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Work Meaning and the *Flexibility Puzzle*

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Belgian Day for Labour Economics

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Introduction

- The roles of men and women have **converged**:
  - in the labor market & in the household
  - but substantial **differences** prevail

- These differences suggest disparities in the **demand for flexibility**:
  - facilitates combining market and household labor

  $\rightarrow$ women **value** flexibility more than men

  $\not\rightarrow$ but do *not* **sort** into more flexible jobs

This paper

(1) We document the **prevalence** of this ***flexibility puzzle***

(2) What **explains** the puzzle? The role of work **meaning**
$=$ *impact on your community or society through work*

Related Literature

- Literature on workplace **flexibility**
  - women value working from home and flexible hours more:
    - Mas and Pallais (2017), Wiswall and Zafar (2018) & Maestas *et al.* (2023)
  - but no evidence on sorting (Golden 2001, Mas and Pallais 2020)
  - → highlight widespread flexibility puzzle & introduce **explanation**
- Behavioral literature on **work meaning**
  - many workers value meaning and are willing to sacrifice wages
    - Dur and van Lent (2019), Kesternich *et al.* (2021) & Maestas *et al.* (2023)
  - gender gap in meaning: Burbano *et al.* (2023b) & Burbano *et al.* (2023a)
  - → negative equilibrium **relation** with **flexibility**
- Child **penalties** in the labor market
  - small flexibility adjustment (Felfe 2012)
  - large adjustments in labor supply (Kleven *et al.* 2019)
  - → show a substantial ***preference*** shift for meaning and flexibility

Results (1): Documenting The Flexibility Puzzle

- **Women** have stronger **preferences** for flexibility:
  - we estimate their **willingness to pay** in the Netherlands (LISS)
    - $\approx$ 9% for flexible schedules compared to $\approx$ 6%
    - $\approx$ 9% for working from home compared to $\approx$ 6%
  - document similar patterns internationally (ISSP)
- **Men** work more **flexible jobs** than women in the Netherlands:
  - $\approx$ 33% of women can adapt their schedules compared to $\approx$ 40%
  - $\approx$ 25% of women can work from home compared to $\approx$ 33%
  - document similar patterns internationally
- Robust to full-time & part-time samples

Results (2): Explaining The Flexibility Puzzle

- **Women** prefer – and sort into – more **meaningful work**
  - willing to pay ≈ 8% compared to ≈ 5%
  - ≈ 50% works a highly meaningful job compared to ≈ 33%
- But meaningful jobs are 20 to 70% **less flexible**
  - we highlight **personal contact** as an important mechanism
  - more meaningful work is associated with:
    - less computer usage & more personal contact
  - but interpersonal interactions hinder workplace flexibility
- What if **meaningful jobs** were **more flexible**?
  - gender gap in total compensation reduces by 25%
  - motherhood gap remains same

Outline

1. The Compensating Differentials Model
2. Survey and Choice Experiment
3. Results
4. The Flexibility Price and Mechanism
5. Conclusion

The Compensating Differentials Model

The Rosen (1986) Model

- Consider Rosen (1986) model w/ heterogeneous ability (Bell 2024)
- Workers' **utility** is:

$$u_i(w_i, m_i, f_i|\theta_i, \eta_i) \tag{1}$$

  - value wages w_i, meaning m_i and flexibility f_i
  - weights depend on preferences θ_i and ability η_i is heterogeneous

- Firms' **profits** are:

$$\pi_j(w_i, m_i, f_i|\Omega_j) \tag{2}$$

  - pay wages w_i and provide meaning m_i and flexibility f_i
  - the cost of providing these amenities is firm-specific through Ω_j
  - yet assume total productivity is the same for all firms

The Hedonic Equilibrium

- Competitive hedonic **equilibrium**
  - workers are matched to firms
  - matches characterized by compensation *bundle*
    - consisting of wages, flexibility & meaning
- Solve for equilibrium separately at each ability level
  - remember that ability is *exogenous*
  - workers cannot choose bundles outside their ability level
- The matching will be perfectly **assortative *within* ability** levels
  - workers with highest valuation of a bundle..
  - match with firms that have the lowest cost of providing it

Preferences and Tradeoffs

- An individual worker takes all agents' choices as given and solves:

$$\max u_i(w_i, m_i, f_i|\theta_i, \eta_i) \quad \text{s.t.} \quad \mathcal{M}(w, f, m|\eta) \tag{3}$$

  - where $\mathcal{M}(\cdot)$ defines the equilibrium relation between (w, f, m)

- We are interested in the following objects:
  - workers' **preferences** over meaning and flexibility: θ
  - equilibrium **relation** between these amenities: $\mathcal{M}(w, f, m|\eta)$

- But: challenging to find a good **ability** measure
  - crucial as it defines compensation levels (*offer sets*)
  - amenities ($\approx$ normal goods) increase with ability (Hamermesh 1999)
  - bad measures $\rightarrow$ biased correlations (Hwang *et al.* 1992)

Estimating Preferences and Tradeoffs

(1) To estimate workers' **preferences** we rely on a **choice experiment**:

- simple to control for offer sets as we observe jobs not chosen
- specify a linear utility function:

$$u_{ij} = \nu + \theta_w \log w_{ij} + \mathbf{a}_{ij}\boldsymbol{\theta_a} + [\mathbf{a}_{ij} \times c_i]\,\boldsymbol{\theta_{ac}} + \epsilon_{ij} \tag{4}$$

- assume logit errors $\rightarrow$ estimate parameters with maximum likelihood
- derive the WTP for amenity a by gender (g) and parental status (c)

(2) Bell (2024) to estimate equilibrium **flexibility price** for meaning

- higher ability workers obtain more meaning *and* more flexibility
- yet ability is noisily measured $\rightarrow$ two step approach
  1. regress wages and amenities on an imprecise ability proxy
  2. use predicted values as offer set controls purged of noise

  $\rightarrow$ inference using Anderson-Rubin bounds (Andrews *et al.* 2019)

Survey and Choice Experiment

The Netherlands: Survey & Choice Experiment

- We designed and fielded a **survey** with LISS (2021):
  - representative household panel from the Netherlands
  - lots of demographic and labor market information
  - final sample of 1,800 respondents that (recently) worked

- Ask both: *levels* and *valuations* of flexibility and meaning

(1) Questions about respondents' current (/ last) jobs:
  - *how are your hours scheduled?*
  - *how often can you work from home?*
  - *how often do you positively influence your community/society?*

  → assess the ***levels*** of meaning and flexibility

Discrete Choice Experiments

(2) Ask workers to **choose** between two hypothetical jobs:

	Job A	*Job B*
Weekly working hours	38	38
Possibility to change work schedule	No Possibilities	No Possibilities
Possibility to telecommute	**Yes**	**No**
Positive impact on society or community	Regularly	Regularly
Monthly gross wage (in €)	**€2,300**	**€2,500**
Preferred Job	☐	☐

- Each respondent makes eight choices
  - jobs constructed based on their current amenities
  - and instructed that both jobs are identical otherwise

→ Estimate ***preferences*** for meaning and flexibility

International Comparison: ISSP

- Study whether levels and preferences are similar *internationally*
  - 4th *Work Orientations* Supplement of the ISSP (2015)
  - final sample of more than 13,000 workers across 35 countries

- Question both **levels** and **preferences** for amenities:
  - amenities in respondent's current job
    - *how are your hours decided on?*
    - *how often can you work from home?*
    - *agree/disagree that job is useful to society?*
  - importance of amenities in a job:
    - *how important is freedom over scheduling?*
    - *how important is a job that is useful to society?*

- Also additional questions about hours, wages, and demographics

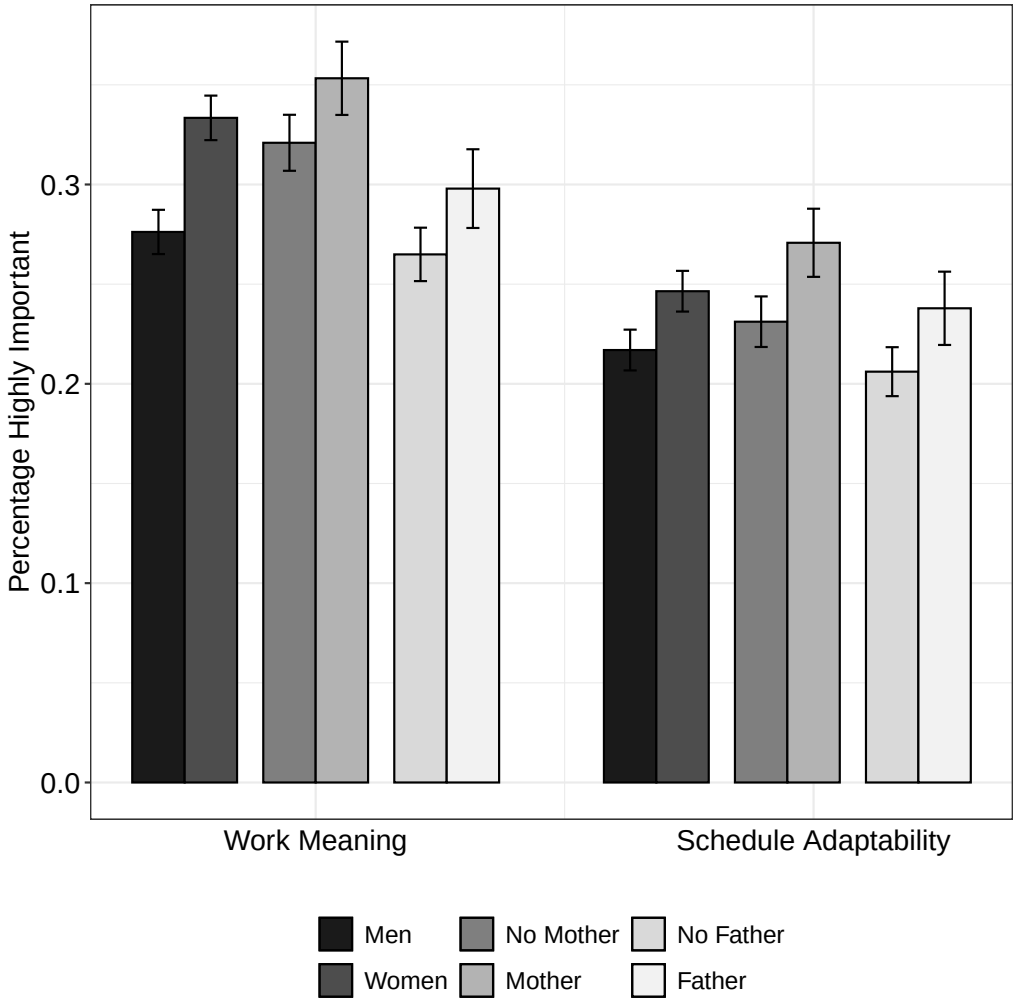
Results

Preferences: WTP in the Netherlands (LISS)

	WtP in % wage		P-value
	Men	Women	
Workplace Flexibility			
Schedule Adaptability	**0.056**	**0.085**	0.020
	(0.007)	(0.010)	.
Telecommuting	**0.049**	**0.075**	0.023
	(0.006)	(0.009)	.
Work Meaning	**0.048**	**0.090**	0.000
	(0.006)	(0.009)	.
Part-Time Work			
Long Part-Time (32h)	**-0.051**	-0.013	0.021
	(0.009)	(0.013)	.
Short Part-Time (20h)	**-0.167**	**-0.044**	0.000
	(0.016)	(0.015)	.

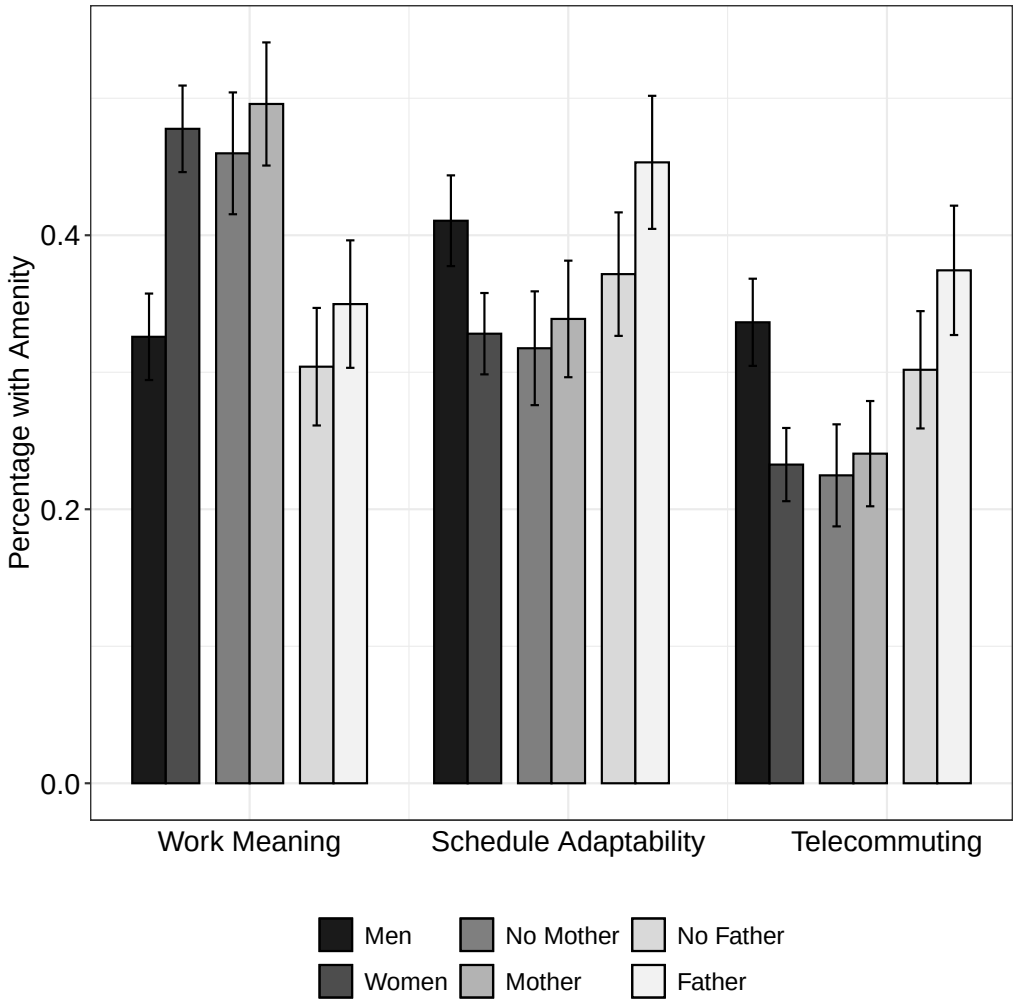
Notes. Willingness to Pay for work meaning, workplace flexibility, and part-time work computed using parameters estimated through the discrete choice experiment.

Preferences: Internationally (ISSP)



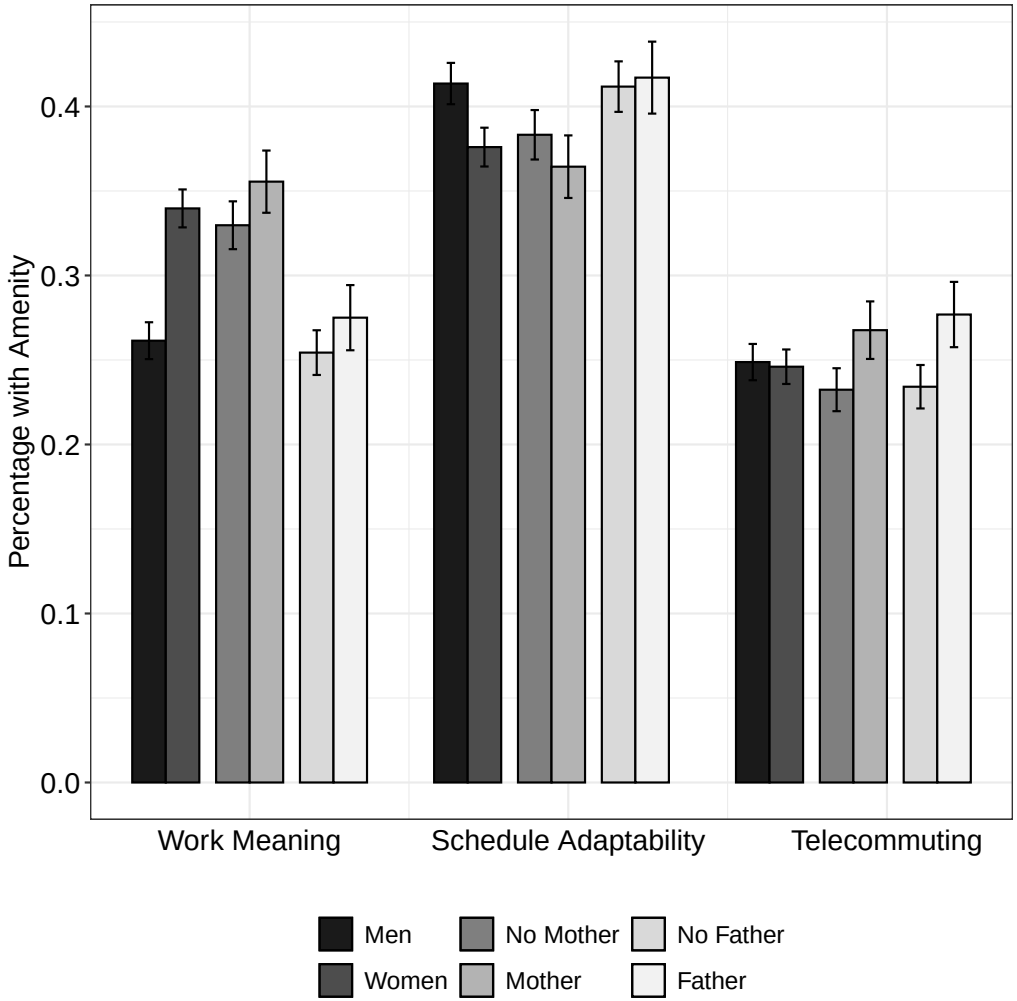
Notes. Heterogeneity in preferences for work meaning and schedule adaptability (telecommuting not questioned). Percentage that considers the amenity highly important.

Levels: The Netherlands (LISS)



Notes. Heterogeneity in levels of work meaning and schedule adaptability, shows. Percentage that has the amenity in their job.

Levels: Internationally (ISSP)



Notes. Heterogeneity in levels of work meaning and schedule adaptability. Percentage that has the amenity in their job.

Recap: Preferences and Prevalence

- Both samples show **disparity** between preferences & outcomes:
  - women value flexibility more than men
  - but men work more flexible jobs
  - → flexibility puzzle
- Both samples also show that:
  - women value work meaning more than men
  - *and* work more meaningful jobs than men
- Preference differences **robust** to:
  - specification
  - sample selection
  - full-time*
  - unobserved preference heterogeneity*

The Flexibility Price and Mechanism

The Flexibility Price of Meaningful Work

(a) The Netherlands (LISS)

	Base	Productivity Controls	Bell Proxy
Telecommuting	0.005	-0.020	-0.191
Conf. Int.	(-0.052 , 0.063)	(-0.078 , 0.037)	(-0.408 , 0.017)
Schedule Adaptability	0.056	0.039	**-0.715**
Conf. Int.	(0.003 , 0.110)	(-0.015 , 0.093)	(-0.965 , -0.506)
Partial F			161.366

(b) The International Sample (ISSP)

	Base	Productivity Controls	Bell Proxy
Telecommuting	**0.059**	**0.041**	**-0.662**
Conf. Int.	(0.040 , 0.078)	(0.023 , 0.060)	(-0.813 , -0.528)
Schedule Adaptability	**-0.039**	**-0.052**	**-0.653**
Conf. Int.	(-0.056 , -0.023)	(-0.068 , -0.035)	(-0.787 , -0.533)
Partial F			355.577

Notes. Regressions of workplace flexibility on work meaning. 'Base' specification has no controls, 'Productivity' specification adds years of education, 'Bell Proxy' specification shows method by Bell (2024). Brackets highlight 95% confidence intervals.

Mechanism: Explaining the Flexibility Price

- We ask additional questions about **personal contact**:
  - *how much personal contact with colleagues / clients?*
  - *how much time is spent working from your computer?*

- These have interesting **correlations** with meaning and flexibility:

	High Contact	High Computer
High Contact	1.00	**-0.30**
High Computer	**-0.30**	1.00
High Meaning	**0.11**	**-0.09**
Schedule Adaptability	**-0.23**	**0.25**
Telecommuting	**-0.25**	**0.37**

Notes. Pairwise correlations between amenities and mechanisms in the Netherlands (LISS). Bold faced correlations are significant at the 95% level (Bonferroni-Adjusted).

Total Compensation

- We define **total compensation** as:

$$\log \mathrm{TC}_i = \log \left(w_i + \mathbf{WTP}_g^{a,c} \times \mathbf{a}_i \right) \tag{5}$$

- Counterfactual: what if **meaningful jobs** were **flexible**?
  - work from home in meaningful job ($\tilde{\mathrm{TC}}_{tc'}$)
  - schedule adaptability in meaningful job ($\tilde{\mathrm{TC}}_{sa'}$)
- Counterfactual: what if **flexible jobs** were **meaningful**?
  - meaning in job with work from home or adaptable schedule ($\tilde{\mathrm{TC}}_{mw'}$)

Total Compensation vs. Counterfactuals

	Observed	TC	$\tilde{\text{TC}}_{sa'}$	$\tilde{\text{TC}}_{tc'}$	$\tilde{\text{TC}}_{mw'}$
Woman	**-0.099**	**-0.068**	**-0.053**	**-0.053**	**-0.064**
	(0.025)	(0.026)	(0.026)	(0.026)	(0.026)
Children	**0.127**	**0.140**	**0.142**	**0.143**	**0.142**
	(0.025)	(0.027)	(0.027)	(0.027)	(0.027)
Women $\times$ Children	**-0.105**	**-0.115**	**-0.113**	**-0.109**	**-0.121**
	(0.035)	(0.037)	(0.038)	(0.038)	(0.038)
Constant	**2.978**	**3.026**	**3.034**	**3.034**	**3.038**
	(0.018)	(0.019)	(0.019)	(0.019)	(0.019)
Observations	1813	1813	1813	1813	1813

Notes. Coefficients from regressions of demographic variables (gender and parenthood) on different total compensation measures in the Netherlands (LISS). Standard errors in parentheses. Bold faced estimates are significant at the 95% level.

Conclusion

Conclusion

- We document a **global flexibility puzzle**:
  - women value flexibility higher
  - but men work more flexible jobs
- We show that this is related to **meaningful work**
  - which women value and sort into
  - but which is significantly less flexible
  - this is partly due to interpersonal contact
- Reducing the **flexibility price** to meaningful work would:
  - reduce the *gender* gap in total compensation ($\approx$ 25%)
  - not change the *motherhood* gap in total compensation

Thank you for listening!

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Appendix – Demographics (LISS)

	Total	Men	Women	P-value
Observations				
Number of obs.	1813	849	962	.
Age				
Mean	46.51	47.32	45.79	0.00
Std dev	11.39	11.56	11.56	.
Family				
Married (%)	0.53	0.55	0.52	0.29
Children (%)	0.49	0.48	0.50	0.43
Education				
Years of Schooling (mean)	15.82	15.70	15.93	0.07
Years of Schooling (std dev)	2.57	2.40	2.40	.
Amenities				
Schedule Adaptability (mean)	0.37	0.41	0.33	0.00
Schedule Adaptability (std dev)	0.48	0.47	0.47	.
Telecommuting (mean)	0.28	0.34	0.23	0.00
Telecommuting (std dev)	0.45	0.42	0.42	.
Meaning (mean)	0.41	0.33	0.48	0.00
Meaning (std dev)	0.49	0.50	0.50	.

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Appendix – Demographics (ISSP)

	Total	Men	Women	P-value
Observations				
Number of obs.	13077	6232	6845	.
Age				
Mean	42.54	42.69	43.30	0.00
Std dev	10.63	10.81	10.55	.
Family				
Married (%)	0.55	0.56	0.53	0.00
Children (%)	0.36	0.33	0.38	0.00
Education				
Years of Schooling (mean)	1.93	1.85	1.99	0.00
Years of Schooling (std dev)	0.66	0.67	0.65	.
Amenities				
Schedule Adaptability (mean)	0.39	0.42	0.38	0.00
Schedule Adaptability (std dev)	0.49	0.49	0.49	.
Telecommuting (mean)	0.25	0.25	0.25	0.38
Telecommuting (std dev)	0.43	0.44	0.43	.
Meaning (mean)	0.30	0.26	0.34	0.00
Meaning (std dev)	0.46	0.44	0.47	.

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Appendix – Alternative Utility w/o Interactions

	Men	Women
Workplace Flexibility		
Schedule Adaptability	**0.058**	**0.091**
	(0.005)	(0.008)
Telecommuting	**0.054**	**0.087**
	(0.004)	(0.007)
Work Meaning	**0.047**	**0.079**
	(0.004)	(0.007)
Part-Time Work		
Long Part-Time (32h)	**-0.063**	0.013
	(0.007)	(0.009)
Short Part-Time (20h)	**-0.192**	**-0.027**
	(0.013)	(0.010)

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Appendix – Speeders & Inattentive

	Men	Women
Workplace Flexibility		
Schedule Adaptability	**0.067**	**0.098**
	(0.007)	(0.011)
Telecommuting	**0.065**	**0.096**
	(0.007)	(0.010)
Work Meaning	**0.066**	**0.110**
	(0.007)	(0.009)
Part-Time Work		
Long Part-Time (32h)	**-0.055**	-0.018
	(0.011)	(0.014)
Short Part-Time (20h)	**-0.177**	**-0.060**
	(0.019)	(0.017)

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Appendix – Full Time

	Men	Women
Workplace Flexibility		
Schedule Adaptability	**0.051**	**0.057**
	(0.007)	(0.010)
Telecommuting	**0.046**	**0.066**
	(0.006)	(0.009)
Work Meaning	**0.046**	**0.065**
	(0.006)	(0.008)
Part-Time Work		
Long Part-Time (32h)	**-0.053**	**-0.030**
	(0.010)	(0.012)
Short Part-Time (20h)	**-0.200**	**-0.222**
	(0.018)	(0.029)

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Appendix – Unobserved Heterogeneity

	Men	Women
Workplace Flexibility		
Schedule Adaptability	**0.039**	**0.048**
	(0.007)	(0.007)
Telecommuting	**0.046**	**0.049**
	(0.006)	(0.008)
Work Meaning	**0.028**	**0.074**
	(0.006)	(0.007)
Part-Time Work		
Long Part-Time	**-0.074**	-0.022
	(0.014)	(0.015)
Short Part-Time	**-0.448**	**-0.202**
	(0.108)	(0.041)

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