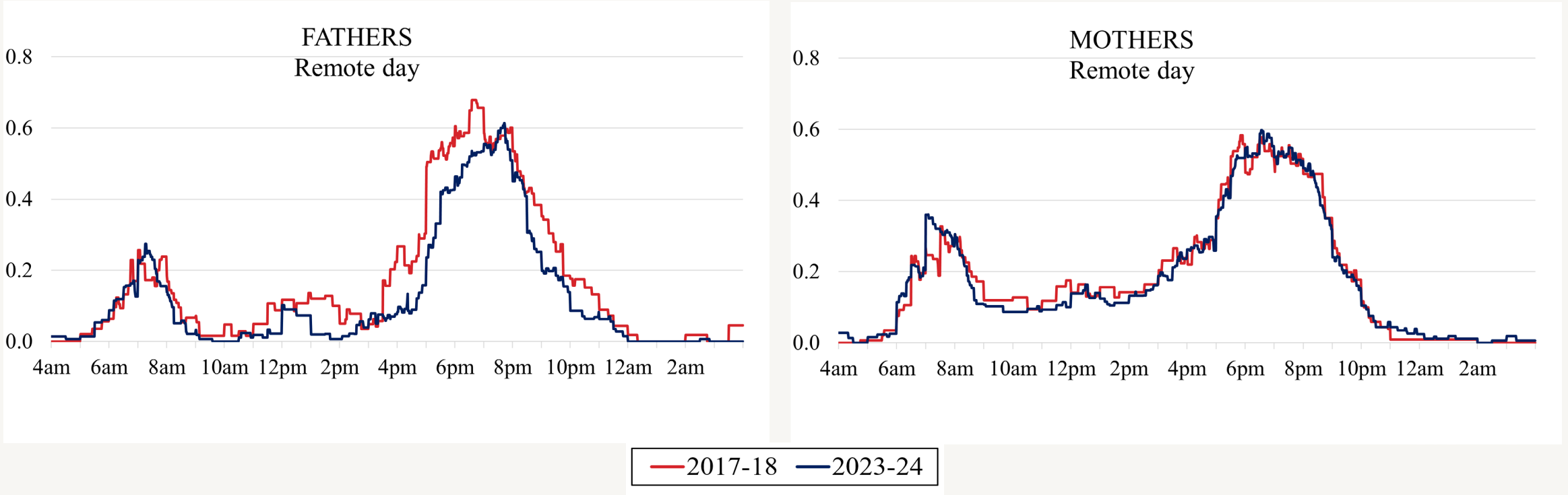
SHARE OF WORKING MOTHERS ENGAGED IN CORE WORK





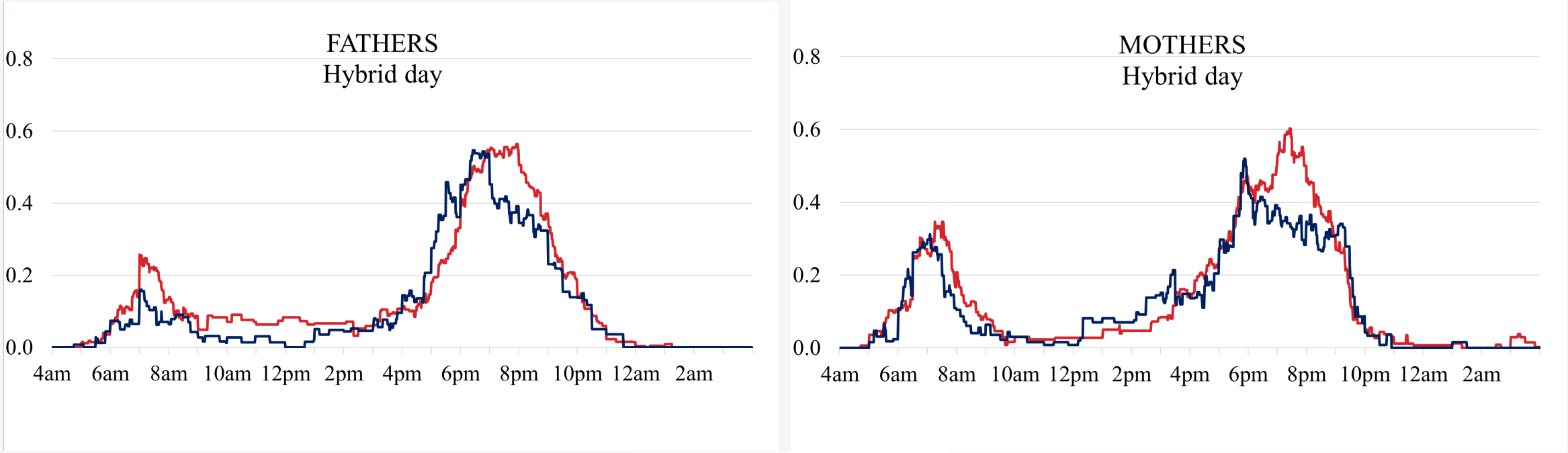
Hybrid days: bring work home to work in the evenings
Remote days: more work done in the evenings post-pandemic

SHARE OF PARENTS SPENDING TIME WITH CHILDREN ON REMOTE DAYS



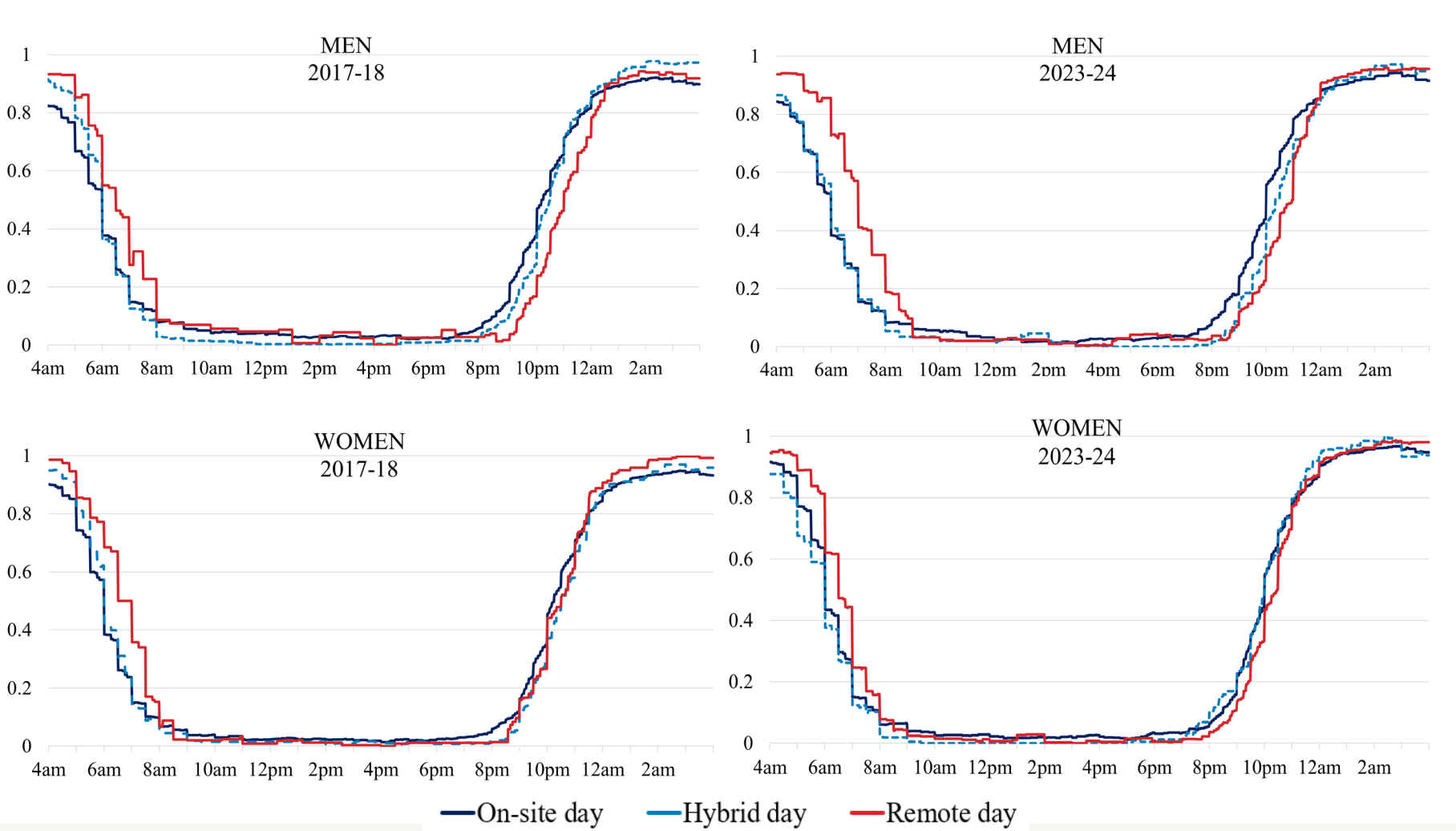
Remote days: fathers spent more time with children in afterschool and early evening hours pre-pandemic

SHARE OF PARENTS SPENDING TIME WITH CHILDREN ON HYBRID DAYS



Hybrid days: parents spend less time with children 7–9 p.m. post-pandemic

SHARE OF WORKERS SLEEPING



Remote workdays start later, end later (men), and have more sleep time

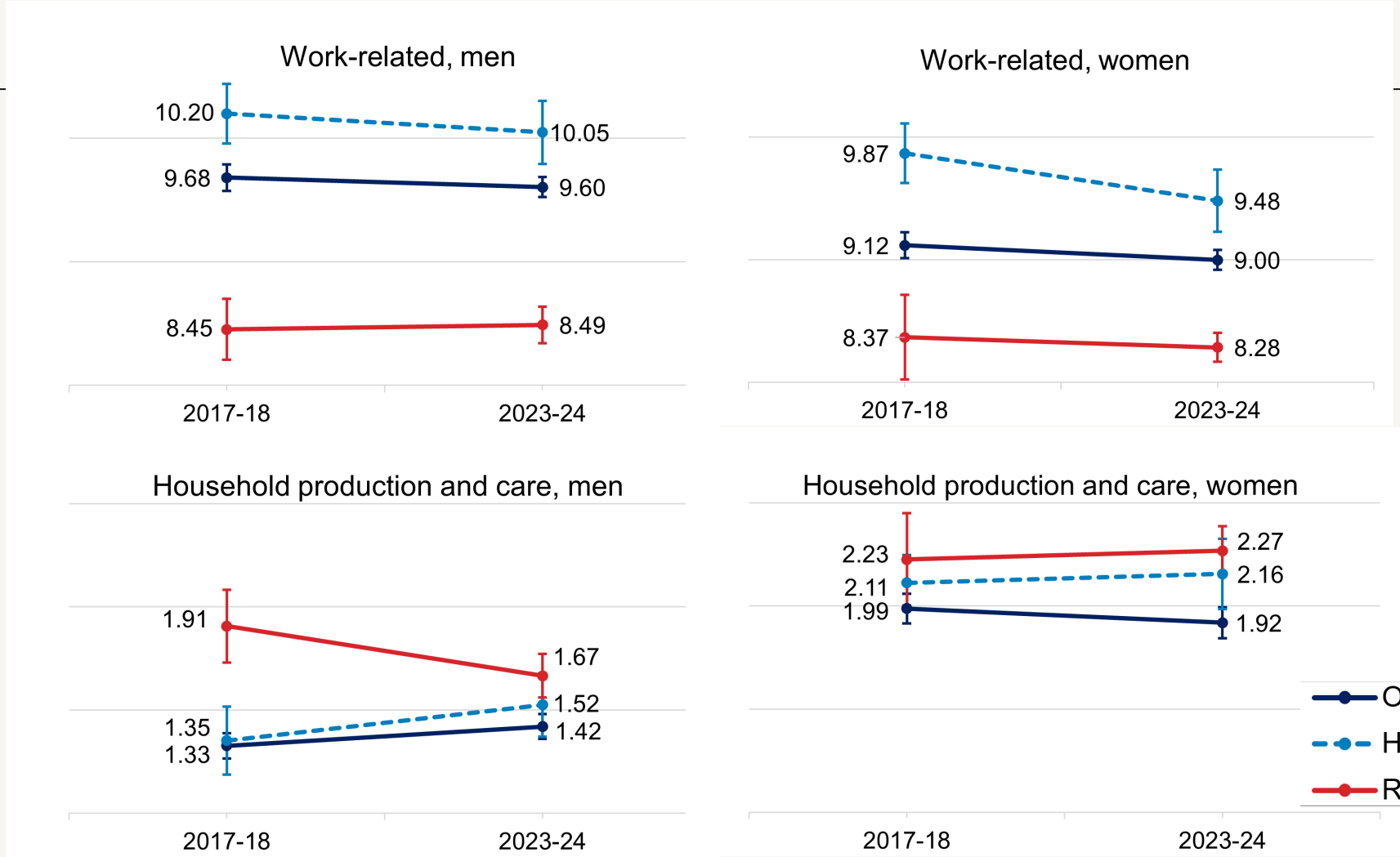
ECONOMETRIC MODEL

Compute and compare predicted adjusted time spent on various activities by work location in 2017–18 and 2023–24 separately for men and women.

$$Y_i = \beta_0 + \beta_1 Remote_i + \beta_2 Hybrid_i + \beta_3 Year2023\_24_i + \beta_4 Remote_i \times Year2023\_24_i + \beta_5 Hybrid_i \times Year2023\_24_i + \beta_6 X_i + \varepsilon_i$$

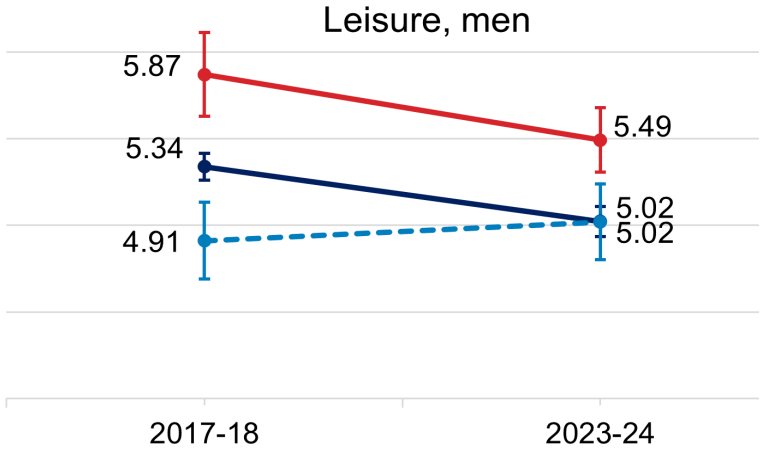
- Y_i: time spent on an activity, hours per day
- X_i: age, age-squared, binary indicators for highest education degree (no high school degree, some college, bachelor's, advanced), race and ethnicity (non-Hispanic Black, non-Hispanic Asian, Hispanic), lives with a spouse, lives with a partner, presence of household children (age 0–5, age 6–12, age 13–17), presence of another adult age 18+, foreign born, disability, month, Census division, lives in an MSA, 22 occupations, and 20 industries

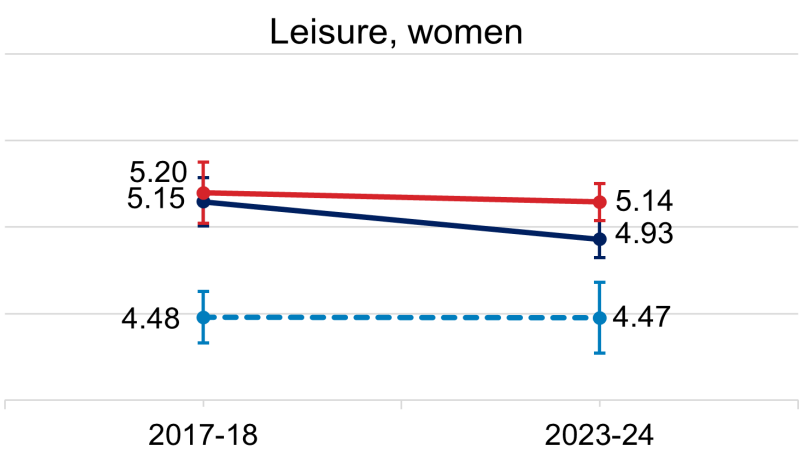
WORKDAY: WORK AND HOUSEHOLD PRODUCTION

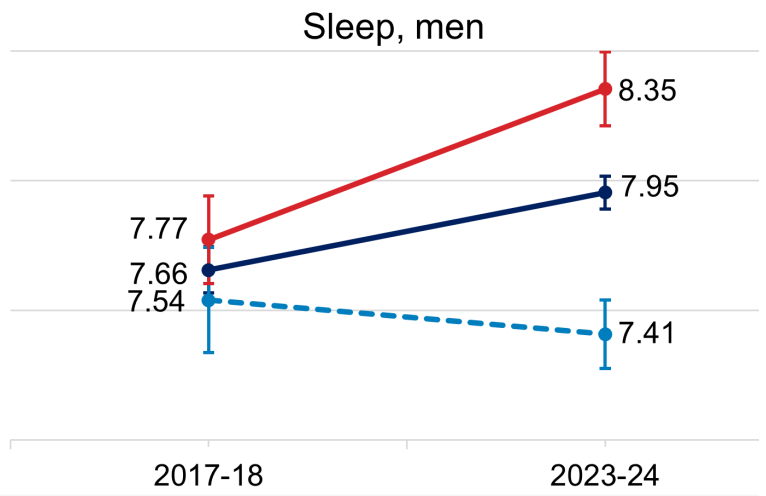


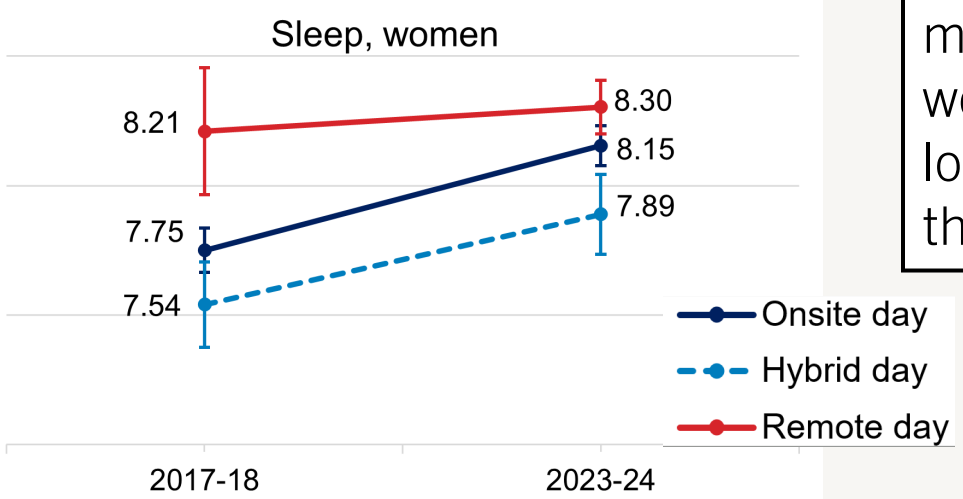
Core work includes work-related travel/commuting.

WORKDAY: LEISURE AND SLEEP



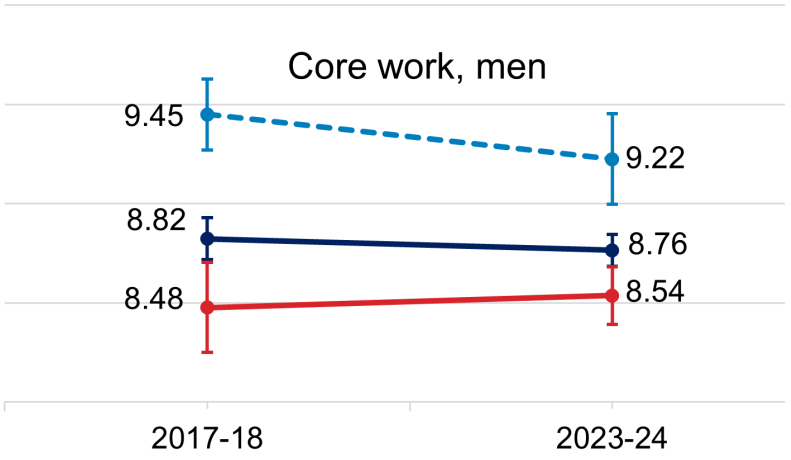


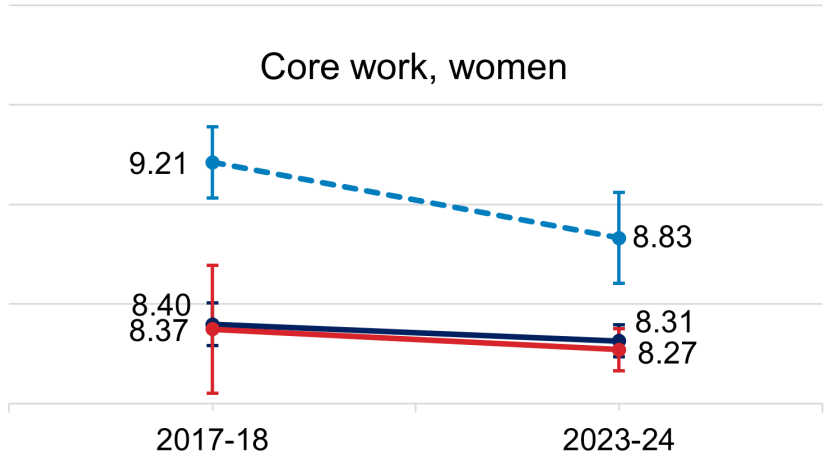




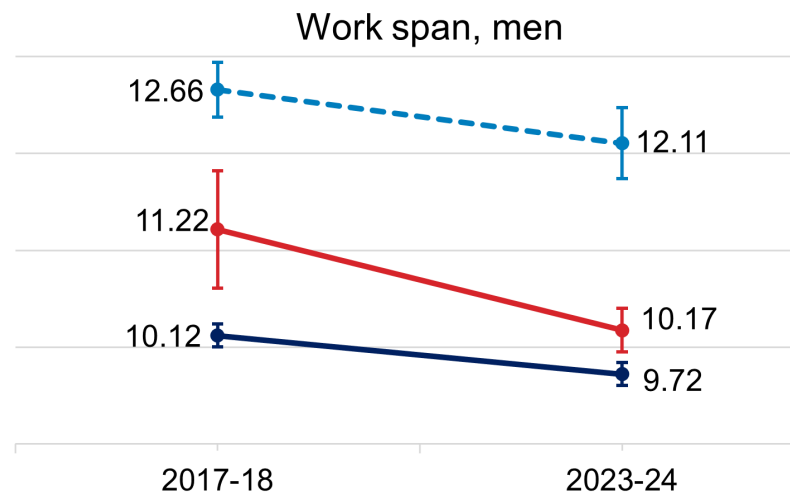
Remote and onsite men, on-site women: sleep longer in 2023–24 than in 2017–18

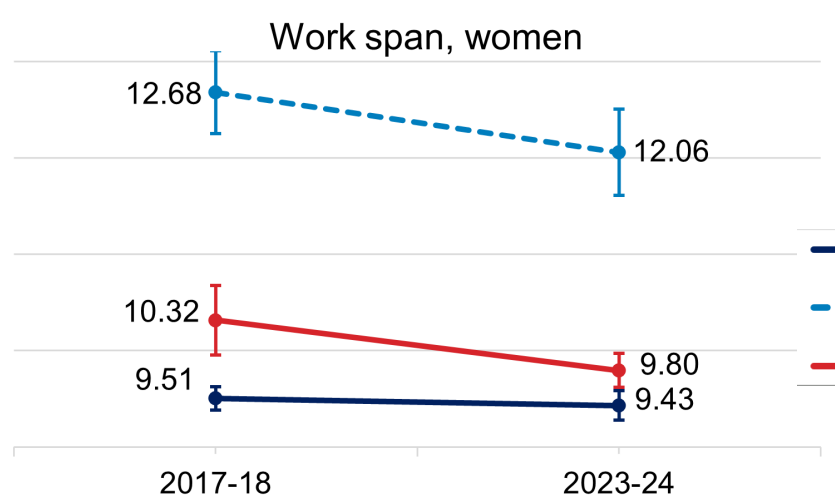
WORKDAY: CORE WORK AND WORK SPANS





Core work excludes work-related travel/commuting.





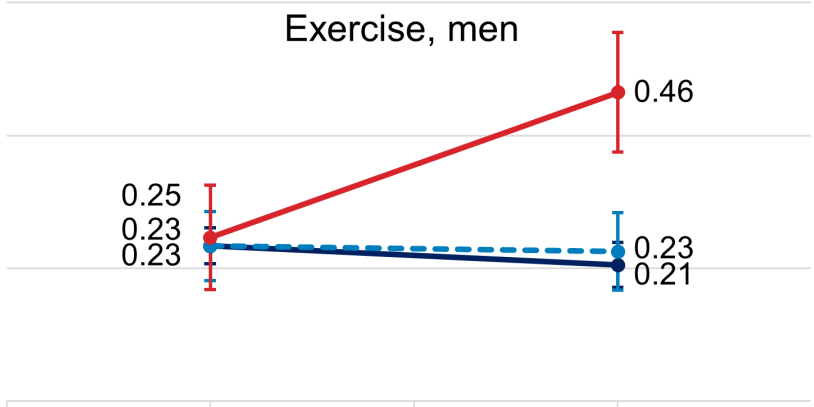
Work spans declined

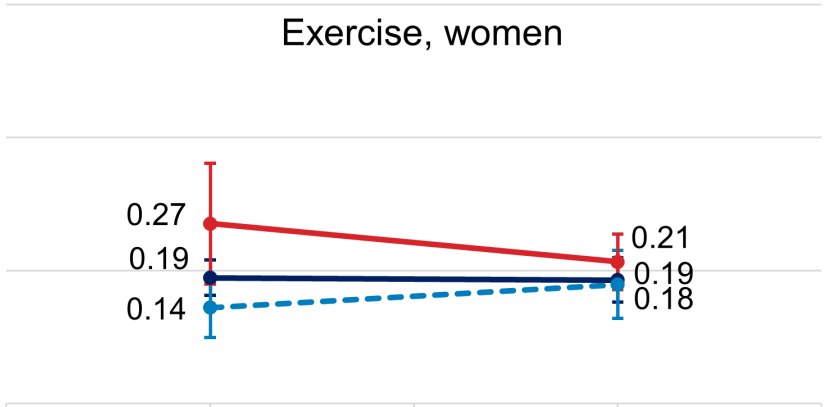
Onsite day
Hybrid day
Remote day

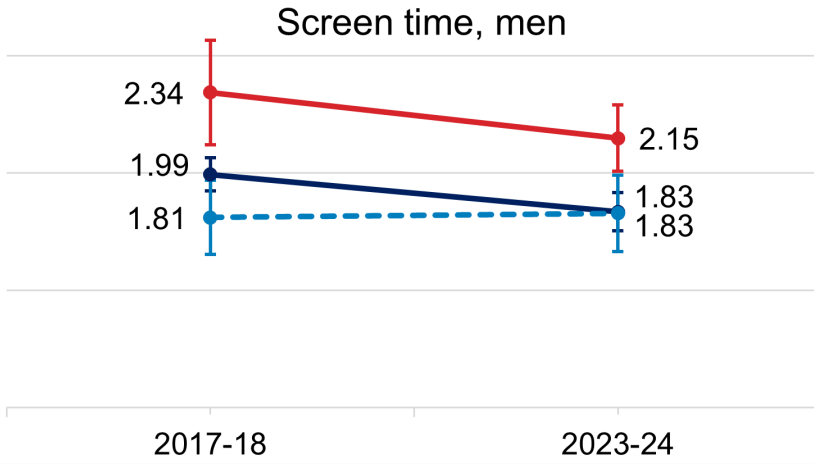
WORKDAY: CHORES AND COOKING

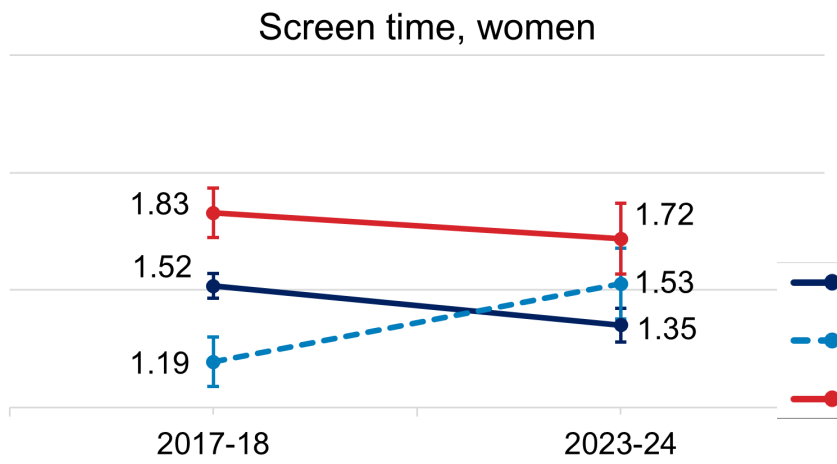
Chores = cooking + cleaning + laundry + home and vehicle maintenance + household management

WORKDAY: EXERCISE AND SCREEN TIME





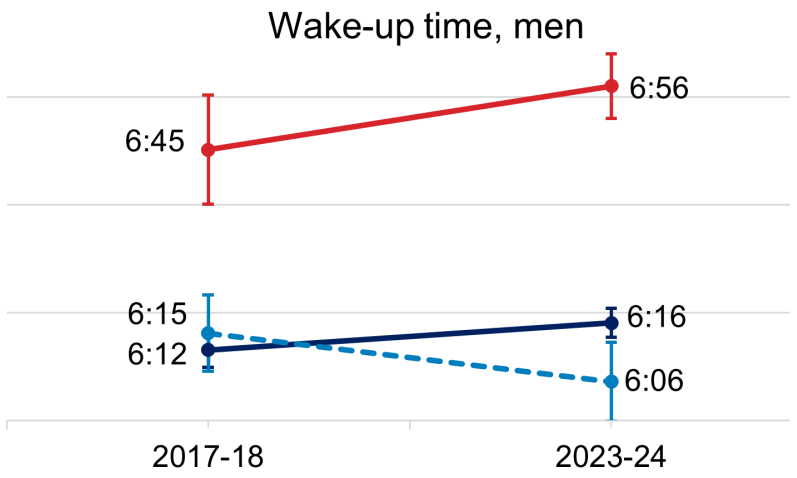


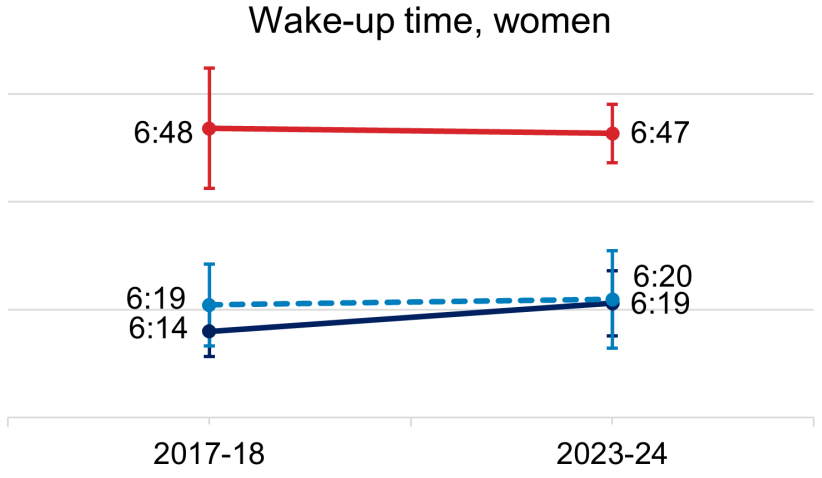


Screen = TV and movies + playing games + using computers for leisure

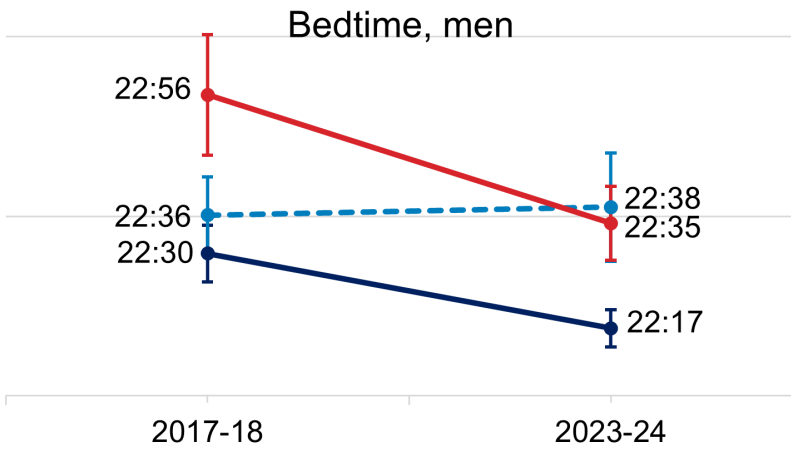
Onsite day
Hybrid day
Remote day

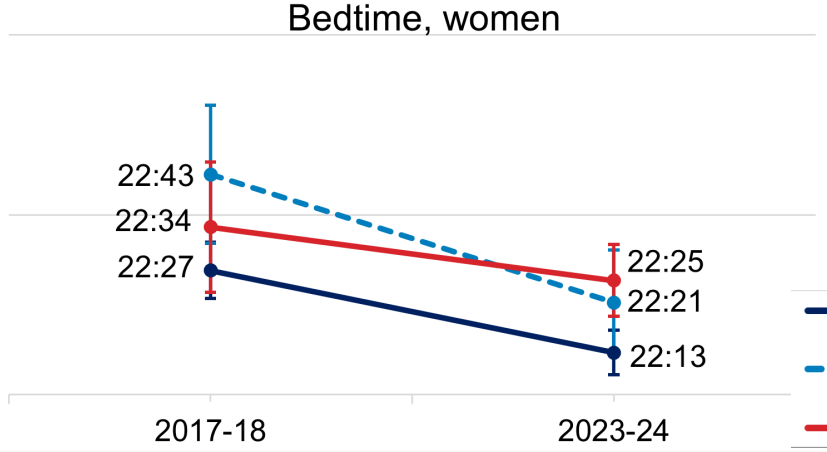
WORKDAY: WAKE-UP TIME AND BEDTIME (24-HOUR CLOCK TIME)





Wake-up time = end time of last sleep episode from 4 a.m. to 11:59 a.m.

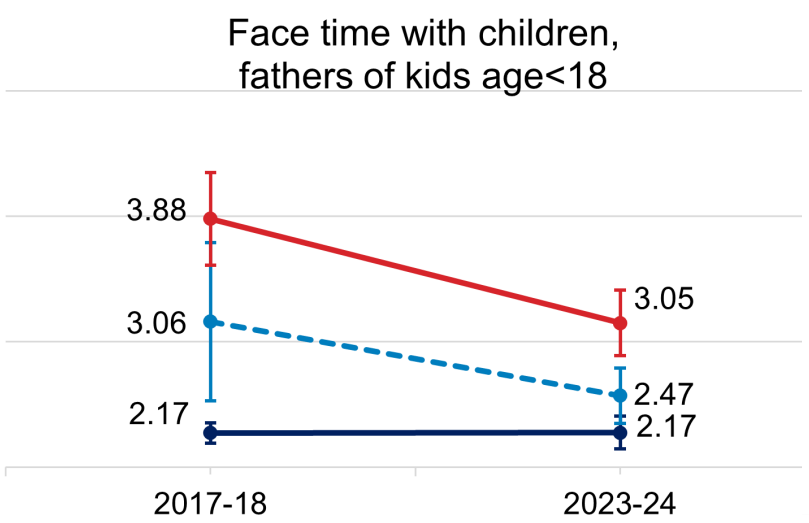


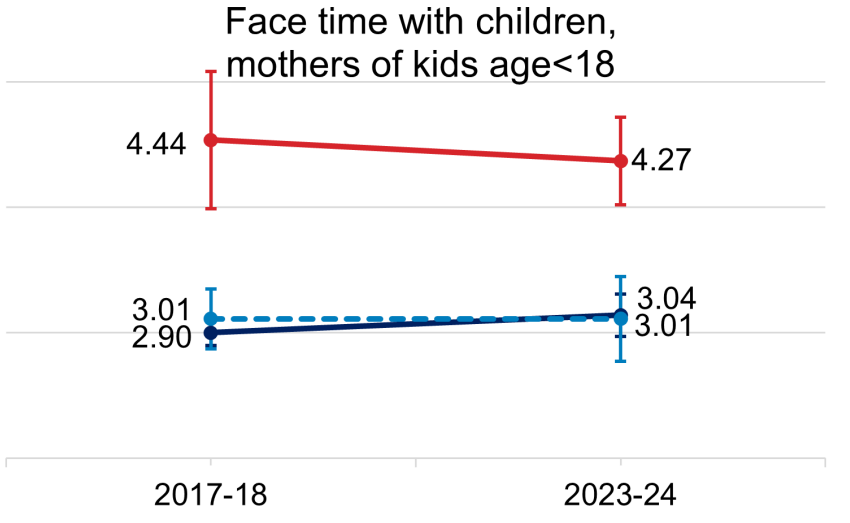


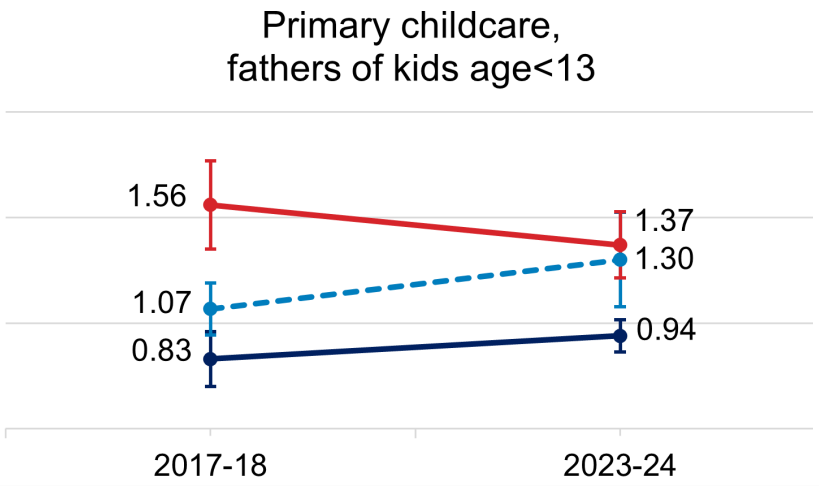
Bedtime = start time of first sleep episode from 8 p.m. to 3:59 a.m.

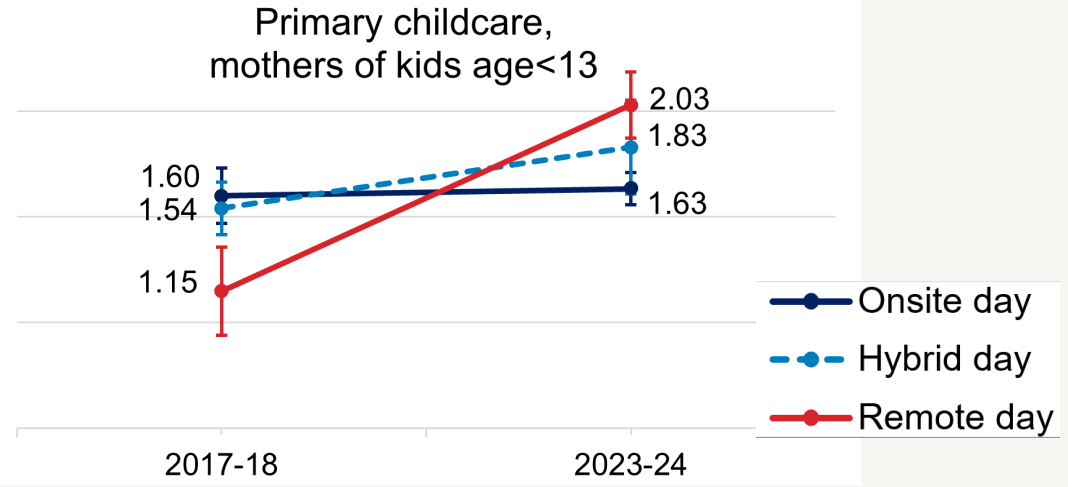
Onsite day
Hybrid day
Remote day

WORKDAY: PARENT'S TIME WITH CHILDREN

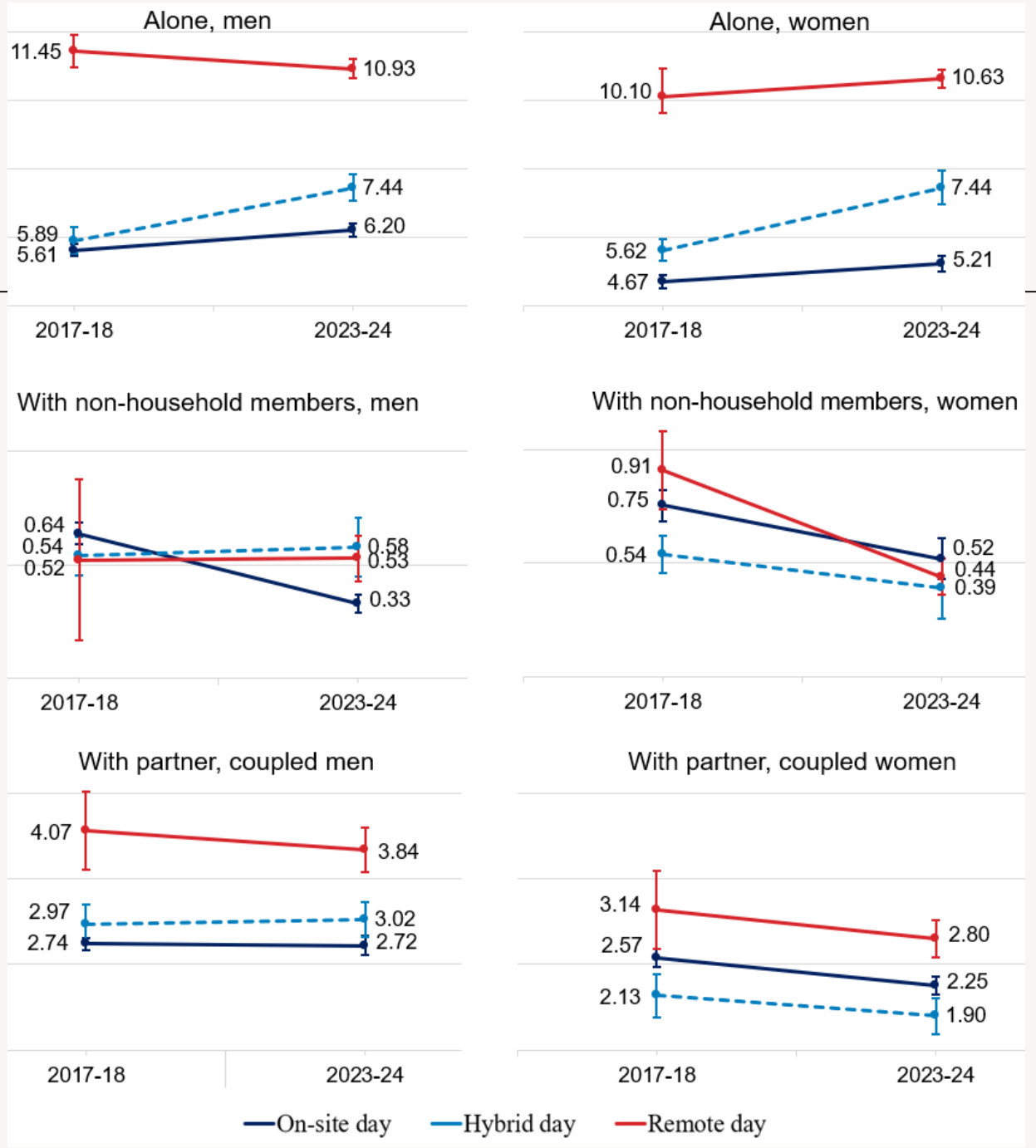








WORKDAY: ALONE AND WITH OTHERS

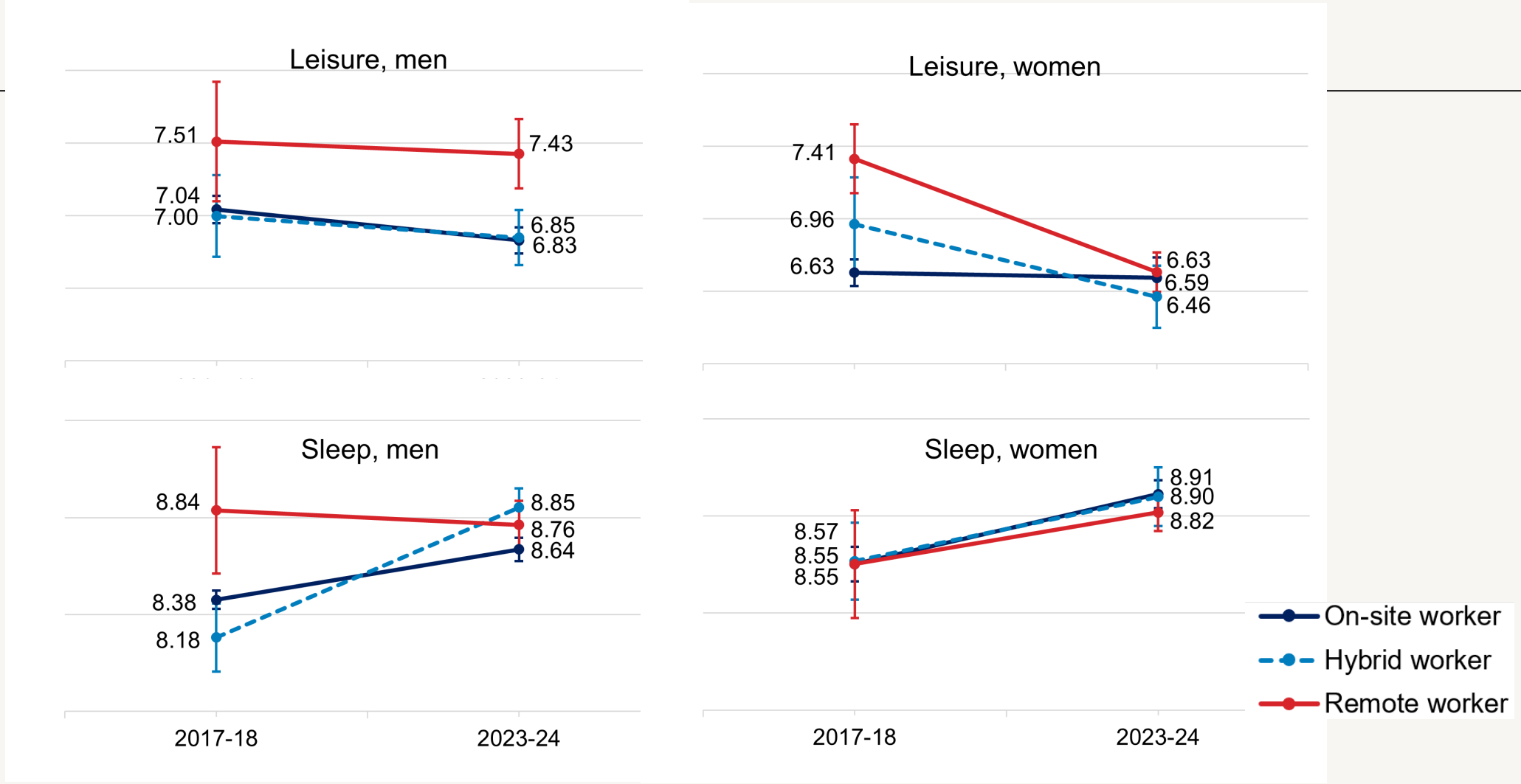


Innovation: Linking ATUS diaries with CPS data offers new insights into weekly activity reallocation due to remote work adoption

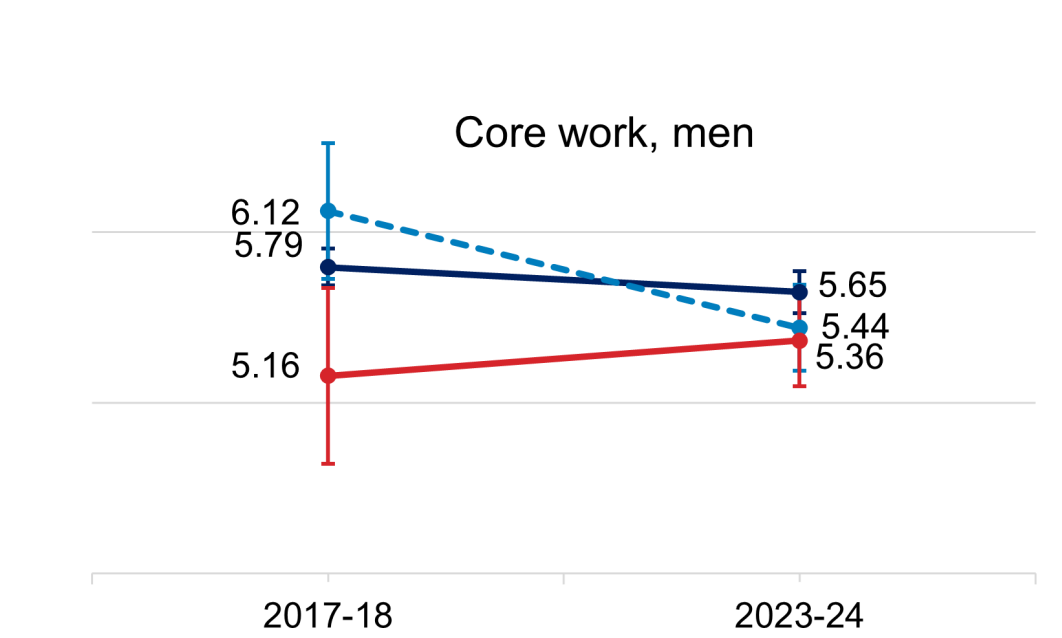
AVERAGE DAY

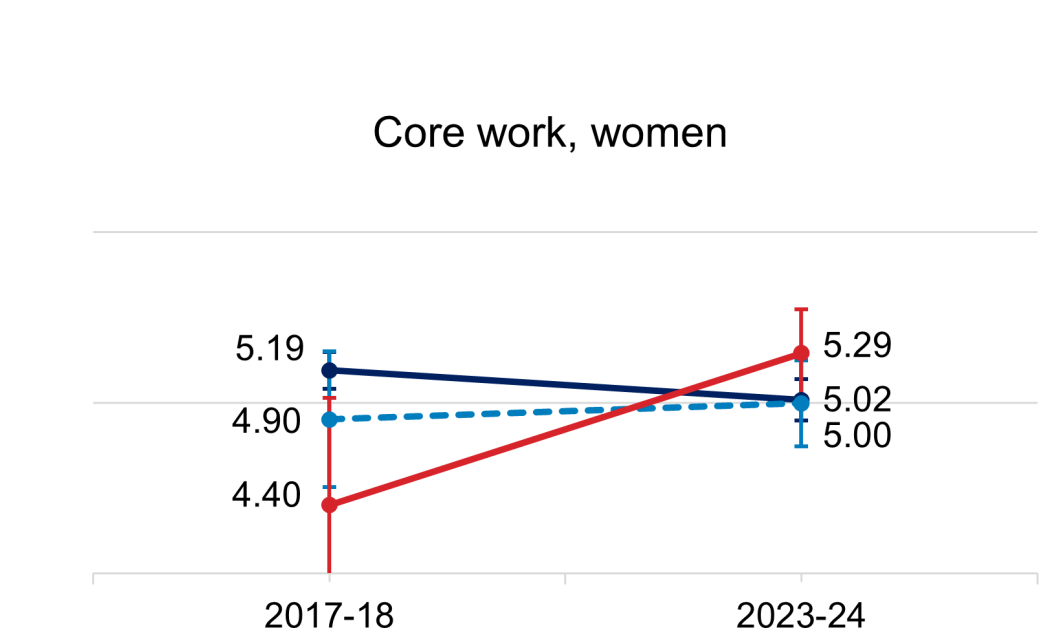
AVERAGE DAY: WORK AND HOUSEHOLD PRODUCTION

AVERAGE DAY: LEISURE AND SLEEP



AVERAGE DAY: CORE WORK

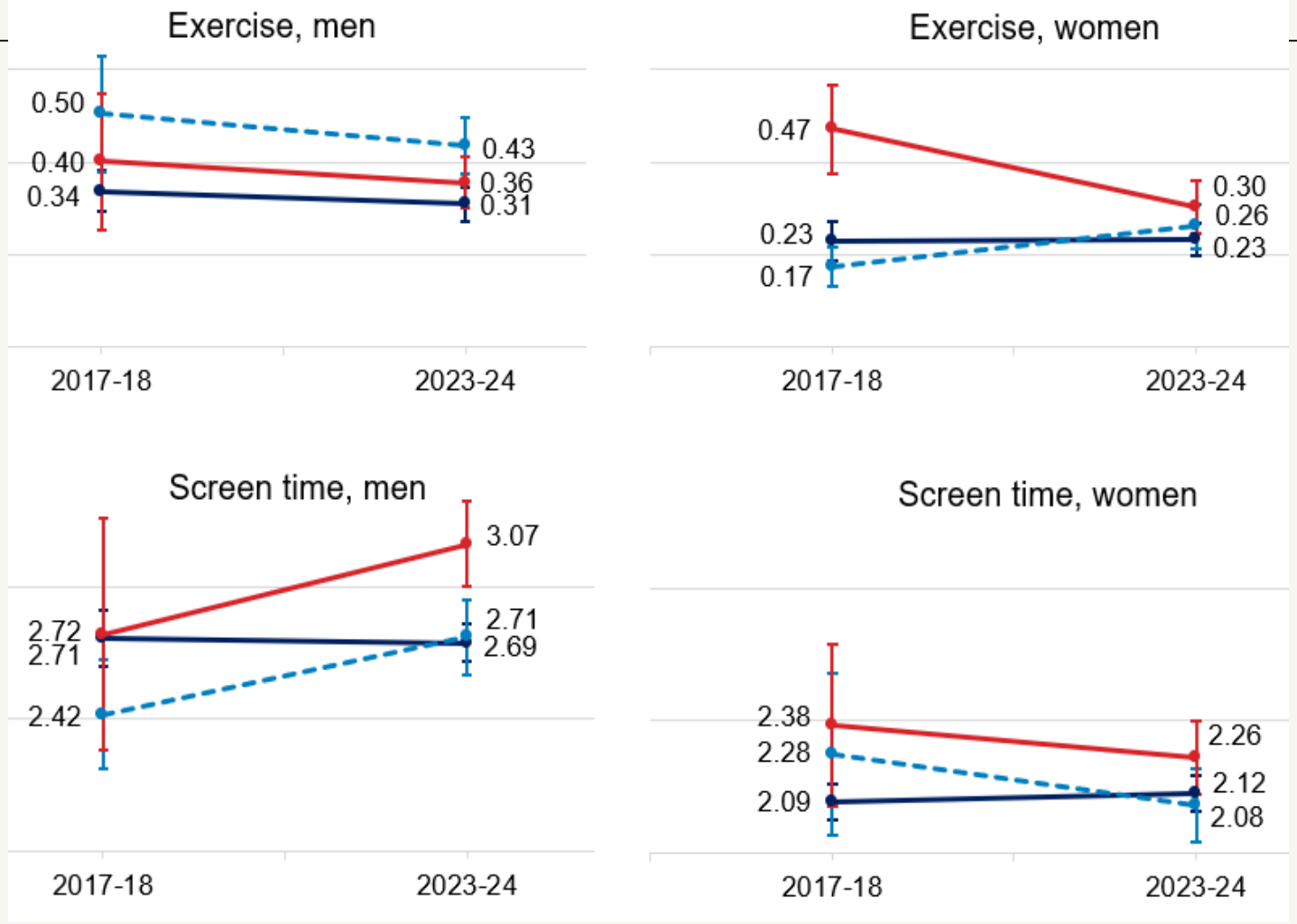




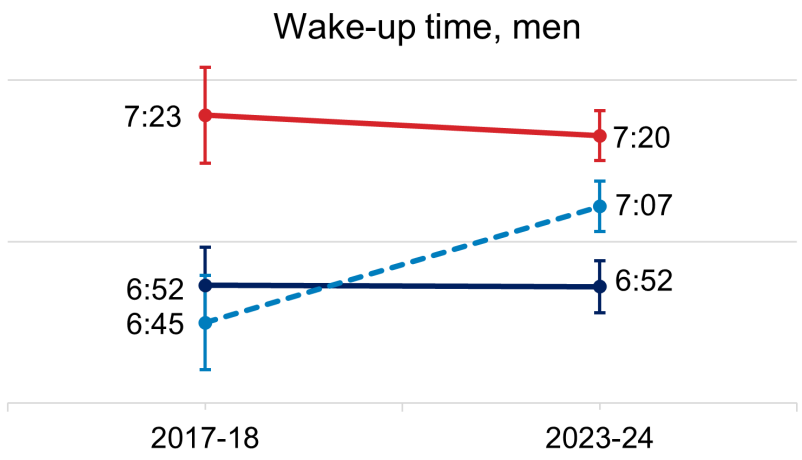
On-site worker Hybrid worker Remote worker

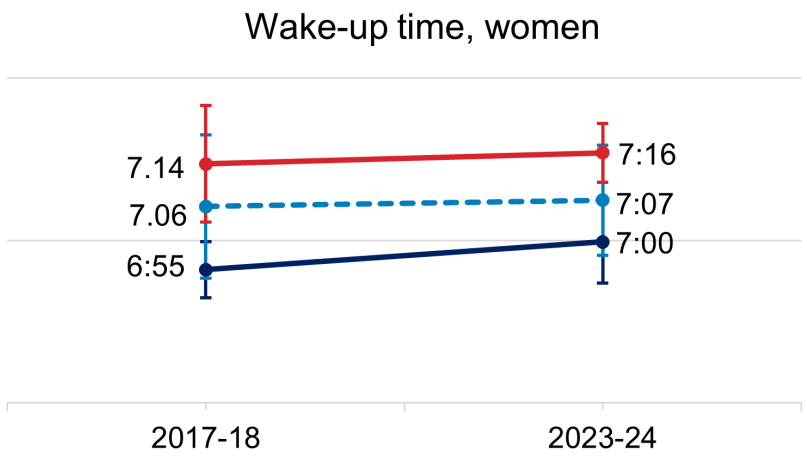
AVERAGE DAY: CHORES AND COOKING

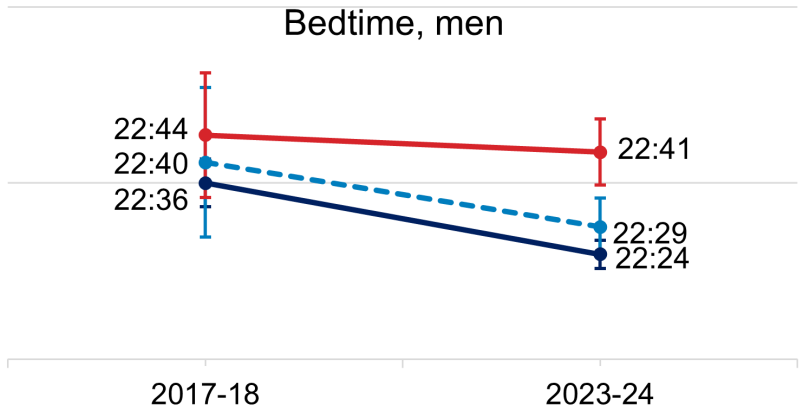
AVERAGE DAY: EXERCISE AND SCREEN TIME

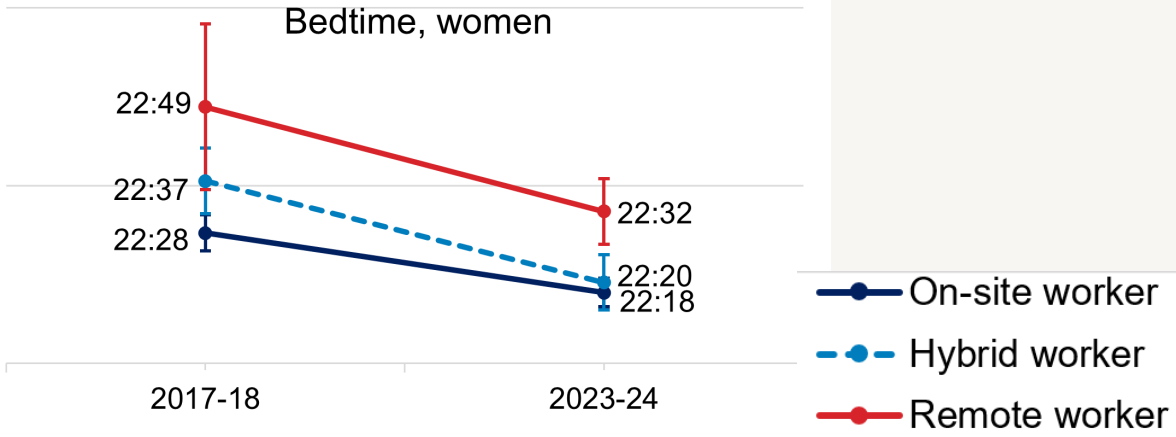


AVERAGE DAY: WAKE-UP TIMES AND BEDTIMES

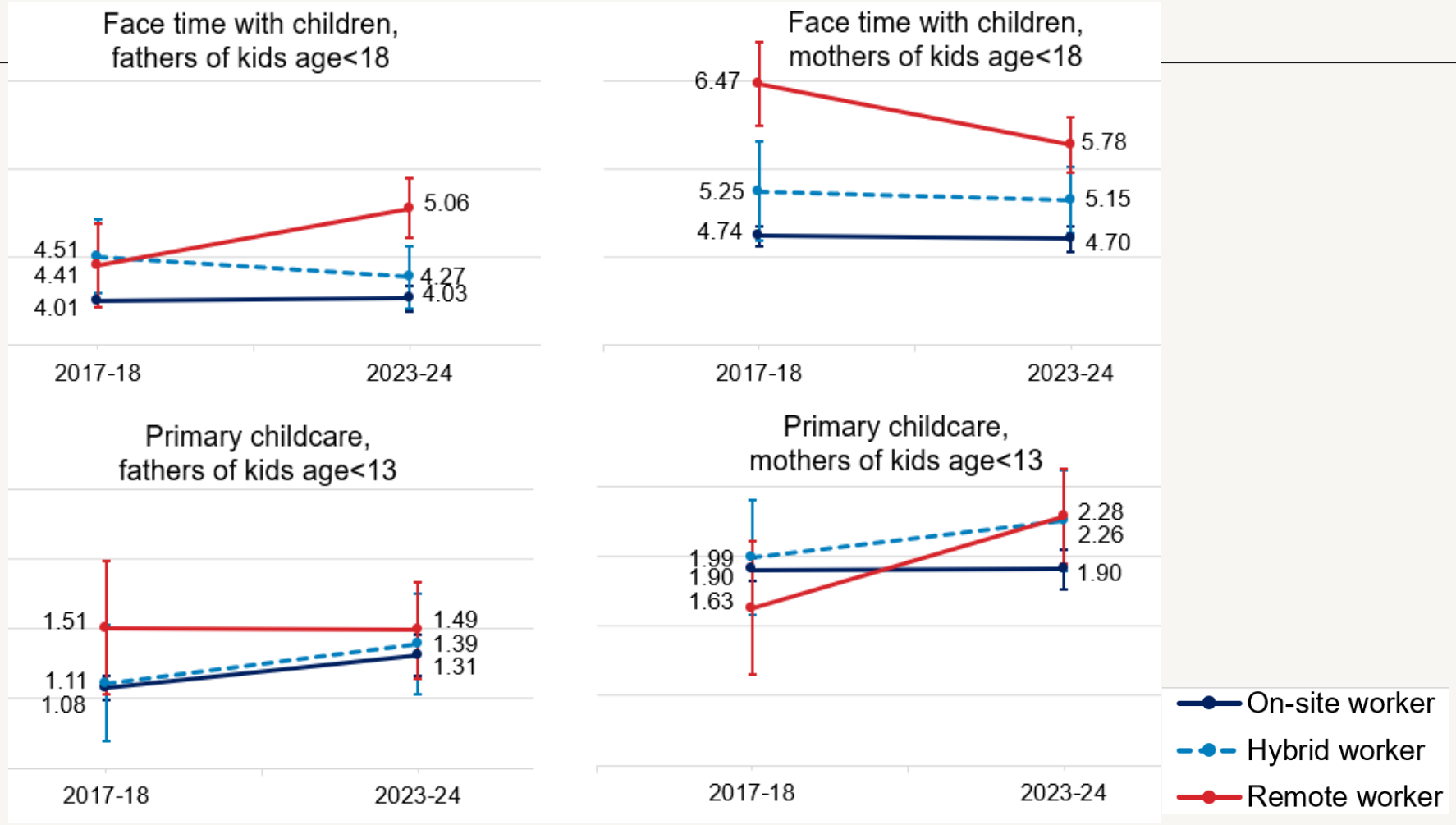




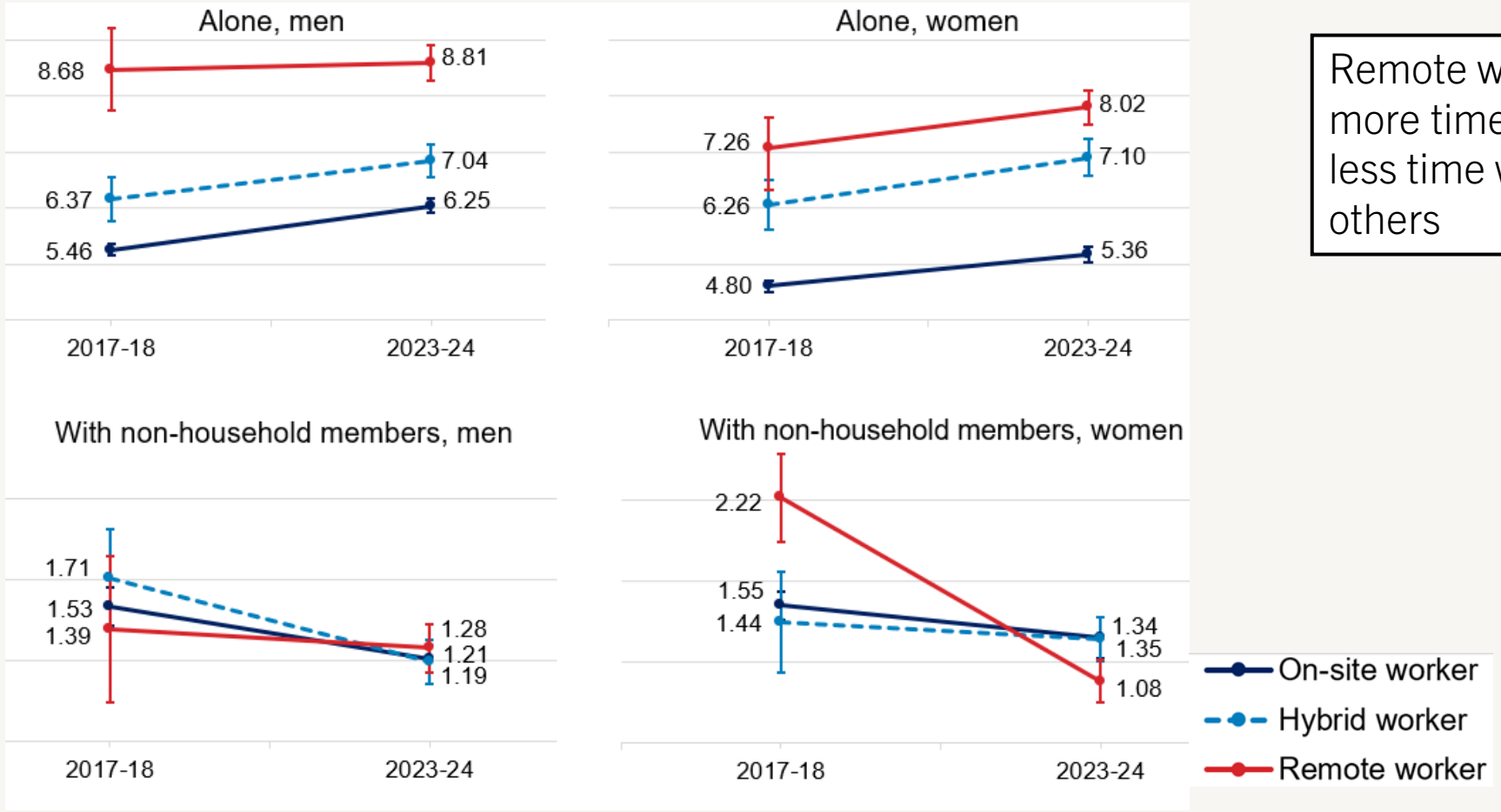




AVERAGE DAY: PARENTS' TIME WITH CHILDREN

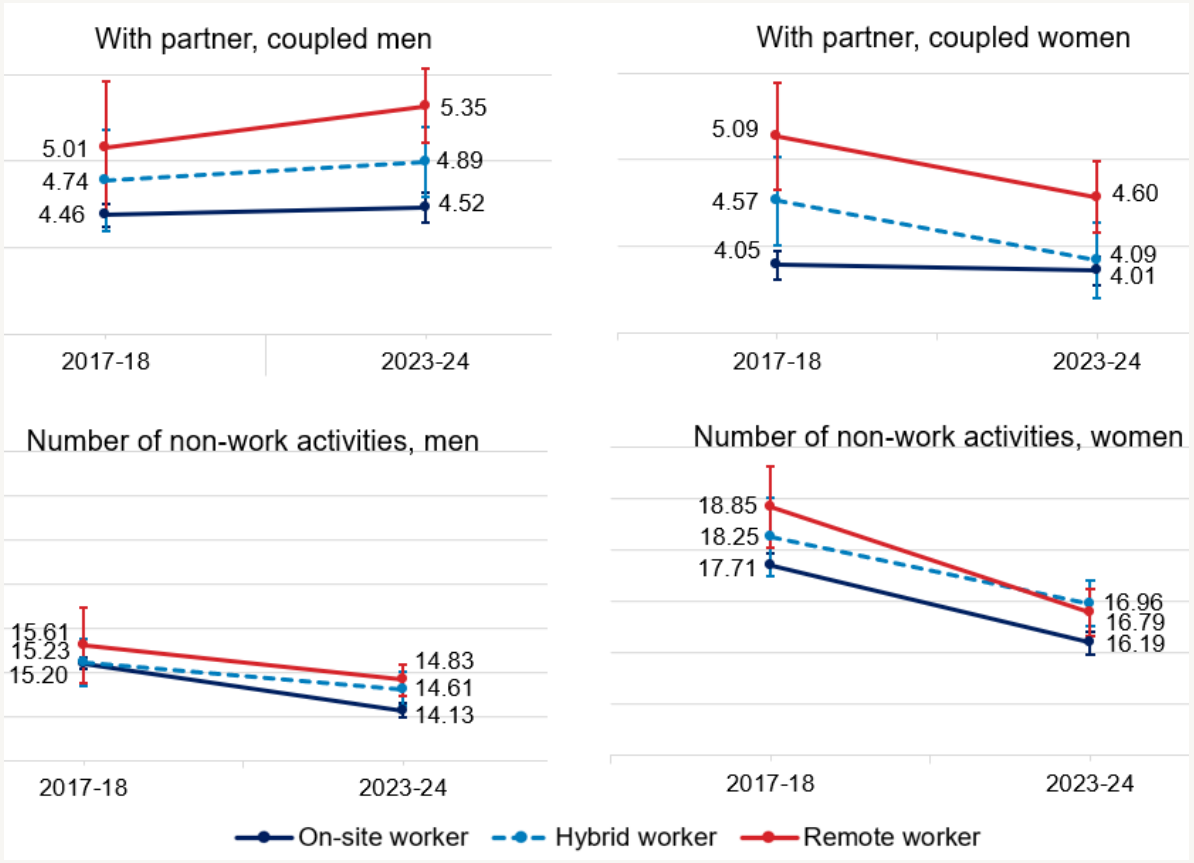


AVERAGE DAY: ALONE AND WITH OTHERS



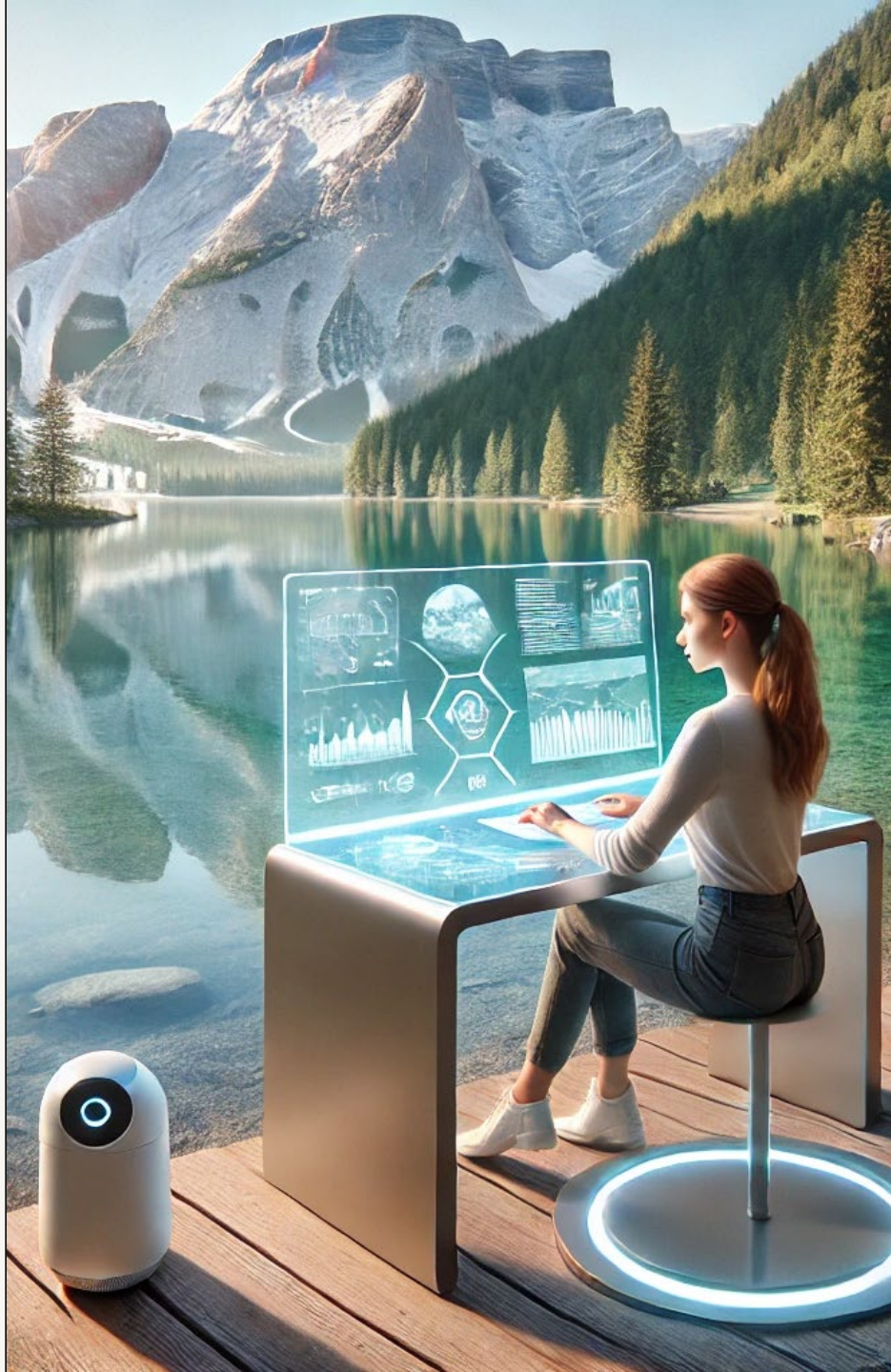
Remote women: more time alone, less time with others

AVERAGE DAY: WITH PARTNER AND # OF NON-WORK ACTIVITIES



RESULTS FOR WORKDAYS: PART 1

- Hybrid days are longer and more fragmented than on-site days for both sexes.
  - The difference decreased post-COVID.
- Remote days have a longer work span but fewer hours than on-site days for both sexes.
- Sleep was longer on remote and on-site days for both sexes.
  - Sleep starts earlier for all workers (except hybrid day men).



RESULTS FOR WORKDAYS: PART 1

- Remote days:
  - Men: Time saved on commute and personal care is reallocated by men to sleep, cooking, leisure (e.g., screen time), and primary childcare.
    - Exercise time was greater post-COVID.
  - Fathers spent more time with children but decreased their time post-COVID.
  - Women: Time saved on commute and personal care is reallocated to sleep, chores, and leisure (e.g., screen time).
    - Mothers' primary childcare time increased post-COVID.

RESULTS: AVERAGE DAY

Paid work hours equalized across work locations.

- Pre-COVID, remote workers worked less.

Leisure time equalized across work locations for women.

- Pre-COVID, remote women spent more time on leisure.
- In part, reflecting selection into remote work.

In 2023–24, remote men spent more time on leisure as male and hybrid workers decreased their leisure.

On-site and hybrid men increased their sleep time since 2017–18, especially hybrid men.
Remote workers still wake up later and go to bed later than on-site and hybrid workers.

Remote parents spent about 1 hour longer with children in 2023–24.
Remote mothers spent about 23 minutes more on primary childcare in 2023–24.

Remote workers spend >8 hrs alone per day (2–3 hrs more than on-site counterparts).

FINDINGS SUMMARY FOR 2023–24

Differences relative to on-site weekday workdays and on-site workers' average days

Time category	Workday – Remote day	Average day – Remote worker	Average day – Hybrid worker
Core work	No difference	No difference	No difference
Sleep	All (+)	No difference	Men (+)
Chores	Women (+)	No difference	No difference
Leisure	Men (+)	Men (+)	No difference
Cooking	Men (+)	Men (+)	No difference
Personal care	All (-)	All (-)	No difference
Exercise	Men (+)	No difference	Men (+)
Screen time	All (+)	Men (+)	No difference
Primary childcare (parents of kids age<13)	All (+)	Women (+)	No difference
Face time with children (parents of kids age<18)	All (+)	All (+)	No difference
Alone	All (+)	All (+)	All (+)
With nonhousehold members	Men (+)	No difference	No difference
With partners (couples)	All (+)	All (+)	No difference

IMPLICATIONS

- Worker health
  - Positive: more sleep, cooking, exercise, time with partner
  - Negative: more time alone
- Child development
  - Children are spending more time with parents working remotely and more parents are working remotely.
- Inequality
  - Parents working remotely are spending more time with their children (and mothers are increasing primary childcare relative to pre-COVID), but remote workers are more likely to be college-educated than on-site workers. This could drive further inequities in education and development outcomes leading to disparities later in life in educational and occupational success.
- Gender wage gap
  - Pre-pandemic, women working remotely worked fewer hours, but post-pandemic they worked the same hours.
  - Longer hours => Higher wages => Decrease in gender wage gap