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Restless Sleep and Emotional Wellbeing among European Full-Time Dual-Earner Couples:
Gendered Impacts of Children and Workplace Demands

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ABSTRACT

Role strain theory illuminates how work and family impinge on our intimate lives in gendered ways. Drawing upon data from the 2012 European Social Survey, we estimate structural equation models to understand the links between work and family conditions on full-time dual-earning couples' restless sleep and emotional wellbeing. Our results show that young children (aged two or under) disrupt full-time working mothers' but not full-time working fathers' sleep, improving emotional wellbeing for fathers but not mothers. Compared to men, women report a significantly larger association between work hour dissatisfaction and restless sleep, probably highlighting the more time strain they experience due to their family responsibility on top of their full-time work. These gender gaps are the most pronounced among those couples working longest hours, suggesting that when inter-role strain intensifies for both partners, women suffer disproportionately. Collectively, our findings identify significant and gendered consequences of childcare and workplace demands and spotlight restless sleep as a key mechanism linking women's role strain to poor emotional wellbeing.

Keywords: Role Strain, Gender, Dual-Earners, Sleep, Emotional Wellbeing

INTRODUCTION

A breadth of literature shows full-time working couples are particularly vulnerable to adverse health consequences of combining work and family (Nomaguchi, Milkie, & Bianchi, 2005; Perry-Jenkins, Goldberg, Pierce, & Sayer, 2007). Compared to other population groups, dual earners experience greater inter-role strain, stress, and burn-out (Milkie, Raley & Bianchi, 2009; Poms, Fleming & Jacobsen, 2016). However, absent from this literature is the role of sleep in these relationships. This omission is conspicuous given that restful sleep is particularly challenging when young children are present (Burgard, 2013; Venn, 2008) and sleep is intimately related to emotional wellbeing (Scott, Webb, & Rowse, 2017).

An emerging literature links work, family and sleep to show that gender influences the likelihood of sleep being interrupted by work and family demands (Maume, Sebastian, & Bardo, 2010; Maume, Hewitt, & Ruppner, 2018). However, the bulk of this research examines mothers and fathers without specifying full-time dual-earner parents' distinct experiences (Lallukka, Rahkonen, Lahelma, & Arber, 2010; Maume et al., 2018). This specification is important because dual-earner parents face similar employment constraints. The dual working status may bring greater equality to bargain for who gets the right to a restful sleep. For the male-breadwinner couples, the gap in sleep quality may be attributed to different types of stress they are exposed to – work stress for men and family stress for women (Hislop & Arber, 2003; Venn, Arber, Meadows & Hilsop, 2008). Our focus on full-time dual earners allows us to evaluate how gender interrupts sleep for couples with equal labor force attachment.

To fill the above gaps in knowledge, we ask: among European full-time dual-earner couples, whether and how are the sleep and emotional wellbeing impacts of childcare and workplace demands gendered? We use data from the 2012 European Social Survey (ESS), limiting our sample to heterosexual couples where both work full-time. We estimate

structural equation models (SEM) to understand how family and work impinge upon sleep and emotional wellbeing. In doing so, we aim to understand how those with equivalent work demands (e.g., full-time work) negotiated restless sleep and emotional wellbeing, and whether these couples are on equal footing given their parallel demands.

LITERATURE REVIEW

Sleep and Emotional Wellbeing

Sleep is closely linked to mental health and emotional wellbeing. Traditionally, sleep has been conceptualized as a symptom or consequence of mental health problems, but more recently scholars have highlighted the *bidirectional* relationship between the two (Scott et al., 2017). Systematic literature reviews indicate that quality sleep promotes restorative processes, facilitates emotion regulation and contributes to high positive emotions while dysfunctional sleep reinforces emotional disturbances (Baglioni, Spiegelhalder, Lombardo, Riemann, 2010; Ong, Kim, Young, Steptoe, 2016; Scott et al., 2017). Further, there is growing evidence that those who report high positive emotions also exhibit improved sleep patterns (Baglioni et al., 2010; Ong et al., 2016).

Despite its wide use, however, “sleep quality” has not been rigorously defined (Krystal & Edinger, 2008). Several existing measures, such as the most used Pittsburgh Sleep Quality Index, provide composite indexes of global sleep quality based on a respondent’s retrospective appraisal of multiple dimensions of sleep (Knutson et al., 2017; Krystal & Edinger, 2008). However, these instruments rely on a comprehensive list of sleep-related questions which can be impractical and expensive and therefore infeasible for large-scale studies not primarily focused on sleep (Knutson et al., 2017). A frequent compromise is to use a simple Likert-style rating of overall sleep quality or one dimension of sleep quality (Krystal & Edinger, 2008; Plage, Perales, & Baxter, 2016).

In this study we rely on data from the ESS, which uses a simple Likert-style rating of “restless sleep” as the only measure related to sleep. The question was designed to capture the “vitality” dimension of personal and social wellbeing, along with three other measures including feeling energized and able to face the challenges that life presents (Jeffrey, Abdallah, & Quick, 2015, p. 4). In the broader literature, restless sleep is frequently one sub-component of composite sleep quality indexes including the Pittsburgh Sleep Quality Index and the US National Sleep Foundation’s Sleep Health Index (Knutson et al., 2017). We note, however, that restless sleep is still loosely defined, particularly because it is not a diagnosed sleep problem. As such, we see restless sleep as a valid but limited measure of sleep quality.

Gender Differences in Work, Family and Sleep

It is well documented that women report higher levels of sleep complaints and worse emotional wellbeing than men (Arber, Bote, & Meadows, 2009). A growing sociological literature suggests that these gender differences in sleep and emotional wellbeing are structured by social roles, work and parental status. For example, workers’ negative workplace experiences – stress and long hours – affect their sleep (Burgard & Ailshire, 2009, 2013), but mothers are more likely to have their sleep disrupted by children than fathers (Plage et al., 2016; Venn et al., 2008). In part, this captures the transcendence of traditional gender norm expectations into our night-time rituals. Sleep becomes another way for women to exhibit care for their families (Maume et al., 2010). This includes remaining in the marital bed even when spouses’ snoring disrupts wives’ sleep, or shielding fathers from children’s night-time interruptions to protect men breadwinners (Maume et al., 2010). Fathers are also more likely to state that high-quality sleep is essential for financially supporting the family (Venn et al., 2008), and mothers are more likely to report disrupted sleep due to family stress (Hislop & Arber, 2003; Venn et al., 2008). These patterns indicate that mothers are more likely to disrupt their own sleep to protect family members.

However, due to the relatively nascent state of this area of research, much of the work cited above is exploratory and based on interviews or focus groups with small numbers of participants (Hislop & Arber, 2003; Maume et al., 2010; Venn et al., 2008). The few studies based on large-scale quantitative surveys tend to focus on the link between gender and sleep generally. These studies treat parenthood and employment statuses as control variables (Arber et al., 2009; Burgard & Ailshire, 2013; Plage et al., 2016; Maume et al., 2018). One limitation with such a study design is the difficulty in singling out the impact of gender on sleep, particularly given the complex interactions between work, family, and sleep. The part-time or non-employment status of a mother may well result from heavy family responsibilities, which also deteriorate her sleep. In addition, given the difficulty in quantifying the different impacts of caregiving activities and work responsibilities on sleep, it is difficult to evaluate whether the gender difference in sleep quality is due to gender inequality or different sleep impacts of these tasks.

To partly address the above limitations, we focus on full-time dual-earning couples and pay careful attention to the co-presence of children. This restriction to couples where both work full-time is important because women, especially mothers, may have a stronger claim to quality sleep. Alternatively, traditional gender roles may prevail, leaving children to impinge upon mothers' but not fathers' sleep despite both working similar hours. These questions are important in light of research showing mothers' unstable employment when young children are present (Raley, Bianchi, & Wang, 2012). Mothers are most likely to experience work-family strain, burn-out, and attrition due to competing childcare demands (Milkie et al., 2009; Poms et al., 2016). Simply, the stress of caring for children and a full-time career is incompatible for many. A breadth of research has focused on the role of organizational resources in deteriorating or supporting mothers' wellbeing (Baxter & Alexander, 2008; Kelly et al., 2014). Less is known about how sleep fits into this picture. It

may be that mothers in demanding jobs are worn out more easily, which leads them to reduce to part-time work or exit the labor market altogether (Stone, 2007). Here, we establish these relationships to understand how workplace demands and children are tied to sleep and emotional wellbeing.

Role Strain Theory

We draw upon a gendered role strain approach which identifies that individuals hold multiple roles to form their role set. When the demands associated with each role exceed capacity, an individual experiences role overload or conflict with other roles, leading to role strain that triggers the stress-process model (Coverman, 1989). Jobs can place demands or provide resources that shape role strain and conflict. For example, job resources like schedule control, or job authority can ameliorate role overload, conflict and strain; by contrast, jobs with greater demands like long work hours or poor conditions can exacerbate role overload and deteriorate mental health (Voydanoff, 2007). While job demands and resources are theorized as gender-neutral, existing research documents women are more sensitive to workplace demands that lead to poorer emotional wellbeing (Nomaguchi et al., 2005) and family demands that increase role overload and inter-role strain (Blair-Loy, 2003; Roxburgh, 2002). Thus, job characteristics that contribute to role strain and deteriorate emotional wellbeing are gendered.

Most of this literature focuses on the measurement of inter-role strain and its predictors. A smaller literature connects work and family demands to emotional wellbeing showing workers with young children report poorer mental health (Crnic, Gaze, & Hoffman, 2005). Even fewer studies link work and family demands to sleep (see Maume et al., 2010; Maume et al., 2018 for discussion). Moreover, to our knowledge, no study investigates how workplace demands, children, sleep, and emotional health are simultaneously connected.

We restrict our sample to full-time dual-earner couples to understand how the co-presence of children impacts sleep and wellbeing net of high work time demands. If full-time working couples equally share the demands, then we would expect to see no gender difference in the effects of children on disrupted sleep and emotional wellbeing. Job resources would also equally benefit and job demands strain mothers and fathers alike. This leads to our first set of gender-neutral hypotheses:

Gender Neutral Family and Job Demands and Resources Hypotheses

H1: The presence of children, especially a young child, will be negatively associated with restful sleep and emotional wellbeing regardless of gender.

H2: Job demands will be negatively and job resources positively associated with restful sleep and emotional wellbeing.

Of course, a robust literature shows mothers remain disproportionately responsible for childcare and housework even when employed full-time (Nomaguchi et al., 2005).

Consequently, they are more likely to experience conflict and strain combining work and family demands (Nomaguchi et al., 2005) and use workplace resources to ameliorate these competing demands (Poms et al., 2016). From this literature, we hypothesize that even when both parents are working full-time, children will disrupt mothers' more than fathers' sleep and wellbeing. We expect these relationships to be strongest for those with very young children (aged two or less) in the home given the intensity of demands of young children across waking and nocturnal hours (Milkie et al., 2009). Further, we expect workplace resources to more directly benefit and workplace demands to deteriorate mothers' sleep and wellbeing more than fathers. We present our second set of gendered hypotheses below:

Gendered Family and Job Demands and Resources Hypotheses

H3: The presence of children will more negatively impact women's sleep compared to men's.

H4: Job demands will have a larger negative and job resources a larger positive association with women's sleep and emotional wellbeing than men's.

MATERIALS AND METHODS

Data

To test these hypotheses, we used data from the ESS, a cross-national survey that has been conducted across Europe every two years since its establishment in 2001. The 2012 wave (<https://www.europeansocialsurvey.org/data/download.html?r=6>) was used because it has the most recent data on emotional wellbeing, sleep, and other personal and social wellbeing factors.

The 2012 ESS originally interviewed 54,673 respondents, but for this study, we selected the full-time dual-earner couples. Specifically, we excluded those who were single ($n=31,857$) and those who were younger than 25 or older than 64 ($n=24,399$). We then removed the respondents whose information on at least one of the key questions (except for work hours) is missing ($n=15,795$). At the final step, we limited the sample to those heterosexual dual-earning couples where both work full-time. Using 30 hours/week, 35 hours/week, and 40 hours/week as cut-off points resulted in three analytical samples of 8,859, 7,735, and 5,457. We present the 35 hours/week group first and then discuss the differences in results for the two other groups.

Restless Sleep and Emotional Wellbeing

Restless sleep was assessed by a single item asking respondents how much of the time during the past week their sleep was restless. They answered on a four-point ordinal scale ranging from 1 (none or almost none of the time) to 4 (all or almost all of the time).

Emotional wellbeing was measured by six questions asking how often the respondents (1) felt sad, (2) felt depressed, (3) enjoyed life, (4) were happy, (5) felt anxious and (6) felt calm and peaceful in the past week. Responses ranged from 1=none of the time to 4=all of the time. Items (1), (2), and (5) were reversed, and the alpha coefficient of the six items was 0.77. The six measures were averaged to produce a single emotional wellbeing index, with higher scores indicating positive day-to-day feelings such as happiness and enjoyment and lack of negative emotions such as anxiety and depression.

Independent Variables

Key Independent Variables: Presence of Children

ESS provides the birth year of each household member. Using this information, we constructed three mutually exclusive children-related dummies: (1) no children being present (the reference group); (2) children present, youngest child aged two or below; (3) children present, youngest child aged above two years¹.

Key Independent Variables: Job Demands and Resources

Work time is measured through respondents' estimates of the total weekly hours in their primary job. Work time was top-coded and capped at 80 hours per week. In the ESS, respondents' occupation was classified by the International Standard Classification of Occupations 2008 (ISCO-08), a four-level hierarchically structured classification classifying all jobs into 436 unit groups (International Labour Organisation, 2012). Following Ganzeboom (2010), we converted this occupational code into the International Socio-Economic Index of occupational status (ISEI); the index is a continuous variable, with a greater value indicating higher occupational status. We also included a dummy for those who are self-employed.

¹ This measurement of a household roster means the co-presence of children includes step- and grandchildren. We note, however, that only 0.5% of the 55-64 age group have a child aged two or under in the home (or 5% of those who have children at home).

We used three measures to assess job authority and autonomy. The first is a dummy variable for whether respondents supervise others in their job (1=yes). The other two are respondents' answers to the questions whether they were allowed to decide how daily work is organized (job control) and influence policy decisions about activities of their organization (policy influence), with 0 representing having no control or influence and 10 representing having complete control and influence.

Respondents also reported their satisfaction with their jobs and work hours, with 0 being extremely dissatisfied and 10 being extremely satisfied; we reversed-coded both items so that higher values indicate greater dissatisfaction with their jobs and work hours. To capture subjective economic stress, respondents rated their dissatisfaction with household income on a 4-point ordinal scale with higher scores indicating greater difficulty living on their current income.

Covariates

In addition to the independent variables described above, we also included education and financial resources, two critical dimensions of socioeconomic status shown to structure health (Cutler, Lleras-Muney, & Vogl, 2008). Education is measured with one dummy variable for completing a university degree or higher. Respondents reported their household's total income from all sources, standardized into decile scores within countries to allow for cross-national comparability. There was a significant portion of people who did not report their income. To avoid further data loss, we created a dummy variable for missing income and regrouped the income variable into four dummies: low income, middle income (the reference group), high income, and missing income.

Finally, we measured age using a series of dummy variables: 25 to 34, 35 to 44 (the reference group), 45 to 54, and 55 to 64. Given the close interaction between physical and mental health, we also included self-reported general health, which was assessed by

responses on a five-point ordinal scale (1=very good to 5=very bad) to the question “How is your health in general?”

Structural Equation Modelling

One key advantage of the SEM technique is its flexibility with dealing with not only a single linear regression but a system of equations (Kline, 2015). This attribute allows us to model the covariance between sleep and emotional wellbeing, the bidirectional relationship of which has been robustly established in the literature (Scott et al., 2017). The exact modelling is presented in Figure 1.

[Figure 1 about here]

To estimate structural equations, the multivariate normal distribution assumption must be met to use the traditional maximum likelihood method (Distefano, 2002). Our models violate this assumption given the number of dummy variables included. For this reason, we adopted the Asymptotically Distribution Free (ADF) method proposed by Browne (1984) to relax the normal distribution assumption which does not allow for the application of weights.²

To explore gender differences, we followed a three-step procedure. We first constrained path coefficients to be the same for the two gender groups, using both measures of fit and modification indices to evaluate the appropriateness of the constrained models.³ If the results violated the assumption of gender similarity, we then freed the parameters to vary by gender and re-checked the fit measures.⁴ At the final step, we further examined gender

² As a robustness check, we applied the traditional method with weights and found substantially similar main results to our analysis.

³ The fit between our data and hypothesized models was assessed through four indicators widely applied in the literature (Kline, 2015), including the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), the comparative fit index (CFI), and the Tucker-Lewis index (TLI). Following the suggestion of Hu & Bentler (1999), we adopted the following cut-off criteria: RMSEA should be smaller than 0.06, SRMR should be smaller than 0.08, and CFI and TLI greater than 0.95.

⁴ One common way to determine whether distinct parameters should be used across groups is to do likelihood-ratio tests comparing the constrained and unconstrained models. However, this was not possible for our models (due to the missing log-likelihood) because we used the ADF method to relax the normal distribution

differences by using Wald tests to identify which parameters allowed to vary across gender groups could be constrained.

RESULTS

Descriptive Statistics

Table 1 summarizes the descriptive statistics of both dependent and independent variables by gender. The right-most columns show the statistical test results for the difference between the men's and women's proportions/means on a given measure (t-tests for continuous variables and Chi-square tests for categorical variables).

[Table 1 about here]

Overall, consistent with the existing literature (Arber et al., 2009), our men respondents reported better emotional wellbeing, and were less likely than women to report restless sleep. There is no significant difference in the presence of young children for women and men. However, women were more likely to have children above two years old. Men tended to work for longer hours, work in occupations of higher socioeconomic status, and were more likely to be self-employed, supervise others, have job autonomy, and influence organizational policies. In contrast, women reported a significantly higher dissatisfaction with work hours and experienced more economic stress.

Determinants of Restless Sleep and Emotional Wellbeing

As explained previously, we first estimated the determinants of restless sleep and emotional wellbeing (Figure 1) with path coefficients constrained to be the same for men and women. The resulting RMSEA, SRMR, CFI and TLI were 0.023, 0.008, 0.944 and 0.898, with CFI and TLI failing to pass the cut-off criteria. The modification indices were

assumption. As a robustness check, we used the traditional maximum likelihood method to re-estimate our models and did the likelihood-ratio tests. The results support unconstrained models.

statistically significant (below the 5% level) for all coefficients, which means that the assumption of gender similarity was violated. We thus allowed the parameters to vary across genders. For the unconstrained model, the RMSEA, SRMR, CFI and TLI were 0.000, 0.000, 1.000 and 1.000, all of which passed the cut-off criteria, suggesting a good model fit with statistical significance. Collectively, these diagnostics indicate that the model with distinct parameters fits better than the model with all the parameters constrained, lending support to our expectation that family and workplace factors have different impacts on sleep and emotional wellbeing for men and women.

Table 2 presents the results for the unconstrained model for the determinants of restless sleep and emotional wellbeing, with the middle columns reporting results for the 35 hours/week group – our focus of discussion here (the two other groups will be discussed in the next section).

[Table 2 about here]

As expected (Scott et al., 2017), for both women and men, restless sleep is significantly and negatively associated with poorer emotional wellbeing, although the association is stronger for women. For women, the presence of young children (\leq two years old) is significantly associated more restless sleep ($b=0.22$, $p<0.01$), but none of the children-related dummies is statistically significant for their emotional wellbeing. By contrast, men report less restless sleep with the presence of children above two years old ($b=-0.05$, $p<0.1$) and the presence of either young or older children improves their emotional wellbeing. Wald tests of gender differences further confirm these differences. Simply, young children erode women's sleep, not men's, and the presence of children is associated with better sleep and emotional wellbeing for men (support for H3).

As for job demands and job resources, those women who work in a higher-status occupation and report more work hour dissatisfaction and economic stress experience more

restless sleep. For emotional wellbeing, the coefficients on job dissatisfaction, work hour dissatisfaction, and financial stress are negative and statistically significant ($p < 0.01$). Overall, the results for men are largely similar to those of women, with a range of job-related characteristics being statistically significant. The most notable gender difference is in the effects of work hour dissatisfaction for restless sleep. Women report significantly more restless sleep due to their struggle with work hours ($b = 0.05$, $p < 0.01$ for women; $b = 0.02$, $p < 0.01$ for men). This gender difference is not evident in direct observations of work hours, probably capturing that the struggle is due to women's disproportionate responsibility for childcare and housework on top of their work hours (Nomaguchi et al., 2005). However, we are unable to further test these differences directly due to the lack of nonwork time measures in the ESS survey.

Different Full-Time Groups

In our main analysis, we use 35 hours/week as the cut-off point for full-time employment. Adopting different cut-off points generates largely similar results, but also with interesting differences (Table 2). For the sleep effects of children, those couples within the longest working hour group tend to experience the strongest gender difference, with women experiencing significantly more restless sleep than men ($b = 0.20$, $p < 0.01$ for women vs. $b = 0.12$, $p < 0.05$ for men in the 30 hours/week group, compared to $b = 0.24$, $p < 0.01$ for women vs. $b = 0.00$, not statistically significant for men in the 40 hours/week group). These gender differences were not significant for those working 30 hours/week, but were for the 40 hours/week group. Consistently across these different groups, men tend to report better emotional wellbeing compared to women, although men with longer working hours tended to benefit more from the presence of a young child while those in shorter working hour groups benefited more from the presence of older children. Combined with the earlier finding that women's sleep in the longest work hour group was the poorest when they had young

children, the results suggest that, with the increase in work hours, women take more caring responsibility for young children, which protects men's sleep and emotional wellbeing. Collectively, these findings lend further support to our gendered family role hypothesis (H3).

As for the workplace demands and resources, most of the results are largely similar across different work hour groups. The most significant gender difference is the association between work hour dissatisfaction and restless sleep, with gender differences the most pronounced between men and women in the longest work hour group.

CONCLUSION

This study applied a gendered role strain approach to understanding how workplace resources, workplace demands and family demands from children structure the sleep and emotional wellbeing of men and women in full-time dual-earner couples. The focus on this particular group allows us to better identify the impact of gender. Since both partners work full time, women and men may be equally vulnerable to workplace and childcare demands. Alternatively, mothers may remain the night-time carers and struggle more with inter-role strain and, consequently, experience more restless sleep and poorer emotional wellbeing.

We find that young children (aged two or under) disrupt full-time working mothers' but not full-time working fathers' sleep, improving emotional wellbeing for fathers but not mothers. This is consistent with previous research suggesting that fathers report greater happiness than childless men or mothers (Keizer, Dykstra, & Poortman, 2010; Nelson-Coffey et al., 2019). Further, as the work hours of both partners increase, the gender gap enlarges, suggesting mothers take up disproportionately more childcare to protect their partners' work, at the cost of mothers' sleep. Again, it is important to underscore that these are couples where both partners are working full-time. Our results indicate that mothers exert a weaker right to restful sleep despite both holding equivalent worktime demands, supporting the gendered

family demands hypothesis (H3). This provides a critical insight for employers and governments committed to retaining mothers following childbirth with supporting sleep hygiene a critical mechanism to post-partum wellbeing.

We also find that job resources and demands structure people's restless sleep and emotional wellbeing. The effects of job characteristics are gender-neutral in some key dimensions. Greater dissatisfaction with job and work hours and more economic stress is associated with poorer emotional wellbeing, for both men and women. In addition, greater work hour dissatisfaction and more economic stress also disrupt both partners' sleep. The most notable gender difference is that, compared to men, women report a significantly larger association between work hour dissatisfaction and restless sleep, probably highlighting the more time strain they experience due to their housework and childcare on top of their full-time work. Again, this gender difference is the most significant among those couples who work for the longest workers. Overall, our results lend more support to the gender-neutral job resources and demands hypothesis (H2) but note the inter-role strain results from both work and family lives – even when work time is similar between couples, women can still experience more inter-role strain due to their disproportionate responsibility for caring.

This paper is not without limitations. Our reliance on cross-sectional data fails to account for the temporal order of these relationships. Applying longitudinal data to understand how peaks and troughs in full-time working couples' work and family lives impact sleep and wellbeing would be enormously valuable. This is especially important for full-time dual-earners because mothers are the most likely to reduce or exit employment when children are young. Mothers who experience the greatest time pressure are more likely to reduce work time (Stone, 2007). In this study, we relied on the respondent's and their partner's work hours to identify full-time earning couples. However, since the original question in ESS was not entirely clear whether respondents should report their current or past

work hours, we are not certain whether we included people on their parental leave. If the respondents reported their work hours *before* parental leave, we would have underestimated the impacts of work hours. If not, countries with long parental leaves or traditional divisions of employment following childbirth would have been under-represented. However, either scenario would not invalidate the findings and our interest in those with equivalent employment demands – full-time dual-earner couples – provides a critical advance in our understanding of mothers’ experiences post-partum.

Our study also points to a future research direction to understand the distinct experiences of dual-earner families across welfare state regimes. This could include in-depth qualitative analysis following couples over intense periods to illuminate how they manage two full-time careers, children, sleep, and emotional health. The ways these couples negotiate whose demands are met at which periods of time help theorize gendered role strain and power within a partnership. Existing studies suggest that mothers spend more time overall and engage in more solo parenting (Craig, 2006; Raley et al., 2012), which may explain why the presence of young children particularly deteriorates mothers’ sleep. We were unable to test this directly due to the lack of relevant time measures in ESS. However, the dataset is one of the few large-scale data collections internationally that include sleep measures in conjunction with measures of work and family demands. Our results are promising and point to a direction for future inquiry.

Ultimately, our results provide good evidence that childcare and workplace demands have gendered consequences for full-time dual-earning couples’ restless sleep and emotional wellbeing. The gender difference is most notable with the presence of young children for full-time working mothers, which is intensified with the increase in work hours. We know that young children are particularly detrimental to mothers’ careers. By spotlighting sleep as a key mechanism linking mothers’ role strain to poor emotional wellbeing, we can help mitigate

some of this damage to their mental health. We speculate that this will improve workplace productivity and reduce the attrition of mothers from employment at this critical juncture. Policymakers should place greater focus on sleep as an essential health priority for healthy populations.

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TABLES

Table 1. Descriptive data of individual-level variables (both working ≥ 35 hours/weeks; n=7,735)

	Min	Max	Proportion/ mean for women	Proportion/ mean for men	Data types	t-values	Chi-square values
Emotional wellbeing	1	4	3.21	3.30	continuous	8.09***	--
Restless sleep	1	4	1.70	1.59	categorical	--	40.70***
Children: No children (reference)	0	1	0.51	0.54	categorical	--	6.63**
Children: Present, youngest child aged ≤ 2	0	1	0.07	0.06	categorical	--	0.43
Children: Present, youngest child aged > 2	0	1	0.43	0.40	categorical	--	5.22**
Job demands and resources							
Total hours worked in the past week	35	80	42.80	45.94	continuous	17.20***	--
Occupation (ISEI index)	10	89	45.95	46.85	continuous	2.37**	--
Being self-employed	0	1	0.09	0.16	categorical	--	83.20***
Supervising others	0	1	0.30	0.41	categorical	--	99.10***
Job control	0	10	6.84	7.06	categorical	--	21.25**
Policy influence	0	10	4.78	5.23	categorical	--	59.64***
Job dissatisfaction	0	10	2.49	2.44	categorical	--	13.84
Work hour dissatisfaction	0	10	3.43	3.30	categorical	--	23.08**
Economic stress	1	4	1.91	1.86	categorical	--	13.16***
Covariates							
College or above	0	1	0.40	0.30	categorical	--	81.10***
Income: Missing income	0	1	0.14	0.13	categorical	--	2.03
Income: Low income	0	1	0.18	0.16	categorical	--	5.12**
Income: Middle income (reference)	0	1	0.39	0.38	categorical	--	0.04
Income: High income	0	1	0.29	0.32	categorical	--	10.58***
Age: Between 25 and 34	0	1	0.23	0.18	categorical	--	30.36***
Age: Between 35 and 44 (reference)	0	1	0.33	0.32	categorical	--	1.35
Age: Between 45 and 54	0	1	0.31	0.31	categorical	--	0.16
Age: Between 55 and 64	0	1	0.13	0.19	categorical	--	49.02***
Poor physical health	1	5	1.97	1.95	categorical	--	9.70**

Note: *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 2. Full SEM analysis results

	≥30 hours/week			≥35 hours/week			≥40 hours/week		
	Women (n=4,477)	Men (n=4,382)	Sig. gender diff.	Women (n=3,954)	Men (n=3,781)	Sig. gender diff.	Women (n=2,793)	Men (n=2,644)	Sig. gender diff.
<i>Restless sleep as dependent variable</i>									
Children: No children (reference)									
Children: Present, youngest child aged ≤2	0.20***	0.12**		0.22***	0.07	**	0.24***	0.00	***
Children: Present, youngest child aged >2	-0.02	-0.05*		-0.02	-0.05*		-0.04	-0.07**	
Job demands and resources									
Total hours worked in the past week	0.00	0.00		0.00	0.003*		0.00	0.003*	
Occupation (ISEI index)	0.00	0.00		0.002*	0.00		0.002*	0.00	
Being self-employed	-0.09**	-0.04		-0.06	-0.06*		-0.06	-0.05	
Supervising others	0.01	0.03		0.02	0.03		0.02	0.04	
Job control	0.01	0.00		0.01	0.00		0.00	0.00	
Policy influence	0.00	0.00		0.00	0.00		0.00	0.00	
Job dissatisfaction	0.00	0.02**		0.00	0.02***		0.00	0.02**	*
Work hour dissatisfaction	0.05***	0.02***	**	0.05***	0.02***	***	0.05***	0.02**	***
Economic stress	0.04**	0.05***		0.05**	0.06***		0.05**	0.06***	
Covariates									
College or above	-0.08***	-0.03		-0.06**	-0.05*		-0.05	-0.06	
Income: Missing income	-0.11***	-0.04		-0.12***	-0.04		-0.08*	-0.03	
Income: Low income	-0.02	0.01		-0.03	-0.01		-0.02	-0.02	
Income: Middle income (reference)									
Income: High income	-0.05*	0.02	*	-0.04	0.00		-0.04	0.03	
Age: Between 25 and 34	0.04	-0.03		0.02	-0.03		-0.04	-0.03	
Age: Between 35 and 44 (reference)									
Age: Between 45 and 54	0.06**	0.02		0.05	0.01		0.02	0.03	
Age: Between 55 and 64	0.12***	0.02	*	0.12***	0.05		0.07	0.06	
Poor physical health	0.19***	0.15***		0.19***	0.15***		0.18***	0.13***	*
Intercept	1.05***	0.99***		0.97***	0.94***		0.99***	0.98***	
<i>Emotional wellbeing as dependent variable</i>									
Children: No children (reference)									
Children: Present, youngest child aged ≤2	0.04	0.07**		0.01	0.08***	*	0.00	0.11***	**
Children: Present, youngest child aged >2	-0.02	0.04***	***	-0.02	0.04**	**	0.00	0.04**	

Job demands and resources									
Total hours worked in the past week	0.00	0.00		0.00	0.00		0.00	0.00	
Occupation (ISEI index)	0.00	0.00		0.00	0.00		0.00	0.00	
Being self-employed	-0.01	-0.04**		-0.01	-0.04*		-0.02	-0.04*	
Supervising others	0.01	0.00		0.01	0.00		0.01	0.00	
Job control	0.00	0.01***	*	0.00	0.01***	*	0.00	0.01***	*
Policy influence	0.00	0.00		0.00	0.00		0.00	0.00	
Job dissatisfaction	-0.03***	-0.04***		-0.03***	-0.04***		-0.03***	-0.04***	
Work hour dissatisfaction	-0.03***	-0.02***	*	-0.03***	-0.02***		-0.03***	-0.02***	
Economic stress	-0.10***	-0.10***		-0.10***	-0.10***		-0.10***	-0.09***	
Covariates									
College or above	0.00	-0.04**		0.00	-0.04**		0.01	-0.04*	
Income: Missing income	0.05**	0.00	*	0.05**	0.00	*	0.05**	0.00	
Income: Low income	0.00	0.00		0.00	-0.01		0.01	0.00	
Income: Middle income (reference)									
Income: High income	0.03	-0.03**	**	0.02	-0.02	*	0.00	-0.02	
Age: Between 25 and 34	-0.02	0.05**	**	-0.02	0.04*	*	-0.02	0.04*	*
Age: Between 35 and 44 (reference)									
Age: Between 45 and 54	-0.02	0.04**	**	-0.02	0.03*	*	-0.02	0.04**	*
Age: Between 55 and 64	-0.02	0.03	*	-0.03	0.02		-0.04	0.02	
Poor physical health	-0.15***	-0.14***		-0.15***	-0.14***		-0.15***	-0.15***	
Intercept	3.95***	3.91***		3.98***	3.92***		3.95***	3.92***	
Cov (emotional wellbeing, restless sleep)	-0.12***	-0.09***	***	-0.12***	-0.10***	**	-0.12***	-0.11***	*

Note: *** p < .01, ** p < .05, * p < .1.

FIGURE

Figure 1. Conceptual framework

