OR-04 Work design and female physiology

Introduction to the Physiological, Behavioural, and Cultural Intersection

The architecture of the modern workplace represents an inherited legacy of industrial and post-industrial design, historically optimized for a workforce characterized by a non-cyclical, diurnal physiology. This "default" worker model operates on a circadian rhythm largely unaffected by the complex, monthly neuroendocrine fluctuations that characterize female biology. As female participation in the formal labour force has achieved parity globally, the friction between rigid organizational architectures and cyclical female physiology has become a subject of intense scientific and sociological scrutiny. This report provides a rigorous, exhaustive analysis of how work design accommodates or ignores female physiology, spanning menstruation, gestation, lactation, the menopausal transition, and the circadian disruptions induced by shift work.

To navigate the profound complexities of this topic and avoid reductive biological determinism, this analysis structurally separates the phenomenon into three distinct layers. First, the physiological layer encompasses the objective, measurable biological realities of the female body, including the hormonal fluctuations of the menstrual cycle, the metabolic demands of gestation, and the endocrine shifts of menopause. Second, the behavioural layer examines how these physiological realities manifest in statistical workplace outcomes, such as absenteeism, presenteeism, attrition, and task performance. Within this layer, it is paramount to distinguish what is known about statistical averages from what can be inferred about individuals; behavioural data features highly overlapping distributions between populations. Finally, the cultural layer consists of the variable institutional norms, legal frameworks, and social stigmas that mediate the relationship between biology and professional output. The cultural layer dictates whether a physiological event is managed as a private taboo, a medical liability, or a standard biological variance requiring structural accommodation.

Work Design and Menstruation: Productivity and Presenteeism

The Physiological and Behavioural Reality of Dysmenorrhoea

The physiological layer of menstruation involves a complex cascade of endocrine signalling, wherein the withdrawal of progesterone triggers the release of prostaglandins, causing the uterus to contract and shed its lining. For a substantial subset of the female population, this process is accompanied by dysmenorrhoea—severe pelvic pain—alongside secondary pathologies such as endometriosis, adenomyosis, and polycystic ovary syndrome (PCOS)[1].

The behavioural layer translates these physiological events into workplace metrics. In a landmark, highly cited cross-sectional study published in the *BMJ Open* in 2019, Schoep et al.

quantified the productivity loss associated with menstruation in a massive sample of 32,748 Dutch women. The study found that 13.8% (n=4,514) of women reported absenteeism during their menstrual periods, with 3.4% reporting absenteeism every or almost every cycle[2]. The mean absenteeism related strictly to menstruation was 1.3 days per year[2]. However, the behavioural burden was overwhelmingly characterized by presenteeism—attending work while ill or in severe pain. A total of 80.7% (n=26,438) of respondents reported presenteeism, yielding a self-reported average productivity loss of 33% on those days[2]. When amassed, Schoep et al. calculated a mean of 8.9 days of total lost productivity per year due to menstruation-related presenteeism[2]. Women under 21 years of age were significantly more likely to report absenteeism (Odds Ratio [OR] 3.3, 95% Confidence Interval [CI] 3.1 to 3.6), indicating that age and cycle maturation are vital covariates[2].

Regarding replication, the high prevalence of dysmenorrhoea and its correlation with self-reported workplace friction has replicated robustly across cross-national samples. A systematic review assessing global prevalence noted dysmenorrhoea rates exceeding 70% in younger cohorts[4]. However, the specific metric of a "33% productivity loss" relies entirely on subjective self-reporting. Objective, employer-side output metrics validating this exact degree of presenteeism-induced productivity decline remain sparsely documented, underscoring the distinction between felt individual experience and measurable corporate output. Furthermore, overlapping distributions dictate that while the average female cohort reports elevated friction, millions of individual women navigate their cycles with zero measurable impact on their professional capabilities.

Global Menstrual Leave Policies: Cross-National Comparison

At the cultural layer, several nations have implemented legal frameworks attempting to bridge the gap between female physiology and rigid work structures. These policies vary wildly in their design, funding mechanisms, and cultural uptake.

Country	Year of Implementation	Key Legal Provisions and Mechanisms of Menstrual Leave Policy	Cultural Uptake, Stigma, and Behavioural Outcomes
Japan	1947	Article 68 of the Labour Standards Act grants "seirikyuuka" (physiological leave). Originating from 1920s grassroots activism by female transit	Uptake is exceptionally low due to intense cultural stigma. A 2020 Japanese Ministry of Labour survey showed only 0.9% of eligible women utilized the

		workers denied toilet access. Pay and duration are at the employer's discretion[5].	leave, citing fears of harassment, professional penalty, and hostile work environments[4].
Indonesia	1948 (Renewed 2003)	Law No. 13 of 2003, Article 81, grants two paid days off per month for menstruating women. Employers failing to pay face criminal penalties[7].	Plagued by poor enforcement and widespread corporate non-compliance. Many female workers remain unaware of the right, and those aware hesitate due to deep-seated stigma and the fear of being perceived as weak[7].
Spain	2023	Ley Orgánica 1/2023 established Europe's first secondary incapacitating menstruation leave. Requires a formal medical diagnosis (e.g., endometriosis)[9].	Designed to prevent employer bias by socializing the cost. The state Social Security system pays 60% of the base rate from days 1-20, and 75% thereafter, with no minimum contribution period required[9]. Empirical uptake data remains emergent.
Zambia	2015	Grants one day of paid menstrual leave per month to public sector employees,	Highly popular among the workforce, though empirical data on productivity

		colloquially embedded in culture as "Mother's Day"[7].	outcomes and private-sector adoption remains limited[7].
South Korea	2001	Mandates one day of paid leave per month. Uniquely, if the worker chooses not to take the leave, the employer must provide a two-day extra salary equivalent[7].	Low uptake (approximately 19% in a 2018 poll). Women report avoiding it due to harsh, traditional work settings and the financial incentive to simply work through the pain[7].
Taiwan	2002	The Gender Equality in Employment Law provides three days of leave per year at half-pay, categorized separately from standard sick leave[7].	Moderate utilization. The half-pay structure acts as a financial friction mechanism, discouraging casual use while providing a safety net for severe physiological distress[7].

Unintended Consequences: Stigma, Benevolent Sexism, and Hiring Discrimination

The provision of menstrual leave constitutes one of the most heavily debated controversies in modern work design. Proponents argue that statutory leave de-stigmatizes a biological reality, aligns workplace demands with human rights, and creates an equitable playing field for individuals suffering from severe dysmenorrhoea[14]. Empirical studies on employee preference indicate strong support; for instance, a study of 955 young women (mean age 19.56) revealed that 54.6% preferred explicit menstrual leave policies over generalized well-being rooms[4]. However, the strongest empirical counter-arguments focus on the unintended consequences of demographic-specific mandates, drawing heavily from labour economics and organizational psychology. In the field of economics, the foundational logic was established by Gruber (1994) in the *American Economic Review*, which analysed the incidence of mandated maternity benefits. Gruber demonstrated that when a state imposes a gender-specific, employer-borne

cost, profit-maximizing employers simply price this expected friction into their hiring behaviour, passing the cost back to the targeted demographic via lower wages or suppressed hiring rates[17]. Building on this, Buriakova, Fitzpatrick, and Machin (2022) utilized econometric analysis across OECD countries to demonstrate that gender-specific leave entitlements result in a statistically significant reduction in the probability of women being hired for permanent or high-paying roles[17]. Leading critics argue that a recurring monthly menstrual leave increases the expected employment cost of menstruating workers relative to non-menstruating workers[17]. Even in models like Spain's—where the state pays the worker's salary during the leave—the employer still suffers the organizational friction of a sudden, unpredictable absence. Consequently, this discrimination risk falls most heavily on women in precarious employment, small-to-medium enterprises, and male-dominated sectors where employer cost-sensitivity is acute[17].

From an organizational psychology perspective, qualitative studies by researchers such as Hennegan et al. (2021) highlight how "ideal worker norms" clash violently with menstrual accommodations. The modern workplace implicitly demands uninterrupted, diurnal availability[19]. When women utilize menstrual leave, they frequently encounter benevolent sexism—a phenomenon where colleagues and managers begin to view them as physically frail, emotionally unstable, or requiring paternalistic protection, which subtly undermines their authority and promotability[15]. This aligns with what Williams, Blair-Loy, and Berdahl (2013) termed "flexibility stigma," which penalizes workers who deviate from the standard rigid work model[17]. To circumvent these unintended cultural and economic penalties, many organizational sociologists advocate for universal, gender-neutral flexible working arrangements and generalized wellness days. This allows women to manage their physiology in private without triggering the structural biases inherent in explicitly labelled "menstrual leave"[14].

Gestation, Lactation, and Workplace Architecture

The Physiology of Pregnancy and Breastfeeding

The physiological layer of gestation and postpartum recovery is highly resource-intensive. During pregnancy, the female body undergoes massive cardiovascular, metabolic, and musculoskeletal adaptations. Following parturition, lactation requires the continuous, frequent expression of milk stimulated by prolactin and oxytocin. If a lactating mother is unable to express milk at regular intervals, she faces severe physiological consequences, including engorgement, reduced milk supply, and clinical mastitis[22].

Behavioural Impacts of Workplace Interventions

When the cultural layer of the workplace fails to accommodate this physiology—by denying clean, private lactation spaces or penalizing pumping breaks—the statistical outcome is a precipitous drop in breastfeeding duration and exclusivity. Conversely, well-designed employer interventions yield massive behavioural shifts.

The most rigorous synthesis of this phenomenon is a systematic review by Dinour and Szaro (2017) published in *Breastfeeding Medicine*, which aggregated the impact of employer-based lactation programs globally[23]. The meta-analysis revealed that mothers operating in workplaces

with high levels of breastfeeding support were vastly more likely to meet the World Health Organization's recommendation of exclusive breastfeeding (EBF) to six months (adjusted Odds Ratio [aOR] 7.3, 95% CI 1.8 to 29.1)[23]. Furthermore, staff who could interact with their infants during the workday or who were supported in setting personal breastfeeding goals demonstrated significant increases in overall breastfeeding duration (aOR 4.4, 95% CI 1.7 to 11.5)[23]. These findings possess an exceptionally high degree of replication; across multiple global cohorts, the availability of dedicated lactation spaces consistently prevents the premature introduction of infant formula and reduces maternal absenteeism[22].

The physical quality of the accommodation is directly correlated with behavioural success. A 2021 cross-sectional study in the Netherlands utilized a newly developed Lactation Room Quality Checklist (LRQC) to assess 511 lactating mothers working across various organizations. The researchers demonstrated that objectively higher-quality lactation rooms correlated significantly with increased maternal satisfaction, perceived ease of milk expression, and a heightened perception of support from supervisors and co-workers[22].

Technological and mHealth interventions are also proving to be effective cultural tools. In a 2025 randomized controlled trial by Dinour et al., published in the *Journal of Medical Internet Research*, researchers evaluated an interactive Breastfeeding Aiding Tool among 109 mother-infant dyads. In the per-protocol analysis, the rate of full breastfeeding (comprising predominant and exclusive breastfeeding) was significantly higher in mothers using the intervention application (93%) compared to the control group (73%) (OR 4.85, 95% CI 1.06 to 22.15)[26]. Moreover, maternal depression scores in the intervention group decreased significantly, while they slightly increased in the control group, illustrating the profound link between physiological support and psychological well-being[26].

Shift Work, Circadian Disruption, and Reproductive Strain

Physiological Impacts of Atypical Working Hours

Perhaps the most biologically disruptive feature of modern work design is shift work, encompassing rotating shifts, night shifts, and irregular hours. Female circadian physiology governs the precise, pulsatile release of luteinizing hormone, follicle-stimulating hormone, and melatonin. This highly calibrated neuroendocrine axis is uniquely vulnerable to the circadian disruption caused by artificial light exposure at night and inverted sleep-wake cycles[27].

The behavioural layer demonstrates the severe consequences of this disruption. A comprehensive 2019 meta-analysis by Wang et al. (encompassing 21 primary studies and 195,538 female participants) demonstrated that shift workers face significantly higher odds of menstrual dysfunction. The overall pooled odds ratios for shift work leading to irregular menstruation was 1.30 (95% CI, 1.23 to 1.36) and for dysmenorrhoea was 1.35 (95% CI, 1.04 to 1.75)[29]. The meta-analysis also identified a statistically significant, albeit small, positive association between shift work and the risk of early menopause (Hazard Ratio = 1.09, 95% CI, 1.04 to 1.14)[29]. These findings have replicated consistently across both cross-sectional and cohort study designs, indicating a robust biological mechanism linking nocturnal labour to

reproductive degradation.

Gestational Outcomes and Occupational Risk

During pregnancy, the physiological demands of gestation combined with the physical and circadian strain of the workplace can elevate the risk of catastrophic physiological failure, specifically miscarriage and preterm birth.

A foundational 2013 systematic review and meta-analysis by Bonde et al., published in the *Scandinavian Journal of Work, Environment & Health*, reviewed 30 primary epidemiological papers to assess occupational activity. The analysis found that working fixed night shifts was associated with a moderately increased risk of miscarriage (pooled RR 1.51, 95% CI 1.27 to 1.78, across 5 rigorous studies)[30]. Subsequent literature has strongly replicated these warnings. A 2019 systematic review encompassing multiple databases confirmed that working rotating shifts elevates the odds of preterm delivery (OR 1.13, 95% CI 1.00 to 1.28), while fixed night shifts yield elevated risks for both preterm delivery (OR 1.21, 95% CI 1.03 to 1.42) and miscarriage (OR 1.23, 95% CI 1.03 to 1.47)[32]. Furthermore, an alarming dose-response relationship exists with total working hours: women working more than 55.5 hours per week exhibit a 10% increase in the odds of preterm delivery compared to standard 40-hour workers (OR 1.21, 95% CI 1.11 to 1.33)[32].

Regarding maternal metabolic complications, circadian disruption severely impairs glucose tolerance. Wallace et al. (2023) analyzed the nuMoM2b prospective cohort (n=5,191) to investigate shift work and Gestational Diabetes Mellitus (GDM). The study found an approximately 75% increased odds of developing GDM among afternoon and night shift workers compared to day workers, after adjusting for confounders[27]. The mechanism is driven by sleep timing variability; actigraphy data demonstrated that night workers had vastly greater volatility in their sleep-wake cycles, disrupting metabolic homeostasis[27]. Large-scale Japanese cohorts (Suzumori et al., 2020, n=104,102) similarly replicate these findings, showing that standard day-shift workers have significantly lower risks for GDM than non-standard workers[27].

Despite these stark averages, the distinction between statistical risk and individual outcome remains crucial. While the cohort averages prove that shift work actively degrades reproductive safety, millions of individual women engage in nocturnal labour and carry pregnancies to term without complication. However, the data overwhelmingly supports the necessity for tailored individual counselling and optional role reassignment for pregnant shift workers.

The Menopausal Transition: Gendered Ageism and Organizational Policy

The Physiological and Behavioural Burden

The menopausal transition marks the natural cessation of female reproductive physiology. In high-income nations such as the United Kingdom, the average age of natural menopause onset is 51[33]. Due to increased life expectancy and delayed retirement ages, women aged 50 to 64 now represent the fastest-growing demographic in many Western workforces[34]. The physiological reality of menopause involves fluctuating and ultimately declining levels of

estrogen and progesterone. This results in vasomotor symptoms (such as hot flushes and night sweats), musculoskeletal stiffness, and a host of psychological symptoms including insomnia, fatigue, heightened distress, and reduced concentration, affecting approximately 90% of women to varying degrees[33].

The behavioural impact of unaccommodated menopause on career trajectories is staggering. A 2022 landmark survey by the Fawcett Society ("Menopause and the Workplace"), encompassing 4,014 UK women, revealed massive statistical consequences. Approximately 10% of women reported leaving their jobs entirely due to menopausal symptoms, 14% had reduced their working hours, and 8% turned down promotions[35]. Furthermore, 44% of respondents stated that their ability to perform their job had been actively compromised by their symptoms[35]. Crucially, the cultural environment exacerbated the physiological distress: 41% of women reported that their colleagues treated menopause or menopausal symptoms as a workplace joke, driving a catastrophic loss of confidence[35]. The economic impact is equally severe; the UK Women and Equalities Committee noted estimates that menopause costs the UK economy up to 14 million working days per year[37]. Again, individual variance is highly relevant: while 10% of the cohort abandons the workforce, a significant percentage of women navigate the transition with minimal to no professional disruption, highlighting the overlapping distributions of symptom severity.

Policy Frameworks and Critical Perspectives

At the cultural layer, the United Kingdom has pioneered formal frameworks to accommodate menopausal workers. In May 2023, the British Standards Institution (BSI) released BS 30416, a landmark standard providing practical, peer-reviewed guidance on menstrual health and menopause in the workplace[40]. The standard focuses on tangible, role-specific reasonable adjustments designed to mitigate physiological discomfort without altering the core utility of the worker:

- **Mobile and Physical roles:** Recommendations include limiting time spent wearing heavy or restrictive Personal Protective Equipment (PPE), altering daily schedules to avoid peak heat, ensuring access to private facilities, and reviewing overarching risk assessments[40].
- **Static and Office roles:** Adjustments involve transitioning to breathable uniform fabrics, offering temporary shift changes, allowing flexibility in break timings, and providing individual control over the ambient environment, such as desk fans or adjustable lighting[40].
- **Public-facing roles:** Exploring options for job sharing, part-time working, and reviewing scheduling considerations to allow workers to step away if suffering a severe vasomotor episode[40].

Despite the obvious utility of environmental accommodations, a fierce academic controversy exists surrounding how menopause is framed within corporate policy. Leading organizational scholars—including Grandey, Jack, and Brewis, publishing in journals such as *Gender, Work & Organization*—strongly caution against the "medicalization" of menopause[42]. These critics argue that emphasizing menopause as a physiological deficit or a corporate liability risks activating a profound "gendered ageism"[43]. Gendered ageism is an intersectional prejudice

where older women in the workplace are uniquely stereotyped as emotionally unstable, cognitively declining, or past their professional utility, whereas older men are often stereotyped as wise or experienced[43].

These critics assert that neoliberal workplace structures frequently seek to "solve" menopause by urging women to manage their symptoms via individual medical interventions (such as Hormone Replacement Therapy) or psychological resilience training, placing the burden of adaptation entirely on the female worker rather than structurally altering the work environment[33]. The strongest evidence on both sides of this controversy suggests a delicate balance: while physical accommodations (ventilation, flexible hours, uniform adaptations) are empirically necessary to prevent talent attrition, explicitly flagging women as "menopausal" via rigid, hyper-medicalized human resource policies can expose them to stigma and structural disempowerment[34]. The consensus leans toward creating universally flexible working conditions that menopausal women can utilize discreetly, thereby gaining the physiological support they need without suffering the cultural penalty of gendered ageism.

10-Line Summary of Robust Findings

1. Dysmenorrhoea induces a highly prevalent, measurable drop in productivity, dominated by presenteeism (attending work in pain) rather than absolute absenteeism.
2. National menstrual leave policies (e.g., Japan, South Korea, Indonesia) routinely suffer from utilization rates below 20% due to immense cultural stigma and the fear of professional penalty.
3. Gender-specific leave policies carry a robustly documented risk of unintended hiring discrimination, as employers intuitively price the expected absence of female workers into recruitment behaviour.
4. Employer-provided lactation spaces and pumping breaks produce massive, statistically significant increases in the duration and exclusivity of breastfeeding.
5. Shift work, especially fixed night shifts, severely disrupts the female circadian rhythm, significantly increasing the odds of irregular menstruation and dysmenorrhoea.
6. Fixed night shifts and long working hours (>55 hours weekly) are robustly associated with increased risks of miscarriage and preterm delivery.
7. The risk of Gestational Diabetes (GDM) is heavily elevated (up to ~75%) for pregnant women subjected to afternoon or night shifts, mediated by sleep-timing volatility.
8. Approximately 10% of perimenopausal and menopausal women in the UK leave the workforce entirely due to the severity of unmanaged symptoms and hostile work environments.
9. Menopause is a primary vector for gendered ageism in the workplace, with over 40% of surveyed women experiencing their symptoms being treated as a joke by colleagues.
10. Practical, role-specific adjustments (e.g., breathable uniforms, temperature control, task flexibility) demonstrably retain menopausal talent and reduce systemic absenteeism.

Contested or Open Questions

- **The Optimal Menstrual Accommodation:** Can generalized, gender-neutral "wellness leave" or aggressive "flexible working" models achieve the biological protections of

statutory menstrual leave without triggering hiring discrimination or benevolent sexism?

- **Objective Productivity Measurement:** To what extent does subjective, self-reported productivity loss due to dysmenorrhoea (estimated at 33%) map onto objective, employer-side output metrics?
- **The Medicalization of Menopause:** Does formally diagnosing and accommodating menopause in corporate policy protect older women from attrition, or does it permanently taint them with the stigma of cognitive decline (gendered ageism)?
- **Economic Efficacy of State-Funded Leave:** Spain's 2023 law shifts the financial burden of menstrual leave entirely to the state (Social Security) to prevent employer bias. Will longitudinal econometric data show this successfully eliminates the hiring penalty, or will the friction cost of the physical absence still suppress female wages?
- **Circadian Adaptation:** Can precise chronobiological interventions (e.g., targeted light therapy, strategic melatonin dosing) safely mitigate the reproductive and gestational harms of shift work for female workers, or is diurnal work an absolute biological necessity for optimal female reproductive safety?

5 to 10 Most Important Sources to Read in Full

1. **Schoep, M. E., et al. (2019).** *Productivity loss due to menstruation-related symptoms: a nationwide cross-sectional survey among 32,748 women.* BMJ Open. (A foundational quantification of absenteeism versus presenteeism regarding the menstrual cycle).
2. **Dinour, L. M., & Szaro, J. M. (2017).** *Employer-Based Programs to Support Breastfeeding Among Working Mothers: A Systematic Review.* Breastfeeding Medicine. (A crucial meta-analysis demonstrating how workplace architecture dictates infant nutrition outcomes).
3. **Bonde, J. P. E., et al. (2013).** *Miscarriage and occupational activity: a systematic review and meta-analysis regarding shift work, working hours, lifting, standing, and physical workload.* Scandinavian Journal of Work, Environment & Health. (The definitive epidemiological baseline for understanding occupational strain on gestation).
4. **Buriakova, T., Fitzpatrick, A., & Machin, S. (2022).** *The employment effects of maternity leave entitlements.* (An essential econometric analysis demonstrating the hiring penalties associated with gender-specific workplace benefits, building on Gruber's foundational 1994 work).
5. **Wallace, E. R., et al. (2023).** *Shift work and gestational diabetes mellitus in the nuMoM2b cohort.* American Journal of Obstetrics and Gynecology. (Elucidates the circadian mechanisms linking atypical work hours to maternal metabolic failure).
6. **Fawcett Society. (2022).** *Menopause and the Workplace.* (The largest UK empirical survey mapping the career attrition and gendered ageism caused by unaccommodated menopausal transitions).
7. **Hennegan, J., et al. (2021).** *Women's and girls' experiences of menstruation in low- and middle-income countries: A systematic review and qualitative metasynthesis.* (Essential for understanding the global stigma and "ideal worker" norms surrounding menstruation).
8. **British Standards Institution (BSI). (2023).** *BS 30416: Menstruation, Menstrual Health*

and Menopause in the Workplace. (The first comprehensive, peer-reviewed policy guidance for operationalizing physiological accommodations in real-world corporate environments).
9. **Grandey, A. A., et al. (2020).** *Menopause and the Workplace: A review and framework*. (A critical examination of the neoliberal medicalization of menopause and the hazards of gendered ageism).

Implications for Living Together

Avoiding the naturalistic fallacy requires recognizing that just because female physiology demands unique biological processes (menstruation, gestation, lactation, menopause) does not mean it is "good," "just," or "inevitable" for women to bear a professional or economic penalty for them. Society must bridge the gap between human biology and human enterprise without reducing women to their physiological functions.

For couples and families, understanding the severe circadian and physiological toll of non-diurnal work is vital. Shift work is not merely a scheduling inconvenience; it is a profound biological stressor that statistically heightens the risk of miscarriage, preterm birth, and gestational diabetes. Couples navigating family planning must factor occupational design into their health risk assessments, recognizing that the biological cost of certain employment structures is borne disproportionately, and sometimes dangerously, by the female body. Furthermore, the reality of dysmenorrhoea and menopause requires families to abandon the expectation of constant, linear female energy, replacing it with an understanding of cyclical baseline shifts.

For organizations, the illusion of the "neutral" worker must be abandoned. The modern workday was engineered for a non-cyclical physiology, and attempting to force female biology into this paradigm results in massive productivity losses through presenteeism and the attrition of senior menopausal talent. However, directly labeling and legislating around female biology—such as explicit "menstrual leave"—frequently backfires, triggering hiring discrimination, benevolent sexism, and the stigmatization of women as physically unreliable. Therefore, organizations should pursue "universal design" strategies. By implementing aggressive, gender-neutral flexible working conditions, remote options, high-quality private rest/lactation infrastructure, and individualized control over the physical environment, organizations can fully accommodate female physiology without forcing women to disclose private medical statuses or suffer flexibility stigmas.

For societies, bridging this gap is a macroeconomic imperative. The attrition of 10% of menopausal women from the workforce represents a catastrophic loss of institutional memory and senior leadership capability. Societies thrive best when they structurally absorb the realities of human biology. Shifting the financial costs of physiological leave to the state rather than the individual employer—as attempted by Spain's 2023 legislation—is a crucial experiment in preventing the free market from penalizing women for the biological mechanisms that sustain the human species. Ultimately, a society that designs its work around the reality of female physiology builds a more resilient, sustainable, and humane infrastructure for all workers.

Works cited

1. TRES Nuevas Bajas por Incapacidad para las Mujeres - FETAP CGT, https://fetap-cgt.org/2023/06/14/tres-nuevas-bajas-por-incapacidad-para-las-mujeres/
2. Productivity loss due to menstruation-related symptoms - PubMed, https://pubmed.ncbi.nlm.nih.gov/31248919/
3. Productivity loss due to menstruation-related symptoms - BMJ Open, https://bmjopen.bmj.com/content/9/6/e026186
4. Mindsets and menses: decoding young women's attitudes towards, https://bmjopen.bmj.com/content/15/9/e096425
5. A Global Analysis of Menstruation-Friendly Working Practices, https://bibliotekanauki.pl/articles/64159001.pdf
6. (PDF) A Global Analysis of Menstruation-Friendly Working Practices, https://www.researchgate.net/publication/390328198_A_Global_Analysis_of_Menstruation-Friendly_Working_Practices_Through_an_Evaluation_of_International_Examples
7. Menstrual Leave Policies from 7 Countries across the Globe, https://www.globalwomanleader.com/viewpoint/experts-column/menstrual-leave-policies-from-7-countries-across-the-globe-nwid-219.html
8. (PDF) The Implementation of Menstrual Leave for Female Workers, https://www.researchgate.net/publication/406868924_The_Implementation_of_Menstrual_Leave_for_Female_Workers_in_Indonesia_through_The_Perspective_of_Sustainable_Development_Goals_SDGs_3_SDGs_5_SDGs_8
9. Baja por menstruación incapacitante: requisitos, duración y cuantía, https://www.campmanyabogados.com/blog/baja-por-menstruaci%C3%B3n-incapacitante
10. Todo sobre la menstruación incapacitante secundaria - Ineaf, https://www.ineaf.es/tribuna/menstruacion-incapacitante-secundaria/
11. Bajas por Incapacidad Temporal que entran en vigor el 1 de junio, https://ugt-sp.es/bajas-por-incapacidad-temporal-que-entran-en-vigor-el-1-de-junio/
12. Qué es la baja laboral por menstruación y sus principales claves, https://factorial.es/blog/baja-por-menstruacion/
13. a comparitive analysis of menstrual leave policies in india and japan, https://rjpn.org/ijnti/papers/IJNTI2403002.pdf
14. The impact of menstrual leave on women's employment opportunities, https://www.researchgate.net/publication/376073557_THE_IMPACT_OF_MENSTRUAL_LEAVE_ON_WOMEN'S_EMPLOYMENT_OPPORTUNITIES_A_COMPREHENSIVE_ANALYSIS
15. Addressing Menstruation in the Workplace: The Menstrual Leave, https://www.ncbi.nlm.nih.gov/books/NBK565643/
16. Menstrual Leave, Policy Gaps, Stigma, Labour Rights, Equality, https://ijhrlr.in/wp-content/uploads/2026/02/Beyond-Hygiene-Menstrual-Leave-Policy-Gaps-Stigma-Labour-Rights-Equality.pdf

17. Full article: Do we Really Need a Menstruation Leave?, https://www.tandfonline.com/doi/full/10.1080/08164649.2026.2719996
18. Firm and Worker Responses to Extensions in Paid Maternity Leave, https://www.ifo.de/DocDL/cesifo1_wp10736.pdf
19. From Stigma to Support: Exploring Perceptions of Menstrual Leave, https://osf.io/preprints/psyarxiv/6xd3g_v2
20. Menstrual discrimination: period pain, productivity and performativity, https://www.emerald.com/edi/article/doi/10.1108/EDI-12-2024-0591/1311792/Menstrual-discrimination-period-pain-productivity
21. From Stigma to Support: Exploring Perceptions of Menstrual Leave, https://www.researchgate.net/publication/414157997_From_Stigma_to_Support_Exploring_Perceptions_of_Menstrual_Leave_Policies_in_European_Workplaces
22. A cross-sectional study of lactation room quality and Dutch working, https://www.springermedizin.de/a-cross-sectional-study-of-lactation-room-quality-and-dutch-work/19636730
23. Employer-Based Programs to Support Breastfeeding Among, https://www.researchgate.net/publication/314168315_Employer-Based_Programs_to_Support_Breastfeeding_Among_Working_Mothers_A_Systematic_Review
24. How do breastfeeding workplace interventions work?: a realist review, https://pmc.ncbi.nlm.nih.gov/articles/PMC8234653/
25. Breastfeeding at the workplace: a systematic review of interventions, https://pmc.ncbi.nlm.nih.gov/articles/PMC8082937/
26. Effectiveness of a Mobile Breastfeeding Monitoring Tool Among, https://www.jmir.org/2025/1/e67024/PDF
27. Impact of night shift work on women's fertility, pregnancy and ... - PMC, https://pmc.ncbi.nlm.nih.gov/articles/PMC12713819/
28. Shift work and long work hours and their association with chronic, https://pmc.ncbi.nlm.nih.gov/articles/PMC7117719/
29. Shift work and menstruation: A meta-analysis study - PMC, https://pmc.ncbi.nlm.nih.gov/articles/PMC10632107/
30. Miscarriage and occupational activity: a systematic review and meta, https://pubmed.ncbi.nlm.nih.gov/23235838/
31. Risk of miscarriage and occupational activity: a systematic review, https://pmc.ncbi.nlm.nih.gov/articles/PMC3699369/
32. The impact of occupational shift work and working hours ... - PubMed, https://pubmed.ncbi.nlm.nih.gov/31276631/
33. Menopause Statistics 2025 - the latest facts and stats - Chemist4U, https://www.chemist-4-u.com/guides/female-health/menopause-statistics/
34. Full article: The menopausal subject at work: gendered embodiment, https://www.tandfonline.com/doi/full/10.1080/09589236.2025.2451202
35. Managing menopause in the workplace - Capital Space, https://www.capitalspace.co.uk/news/business-advice/managing-menopause-in-the-workplace-2/
36. The influence of menopause symptoms on workplace mental health, https://pmc.ncbi.nlm.nih.gov/articles/PMC12595140/

37. Written evidence submitted by Benenden Health (ERB19, https://bills.parliament.uk/publications/57050/documents/5399
38. The menopause is a workplace issue: guidance and model policy, https://shop.unison.site/content/uploads/2019/10/665_Menopause_guide_2025.pdf
39. United Kingdom - The Health and Economic Impacts of Menopause, https://impactsofmenopause.com/bayer-fpa/case-study-united-kingdom/
40. menstruation, menstrual health and menopause in the workplace, https://www.blakemorgan.co.uk/new-british-standard-menstruation-menstrual-health-and-menopause-in-the-workplace/
41. BS 30416:2023 Menstruation, Menstrual Health and Menopause in, https://www.rrc.co.uk/courses/bsi-courses/bs-30416-course/
42. (PDF) Labour Law's (Mis)Management of Menopausal Workers, https://www.researchgate.net/publication/383459758_Labour_Law's_MisManagement_of_Menopausal_Workers
43. Menopause in the Workplace: Qualitative Insights from Contrasting, https://www.tandfonline.com/doi/full/10.1080/23293691.2026.2692125