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

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DISCLAIMER

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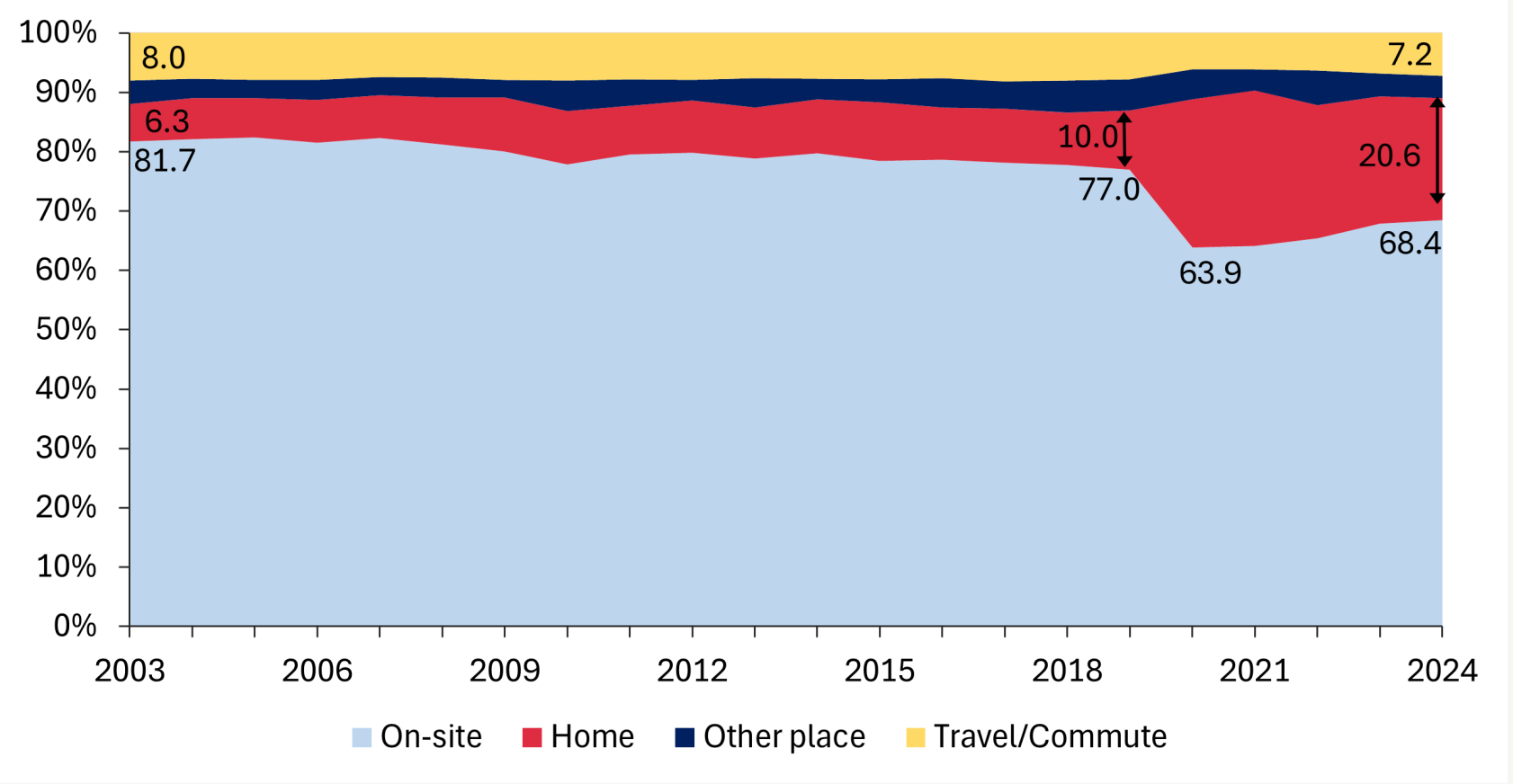
PERCENTAGE OF TOTAL TIME DEVOTED TO WORK BY LOCATION

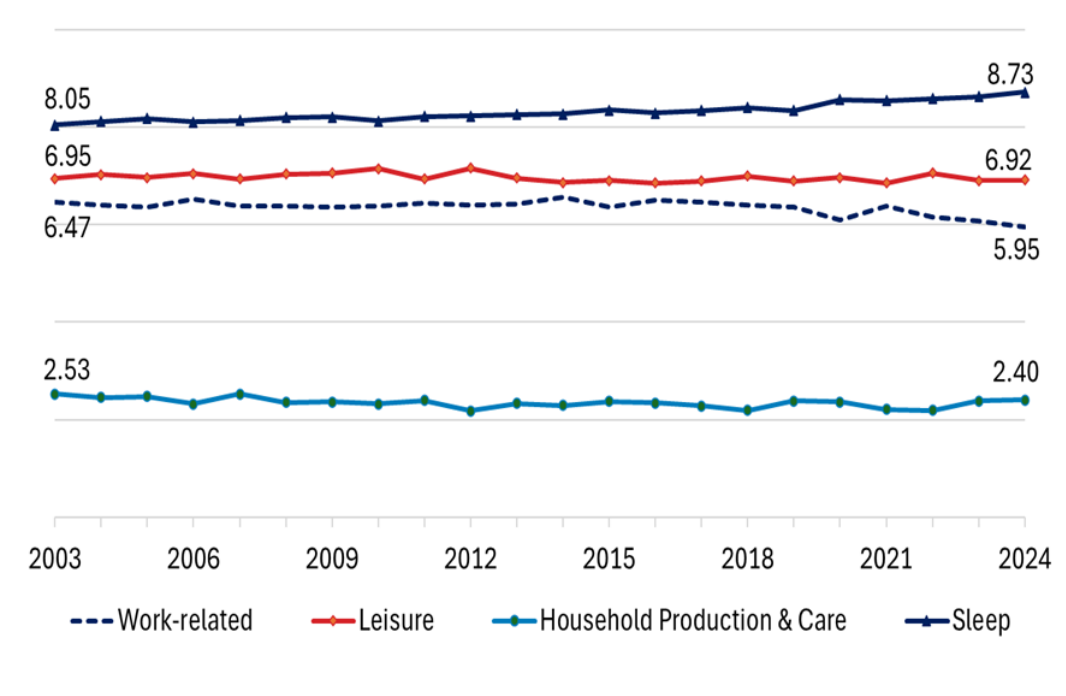
Remote work accelerated due to the pandemic, now comprising 20.6% of total work hours in the U.S.



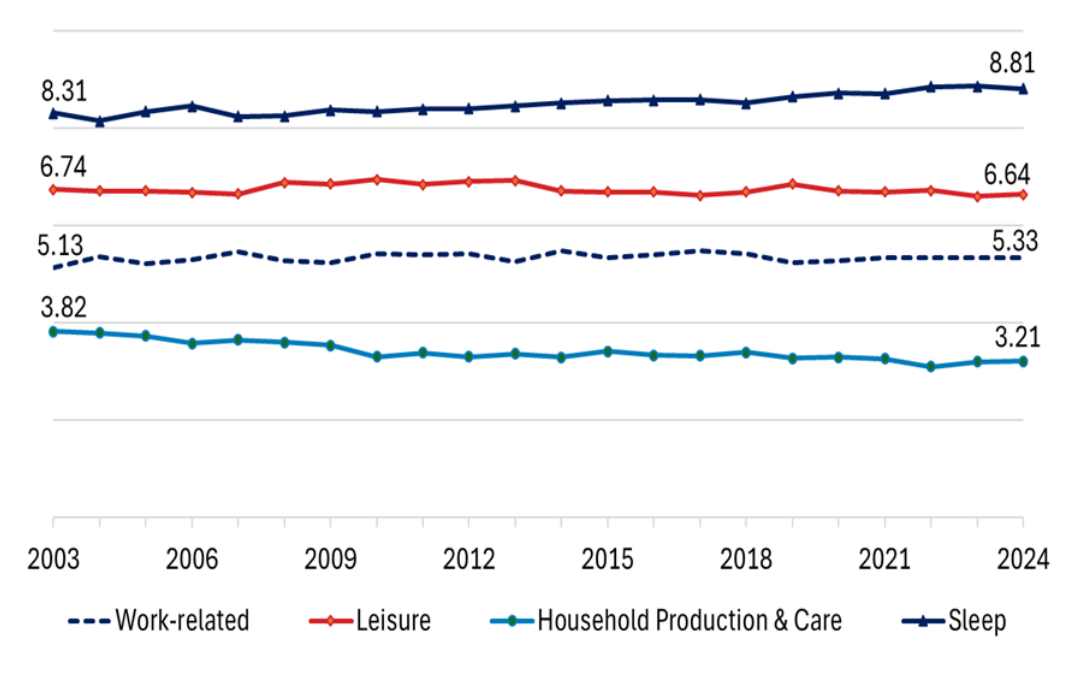
Source: 2003–2024 American Time Use Survey, author's calculations

TIME USE CHANGES OVER 21 YEARS

MEN

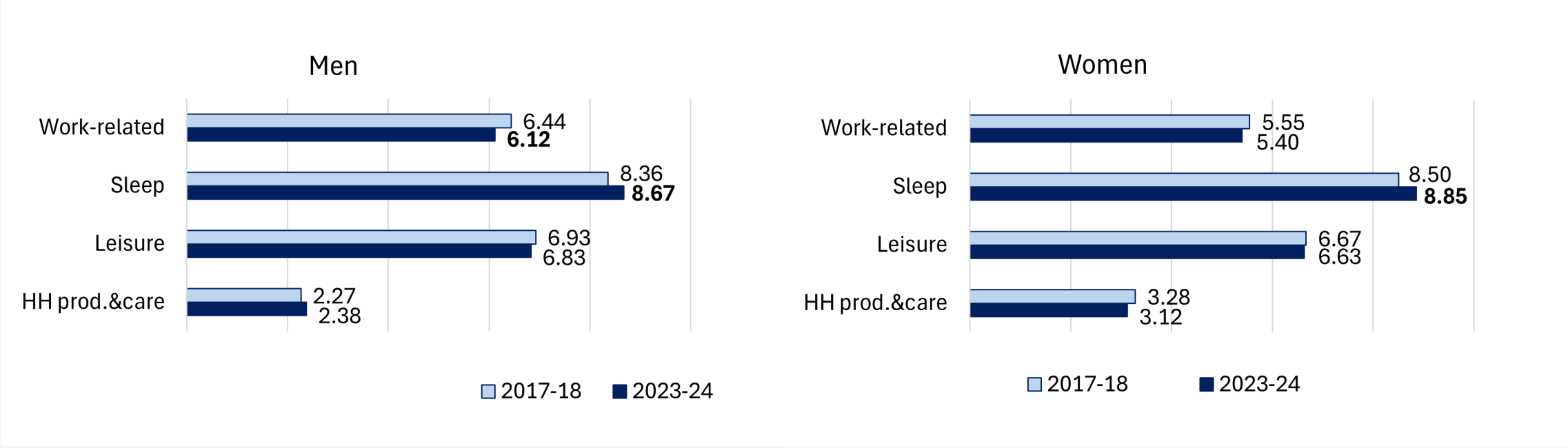


WOMEN



Sample: Wage and salary workers aged 22–64 (hours/day)
Source: 2003–2024 American Time Use Survey, authors' calculations

TIME USE CHANGES SINCE 2017–18



Sample: Wage and salary workers aged 22–64 (hours/day)
Source: 2003–2024 American Time Use Survey, authors' calculations

DATA: PART 1

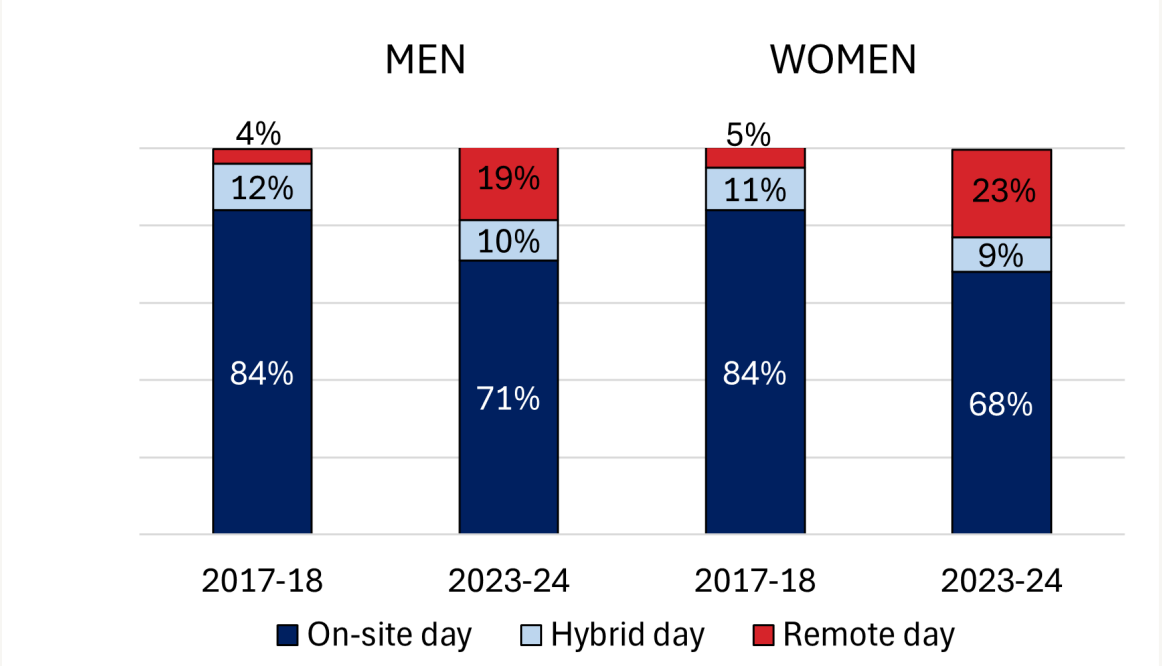
American Time Use Survey (ATUS) time diaries

- 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



Source: American Time Use Survey, author's calculations

DATA: PART 2

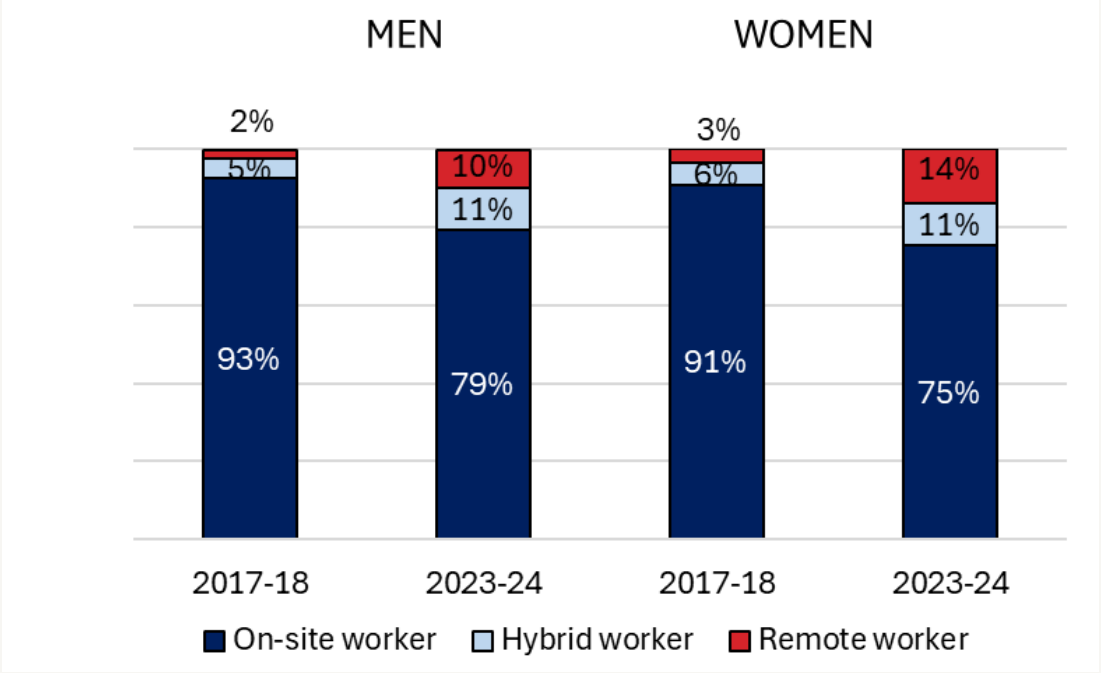
Sample 2: All days (no work requirement)

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

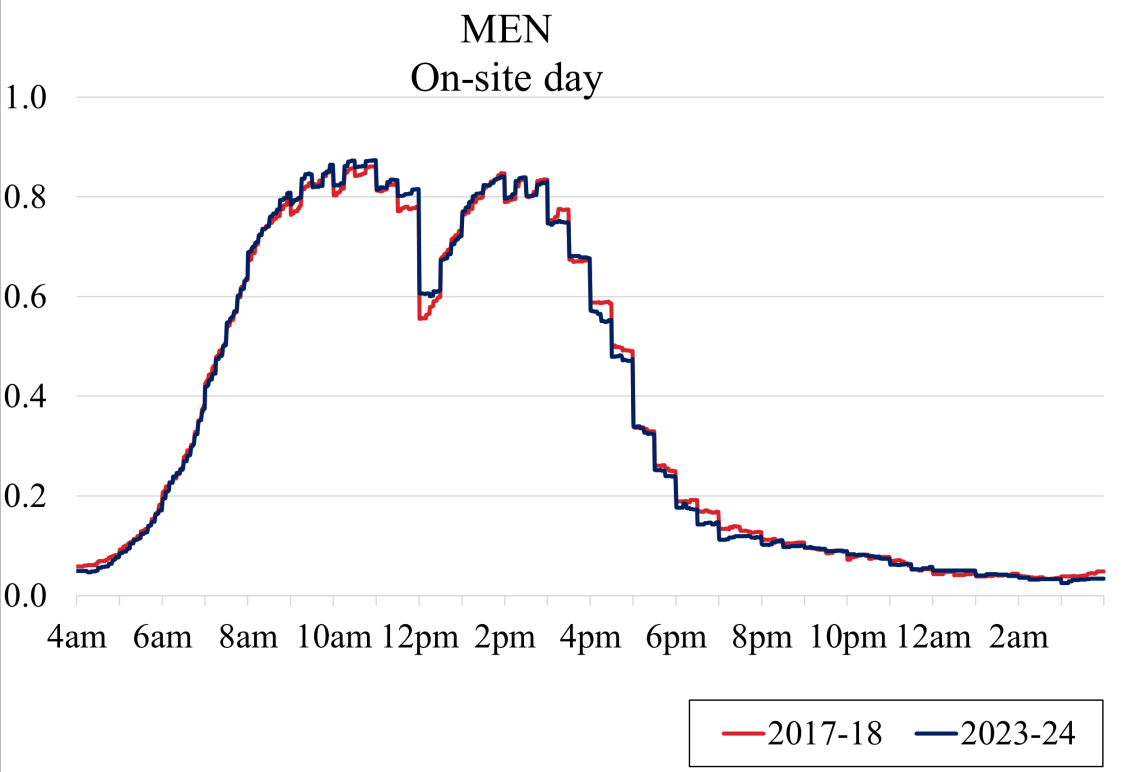
- Remote worker: 100% WFH last week
- Hybrid worker: 20–99% WFH last week
- On-site worker: 0–19% WFH

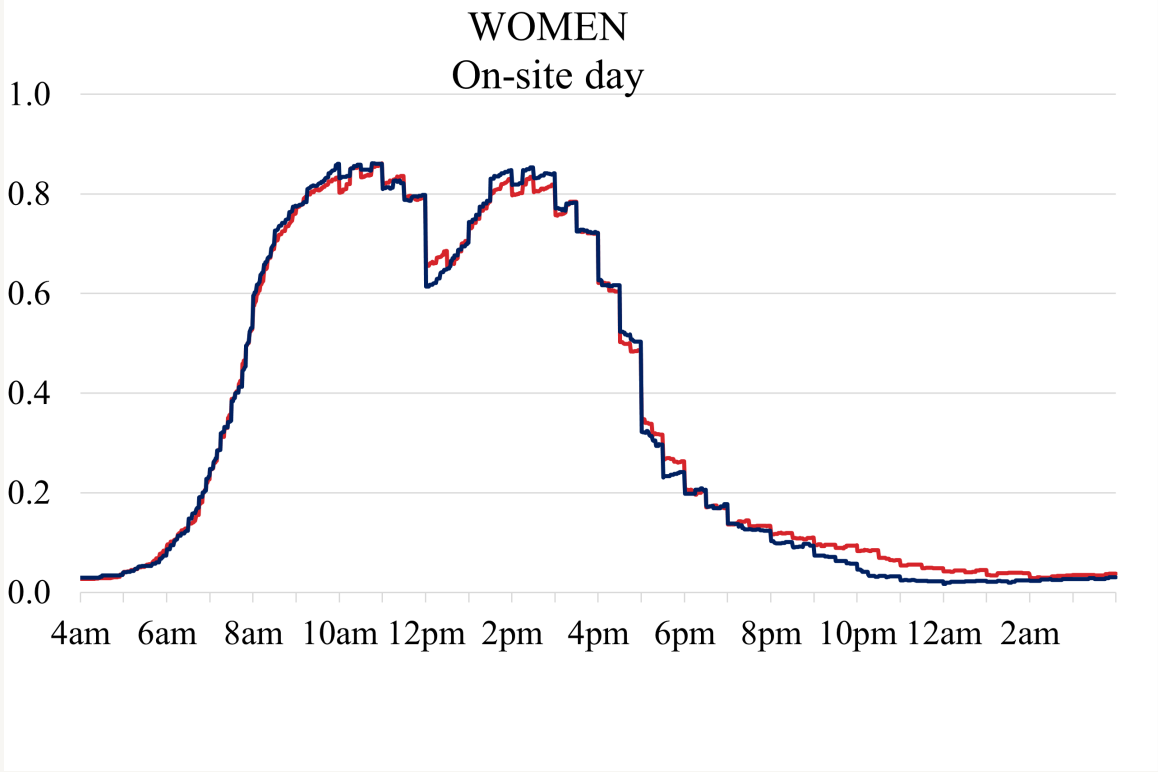


Source: American Time Use Survey, author's calculations

WEEKDAY
WORKDAYS

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

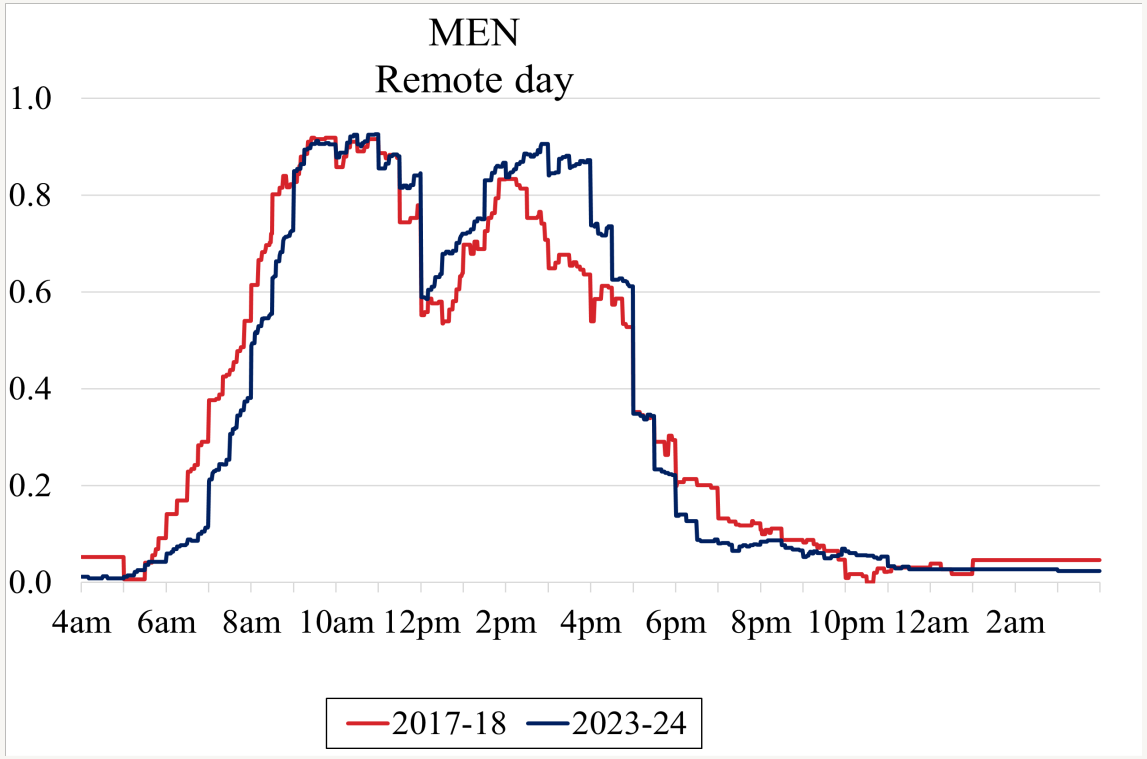


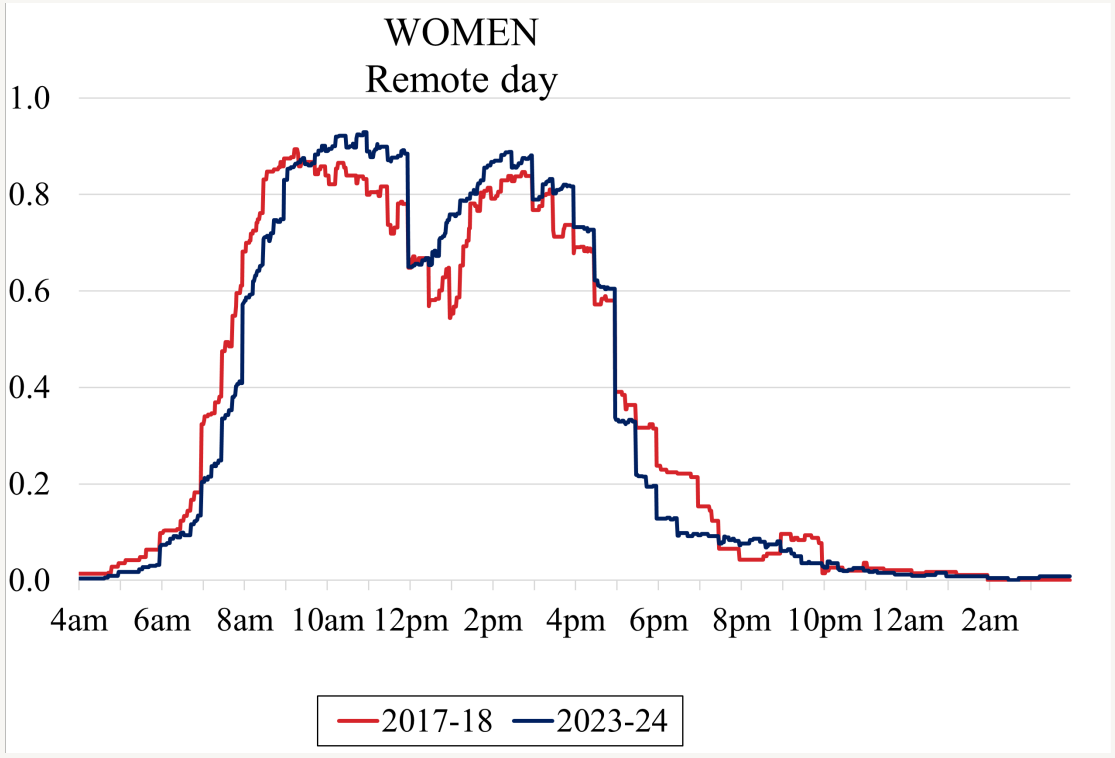


On-site days: no change

Source: American Time Use Survey, author's calculations

SHARE OF WORKERS ENGAGED IN CORE WORK ON REMOTE DAYS

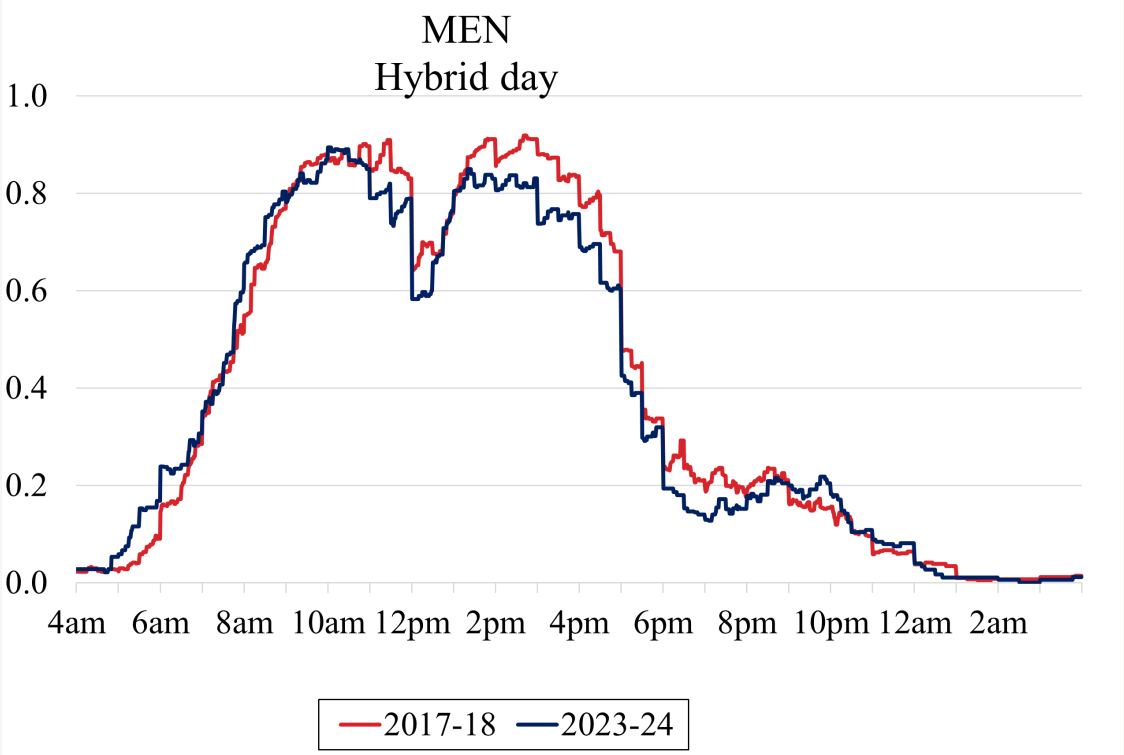


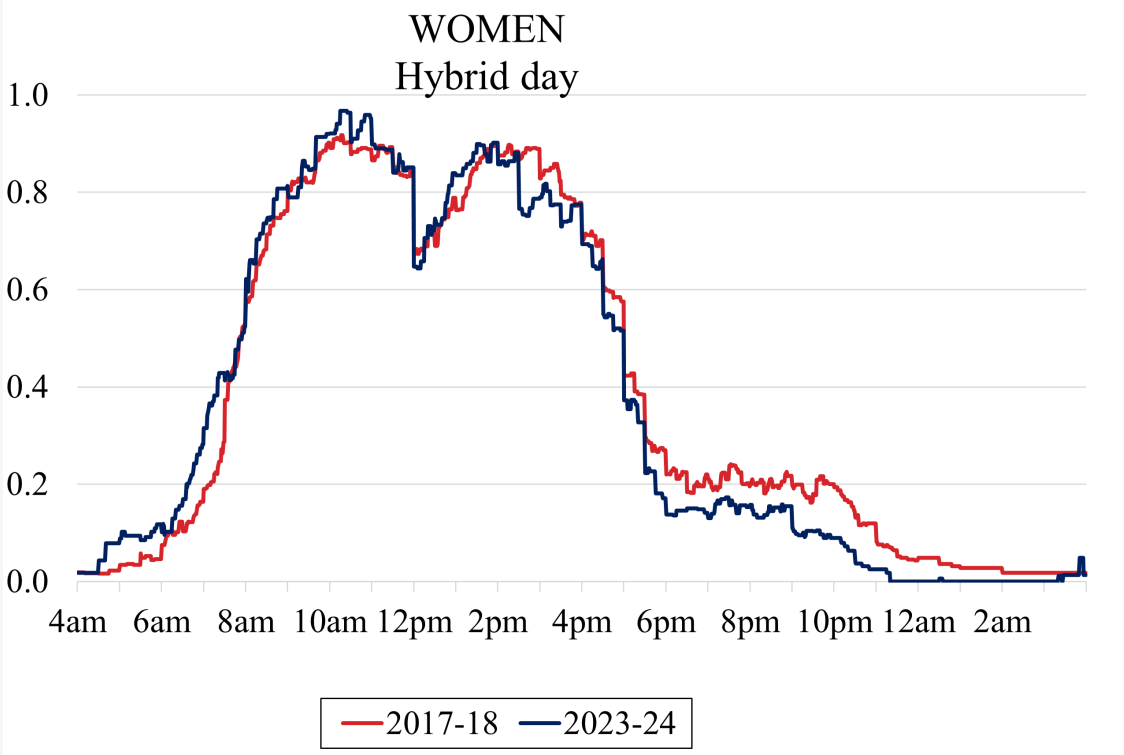


Remote days: start later, end earlier

Source: American Time Use Survey, author's calculations

SHARE OF WORKERS ENGAGED IN CORE WORK ON HYBRID DAYS

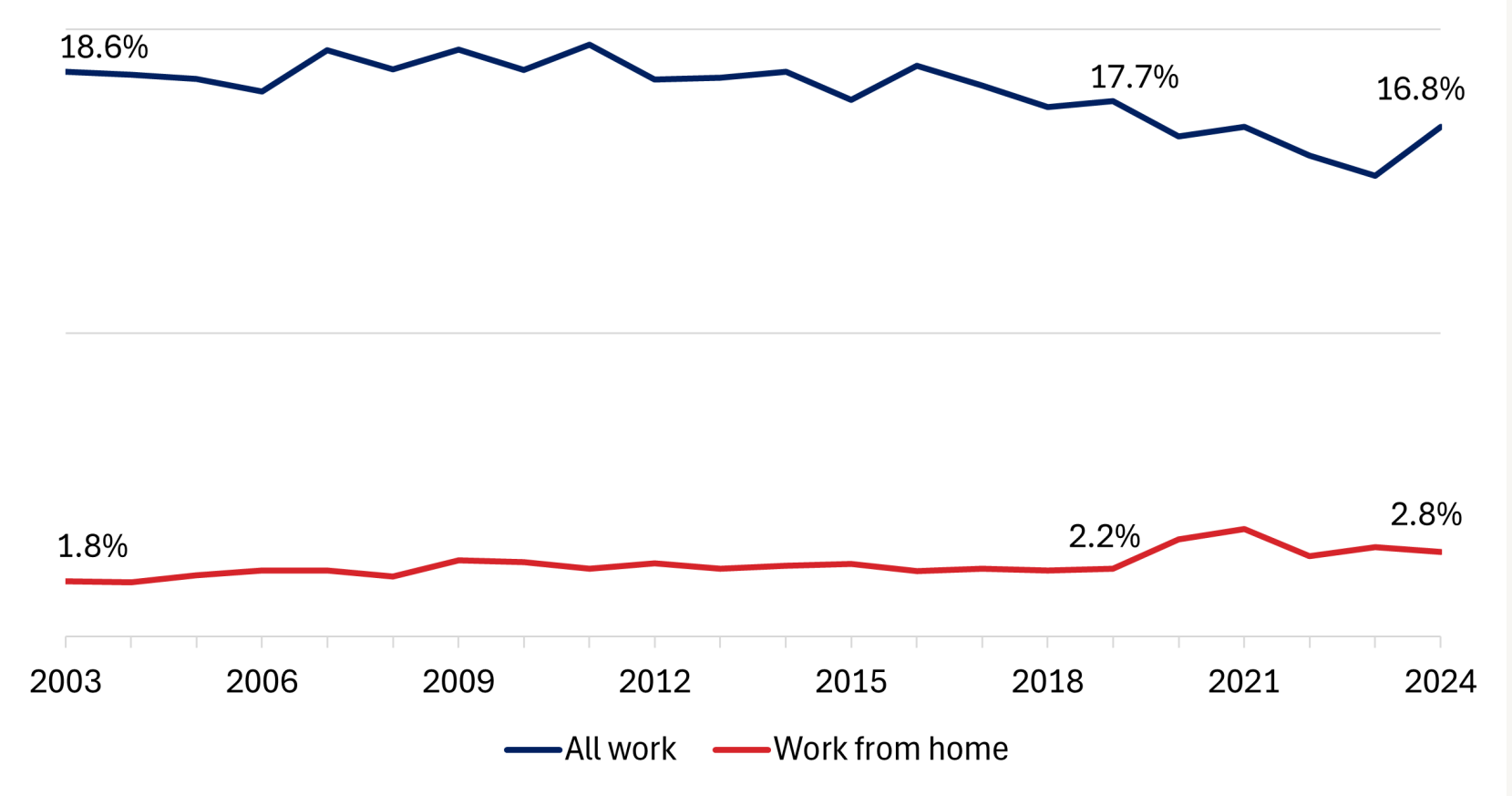




Hybrid days: decrease in evening work among women

Source: American Time Use Survey, author's calculations

PERCENTAGE OF TOTAL WORK AND WORK FROM HOME DONE ON WEEKEND DAYS AND WEEKDAYS OUTSIDE 6 A.M. TO 6 P.M.



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

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.

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

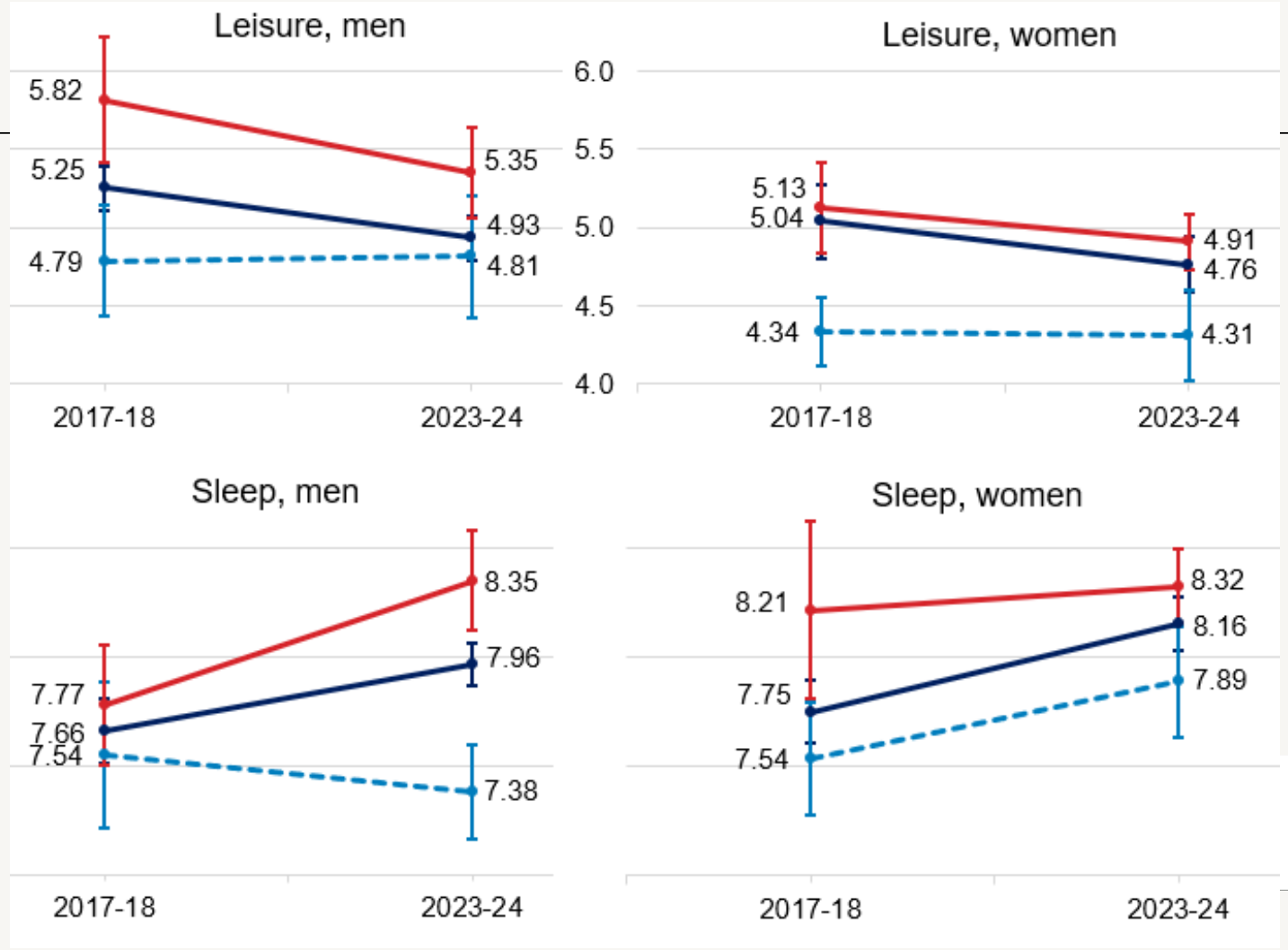
- Y_i: time spent on an activity, hours per day
- X_i: age, age-squared, binary indicators for highest education degree (no high school degree, some college, bachelor's degree, advanced degree), race and ethnicity (non-Hispanic Black, non-Hispanic Asian, Hispanic), spouse, unmarried partner, presence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

WORKDAY: WORK AND HOUSEHOLD PRODUCTION

Work-related=
Paid work+
Travel/commuting

Source: American Time Use Survey, author's calculations

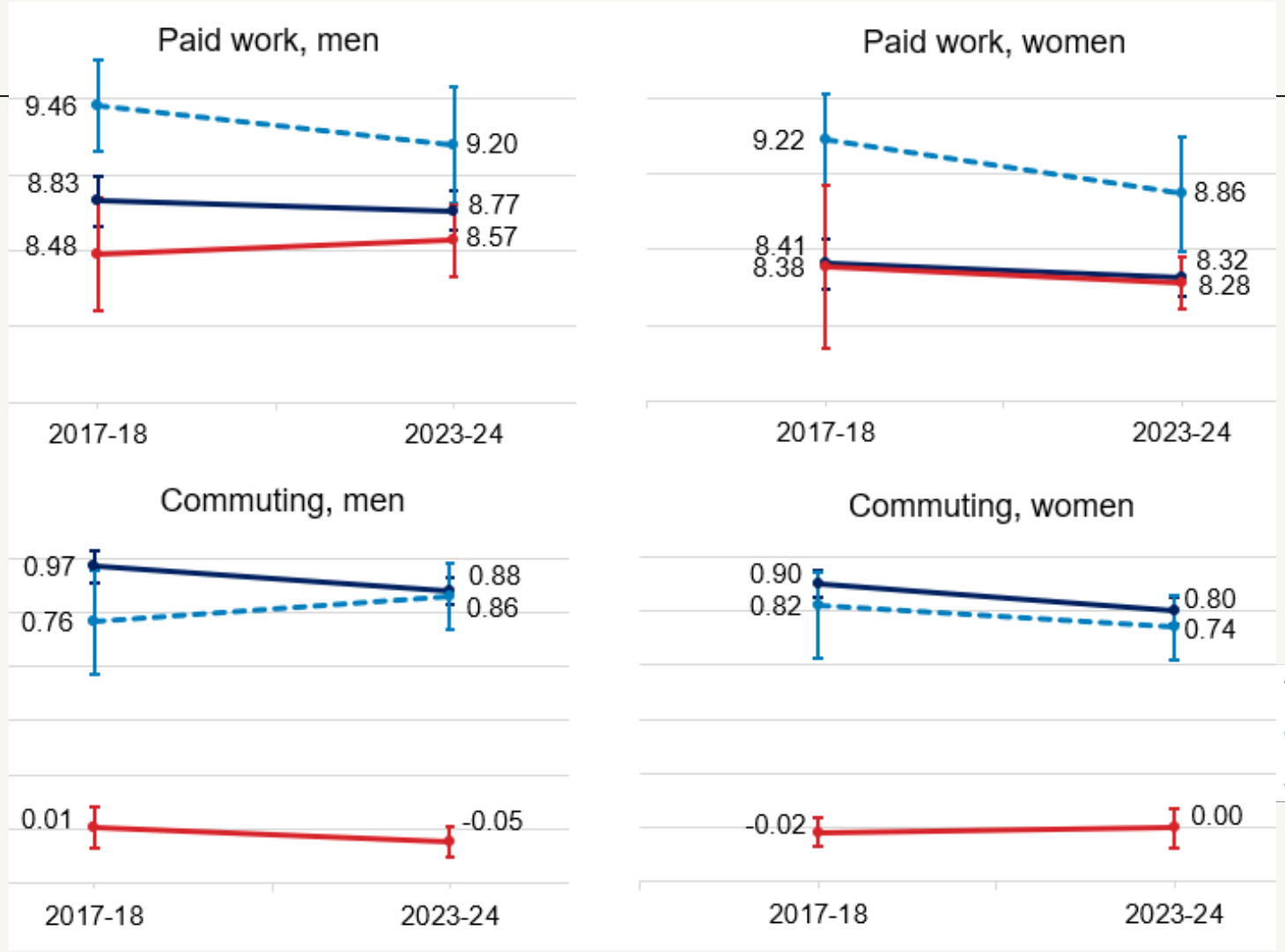
WORKDAY: LEISURE AND SLEEP



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

Source: American Time Use Survey, author's calculations

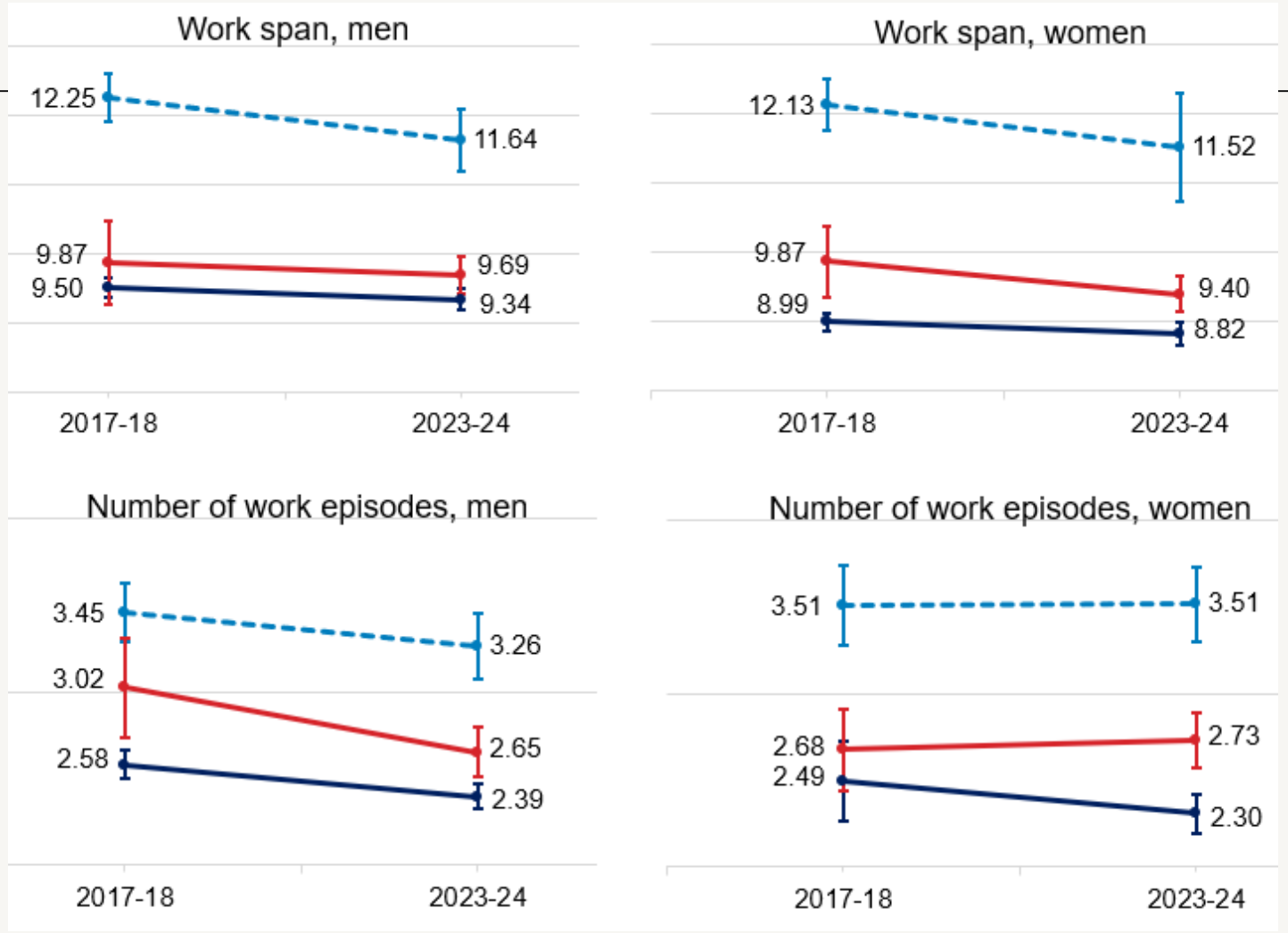
WORKDAY: PAID WORK AND COMMUTE



Paid work excludes work-related travel/commuting.

Source: American Time Use Survey, author's calculations

WORKDAY: WORK SPAN AND NUMBER OF WORK EPISODES



Work spans shortened

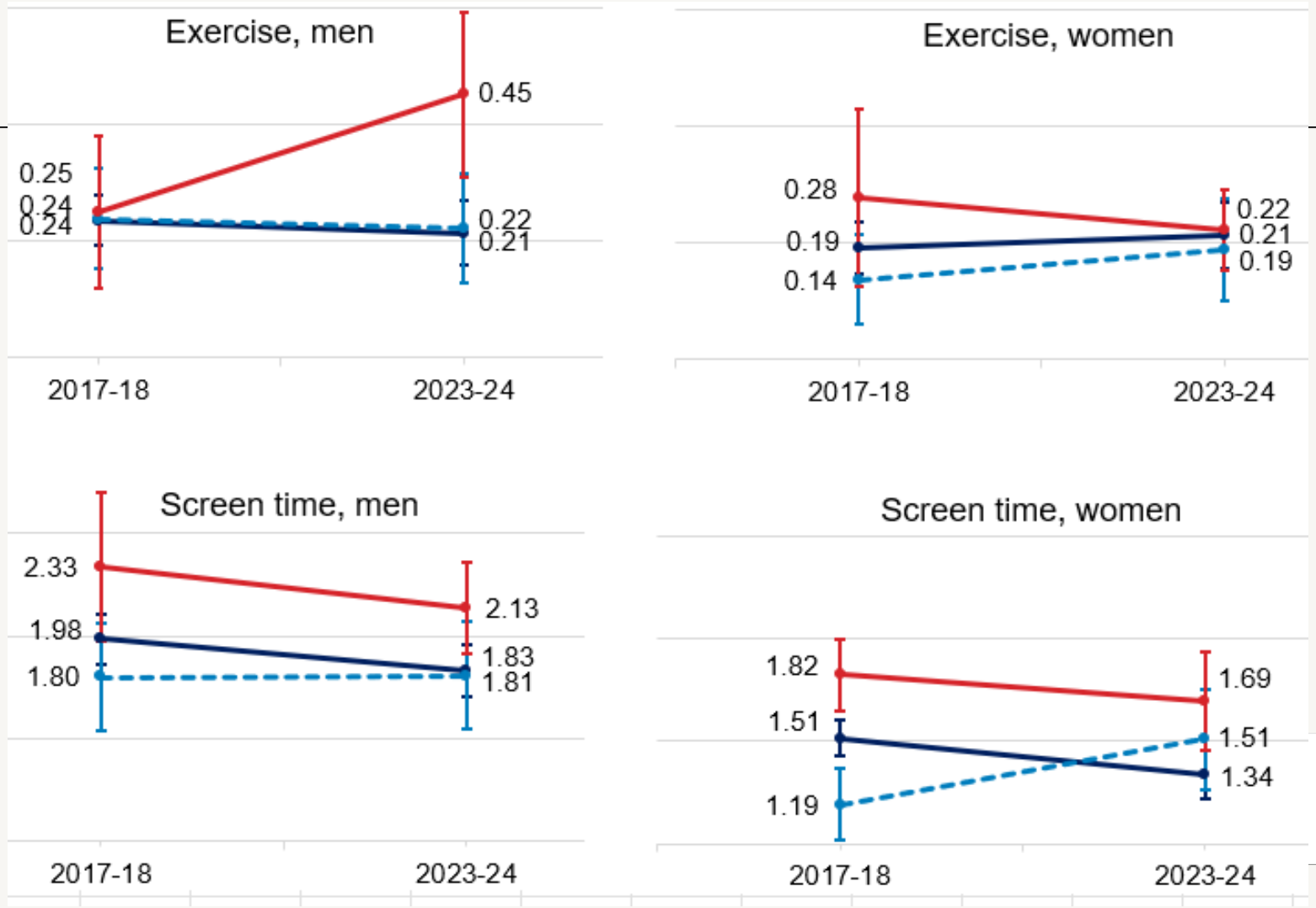
Source: American Time Use Survey, author's calculations

WORKDAY: CHORES AND FOOD PREPARATION

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

Source: American Time Use Survey, author's calculations

WORKDAY: EXERCISE AND SCREEN TIME



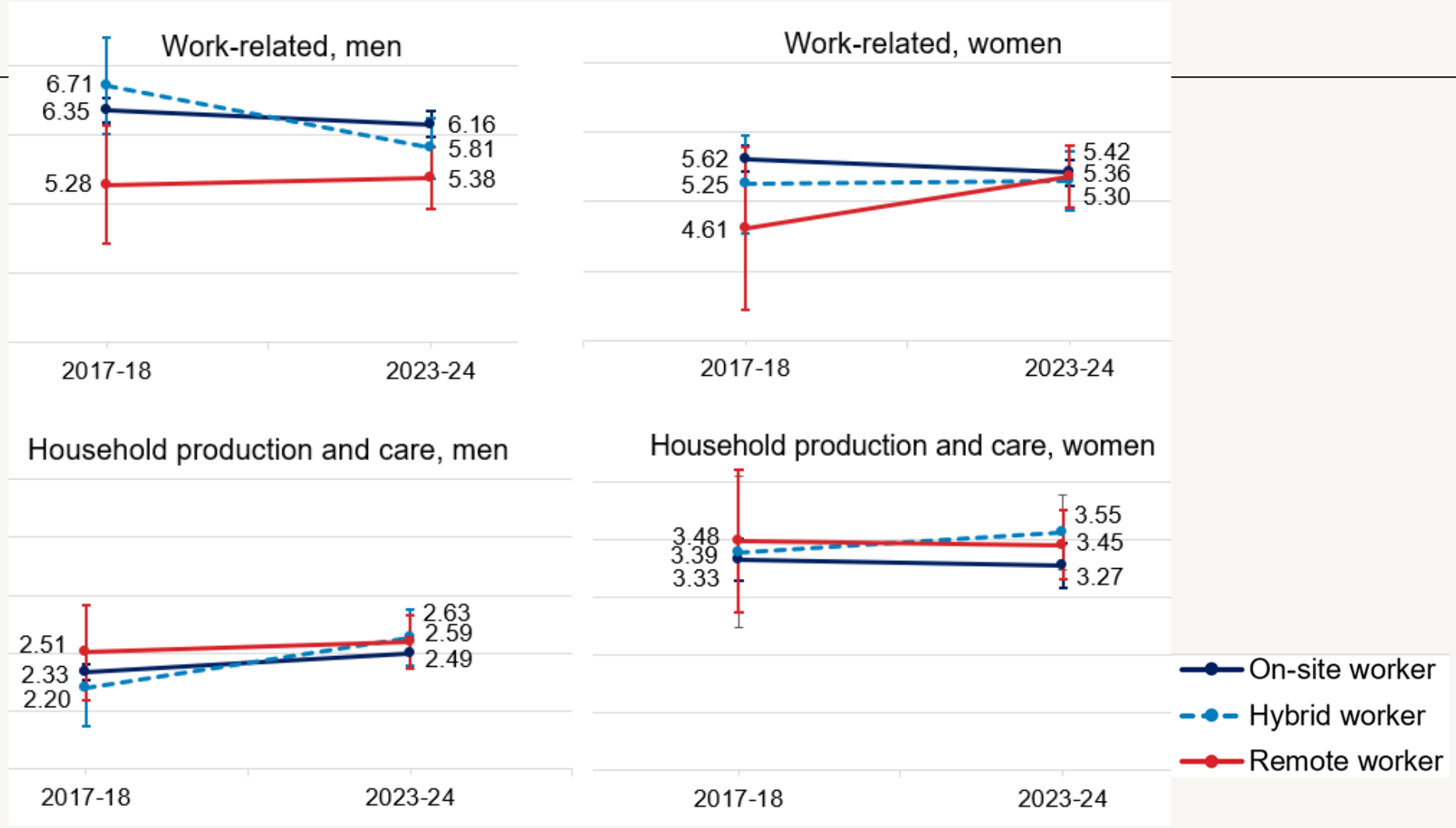
Screen = TV and movies + playing games + using computers for leisure

Source: American Time Use Survey, author's calculations

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

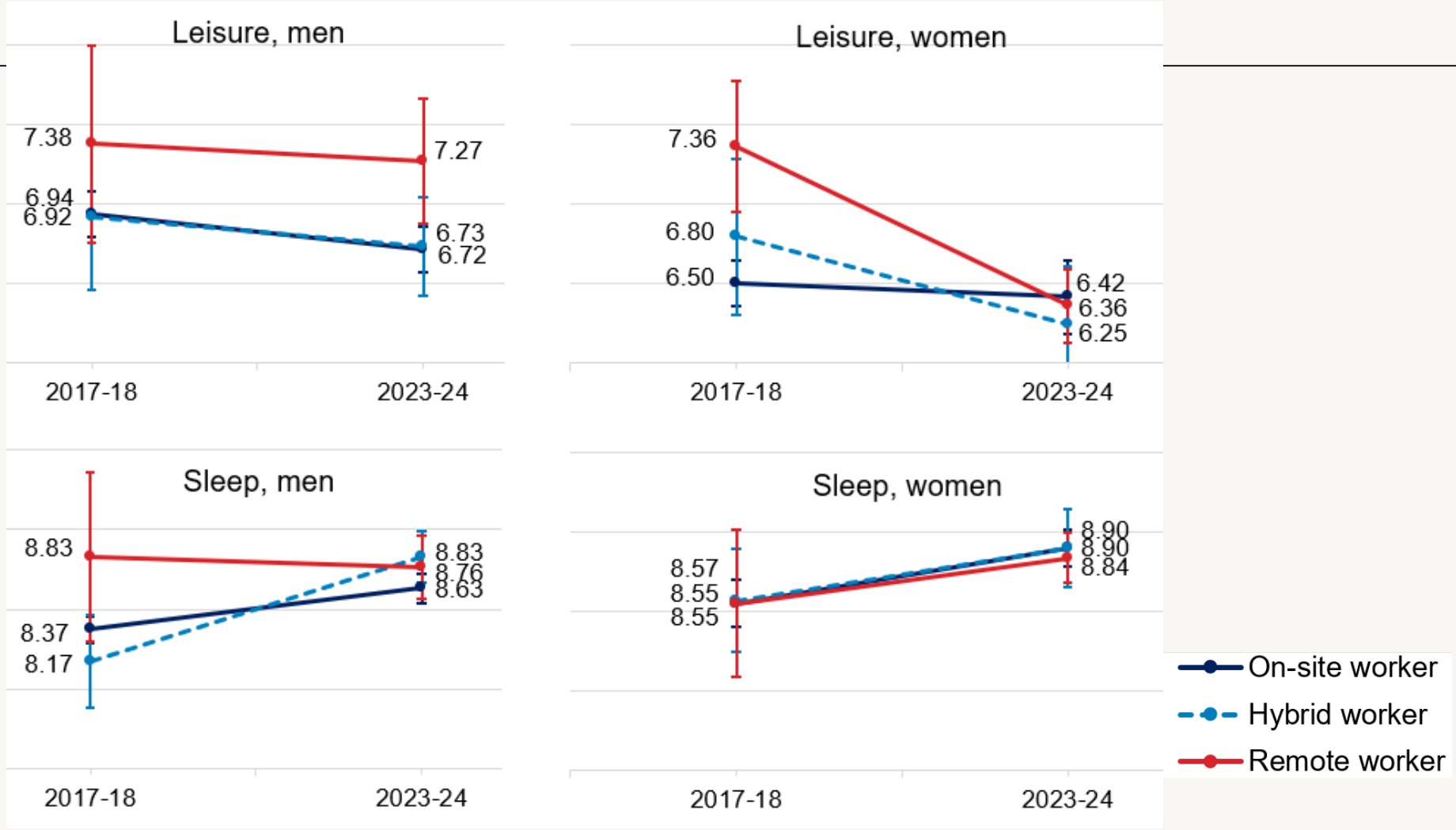
AVERAGE DAY

AVERAGE DAY: WORK AND HOUSEHOLD PRODUCTION



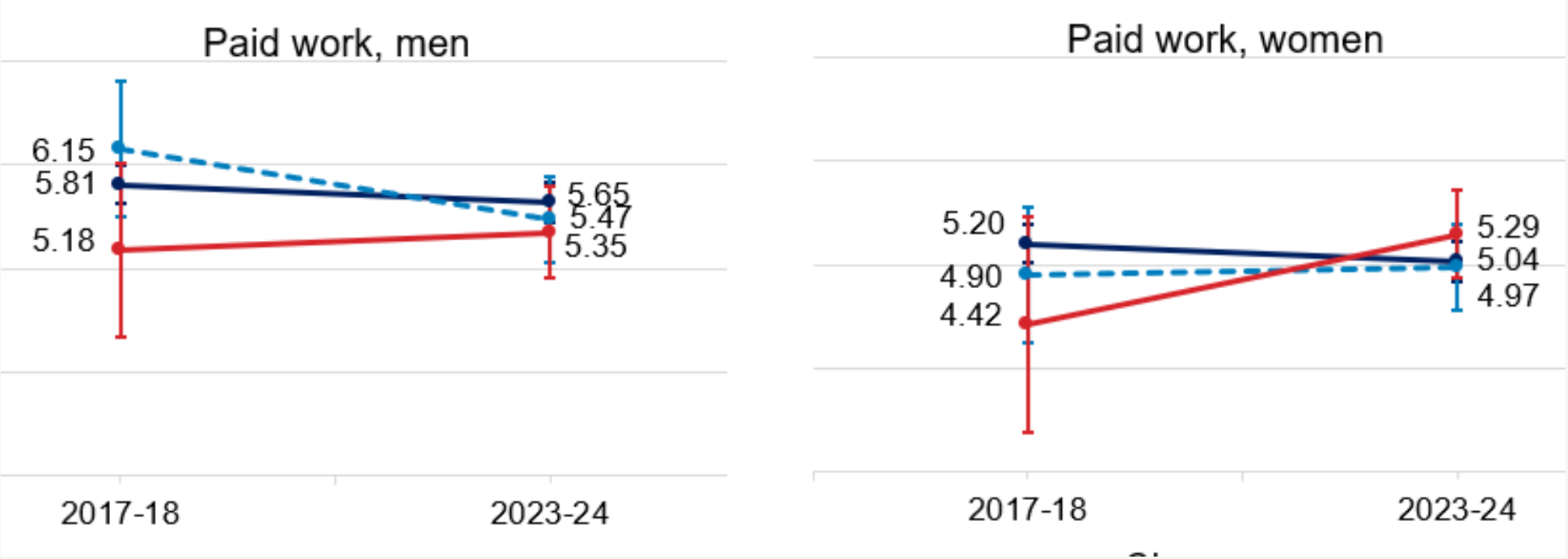
Source: American Time Use Survey, author's calculations

AVERAGE DAY: LEISURE AND SLEEP



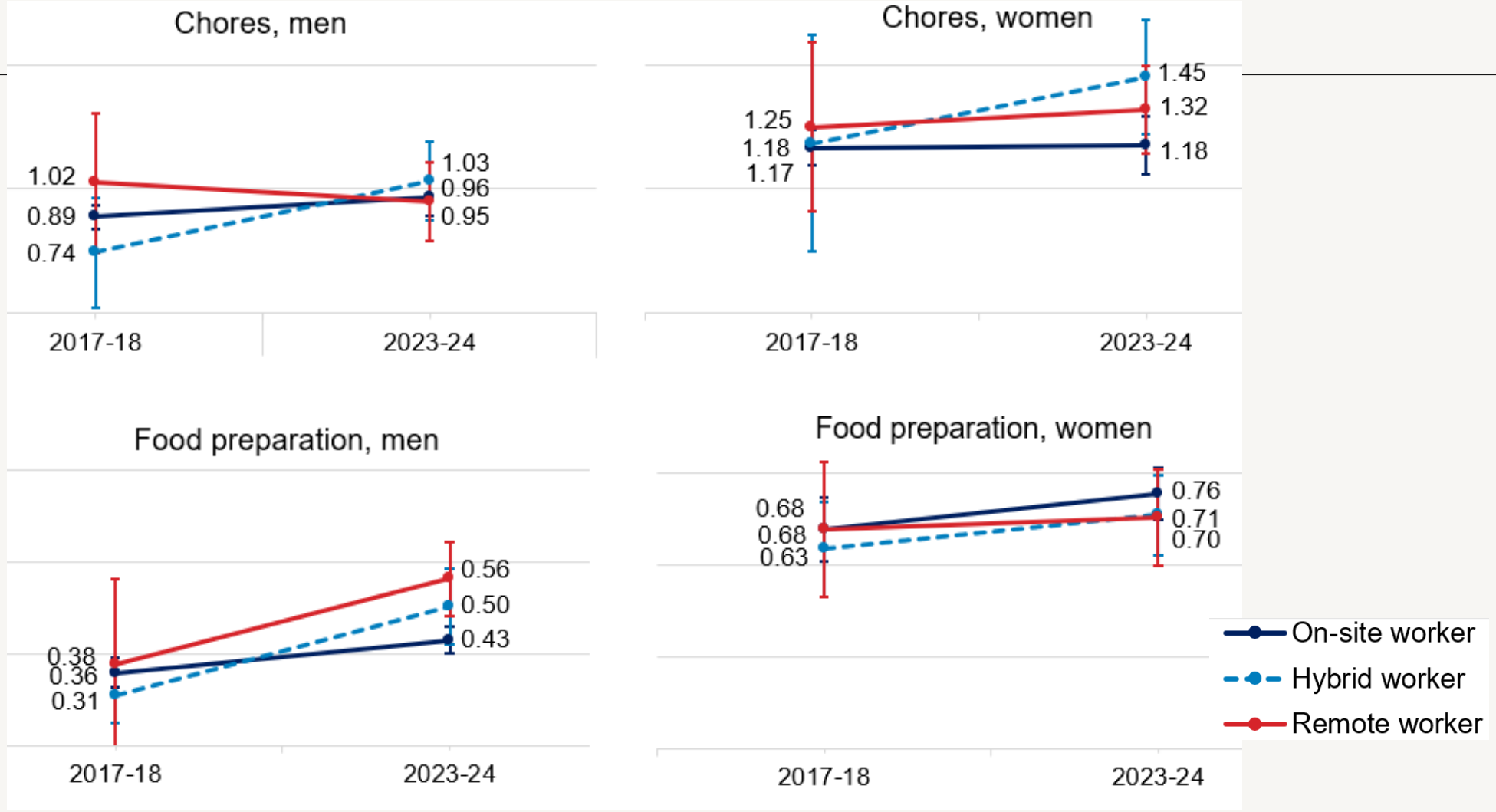
Source: American Time Use Survey, author's calculations

AVERAGE DAY: PAID WORK



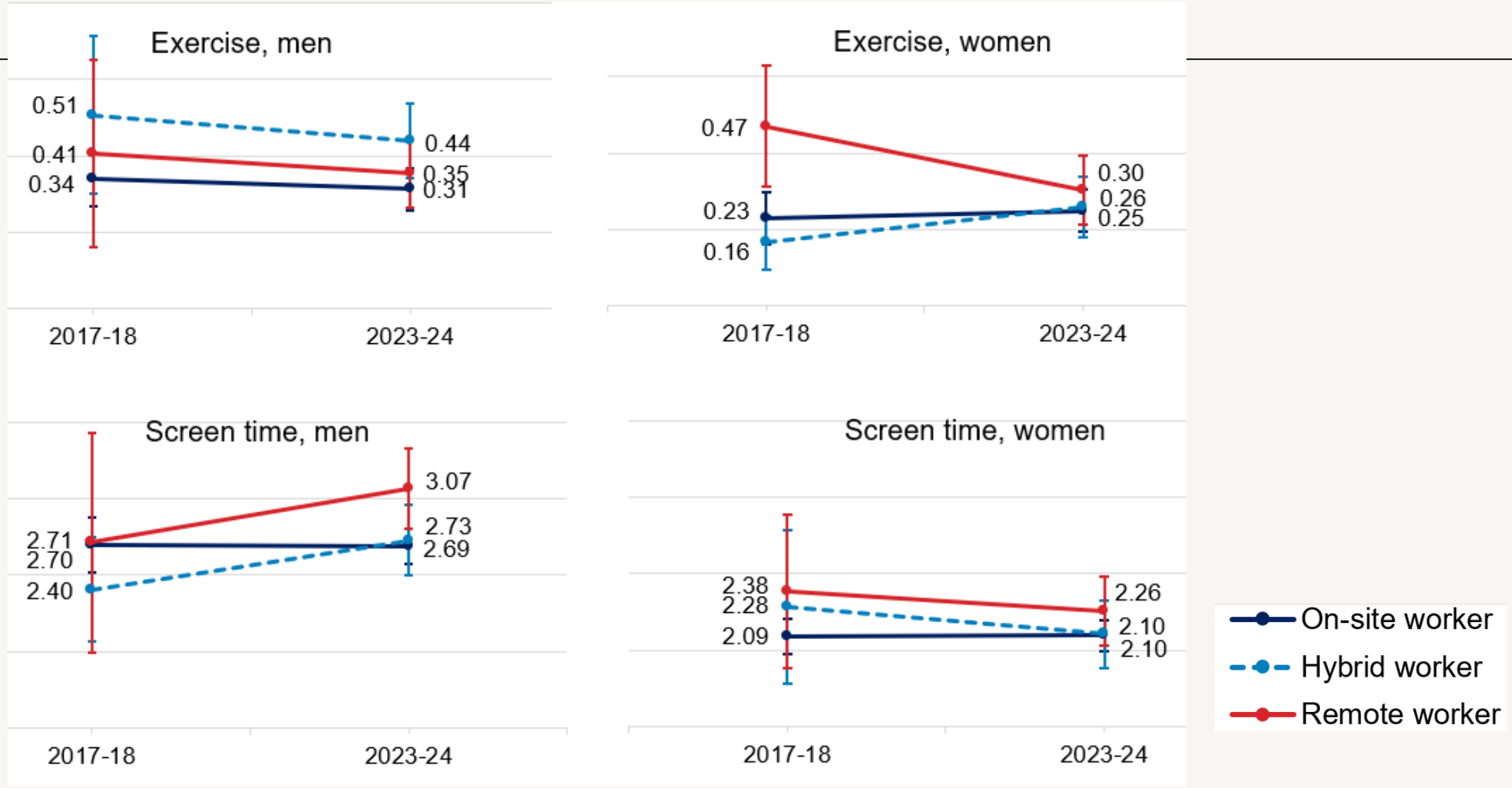
Source: American Time Use Survey, author's calculations

AVERAGE DAY: CHORES AND FOOD PREPARATION



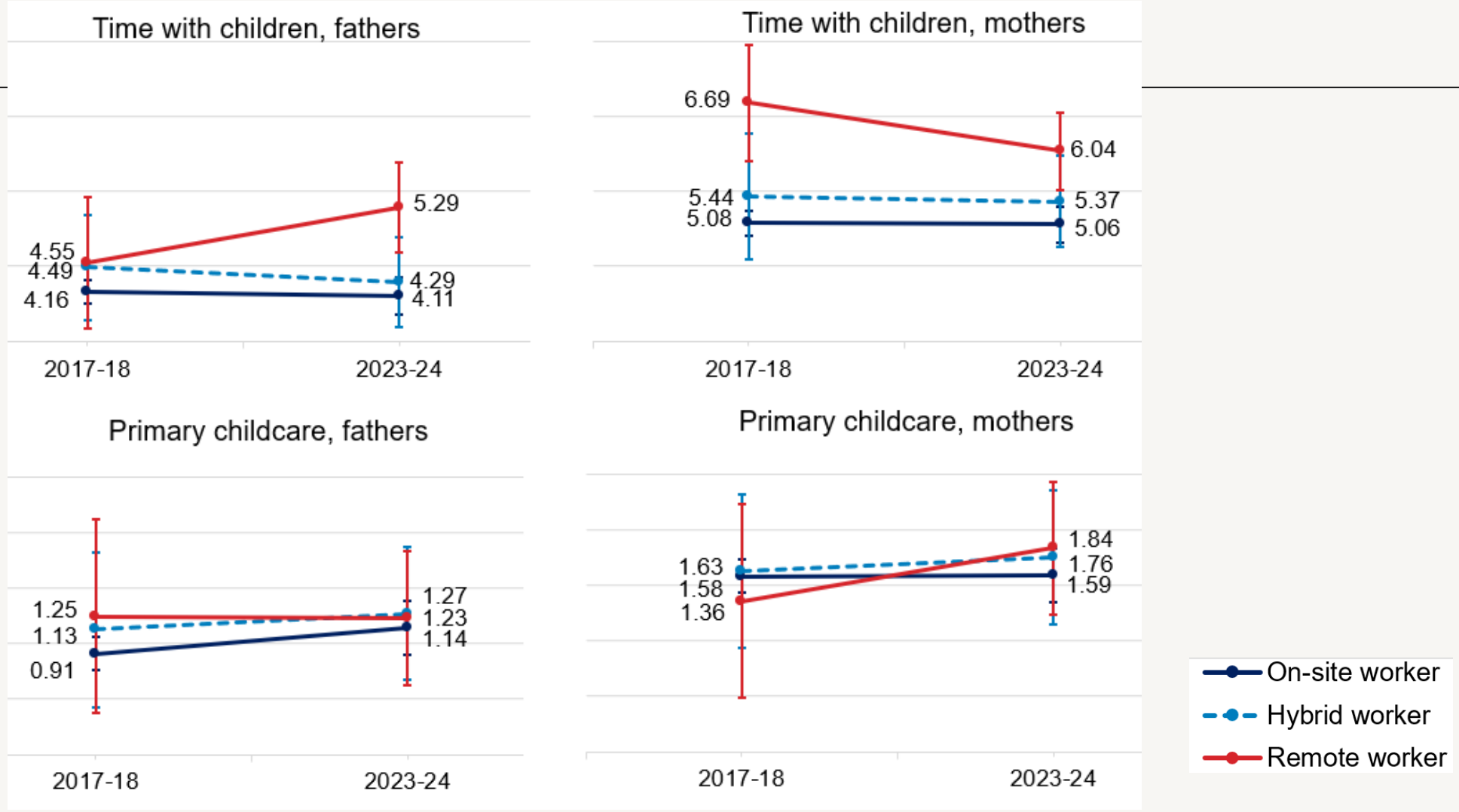
Source: American Time Use Survey, author's calculations

AVERAGE DAY: EXERCISE AND SCREEN TIME



Source: American Time Use Survey, author's calculations

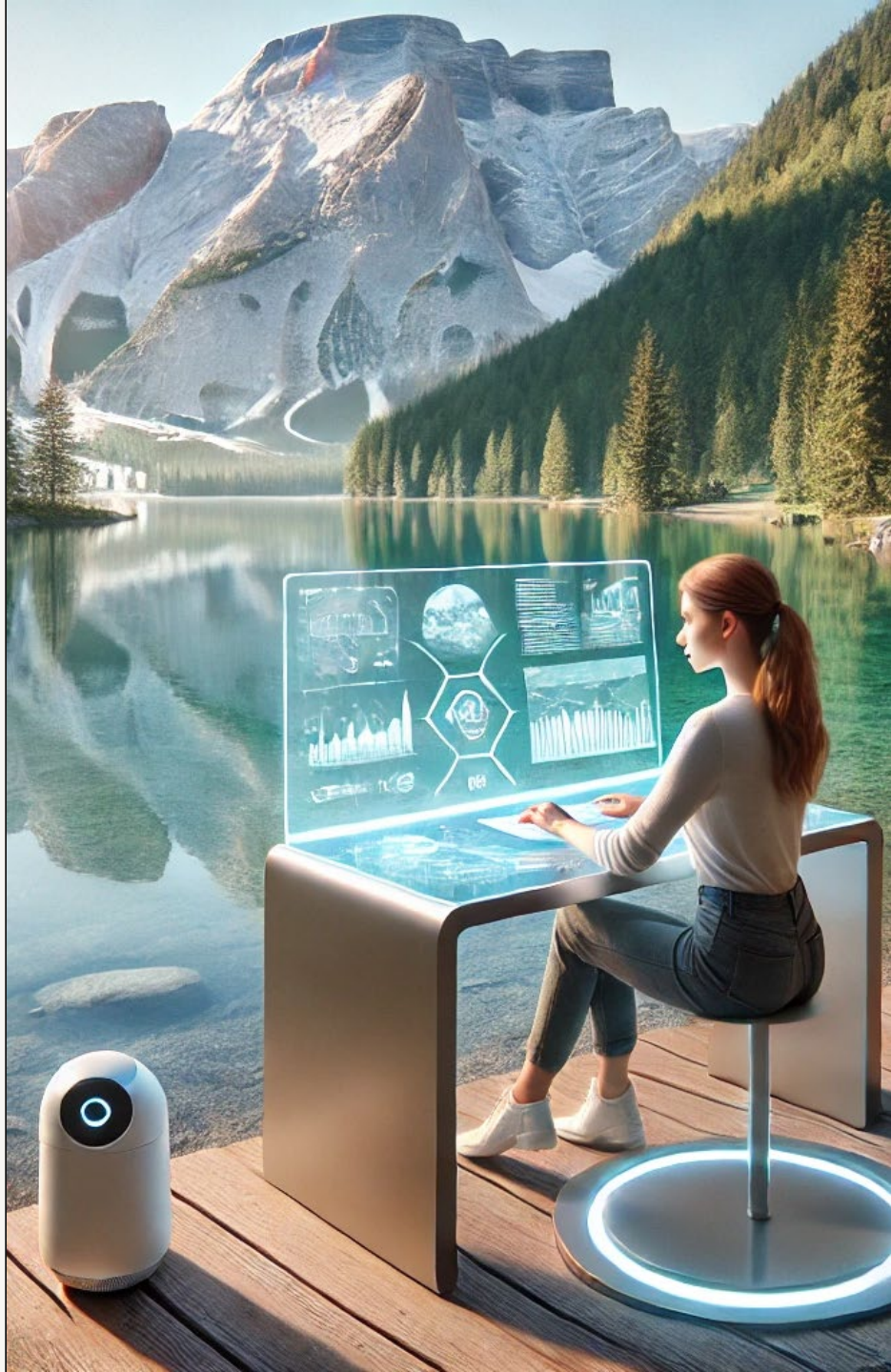
AVERAGE DAY: PARENTS' TIME WITH CHILDREN



Source: American Time Use Survey, author's calculations

RESULTS FOR WORKDAYS: PART 1

- Hybrid days are longer and more fragmented than on-site days for both sexes.
- Remote days have a longer work span than on-site days for both sexes.
- Post-COVID, sleep is longer on remote and on-site days for men and longer on on-site days for women.
    - Sleep starts earlier for workers on on-site days, men on remote days, and women on hybrid days.



RESULTS FOR WORKDAYS: PART 2

- Remote days:
  - Men: Time saved on commute is reallocated by men to sleep, food preparation, and leisure (e.g., screen, exercise).
    - Exercise time was greater post-COVID.
  - Women: Time saved on commute is reallocated to chores.

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 enjoyed more leisure as on-site 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 15 minutes more on primary childcare in 2023–24.

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
Paid work	No difference	No difference	No difference
Sleep	All (+)	No difference	Men (+)
Chores	Women (+)	No difference	Women(+)
Leisure	Men (+)	Men (+)	No difference
Food preparation	Men (+)	Men (+)	No difference
Personal care	All (-)	All (-)	No difference
Exercise	Men (+)	No difference	Men (+)
Screen time	All (+)	Men (+)	No difference
Primary childcare	N/A	Women (+)	No difference
Time with children	N/A	All (+)	No difference

IMPLICATIONS

- Worker health
  - Positive: more sleep, food preparation, exercise
- 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