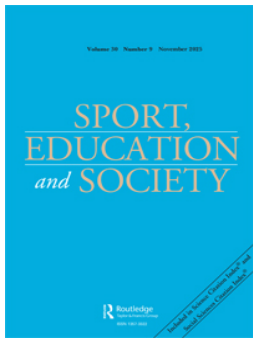


## Organizational and Personal Barriers to Physical Activity An Intersectional Analysis of Divorced Single Mothers in China's IT and Internet Industries

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# Organizational and personal barriers to physical activity: an intersectional analysis of divorced single mothers in China's IT and Internet industries

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## ABSTRACT

Global gender disparities have been identified in physical activity (PA) with women, particularly single mothers, experiencing a higher physical inactivity rate than men, thus facing higher health risks. Recent research discovered that workplace culture produced barriers to women's PA participation. The pervasive overtime culture, particularly in China's IT/Internet industries, is reported as a main source of stress for professional women. Divorced single mothers (DSMs) in that sector may face unique barriers to PA participation arising from the intersection of overtime culture, gender, single motherhood, a male-dominated work environment, and financial difficulties, yet research has underexplored their experiences especially from intersectional perspectives. This paper draws on intersectionality and workplace masculinity culture to analyse interview-based data and investigate this issue. Organizational barriers include conflict between the male-oriented workplace PA schedule and parental responsibilities, conflict between high worktime demands and PA time, limited access to workplace PA facilities, and unequal, gendered workplace PA resource allocation. Personal barriers range from time limitations, low motivation and energy levels, financial constraints, and mental and physical health challenges. Our findings suggest that enhancing women's PA participation requires both organizational and structural support and targeted incentives to remove constraints and promote women's active engagement in China.

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## Introduction

Evidence has demonstrated that participation in physical activity (PA) produces health benefits, regardless of age and gender (Lee et al., 2022). Yet, global gender PA disparities continue to exist with women, particularly single mothers, having a higher physical inactivity (PIA) rate than men (Gang et al., 2002), hence facing higher health risks (Berkman et al., 2015). Recent research (Safi et al., 2022) suggests that workplace culture creates barriers to women's PA engagement. Both research (Huang et al., 2020) and China's state media (China Central TV, April 5, 2019) have criticized the prevalent overtime culture that promotes the '996' work schedule comprising working hours from 9 am to 9 pm six days per week, particularly in China's IT/Internet industries. Consistent overtime

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has become one of the top three work-related sources of stress experienced by all professional women and a cause of serious health concerns (Meet You, 2022). Research also found that American single mothers encountered complex barriers to PA when interacting risk factors (e.g. low income and single motherhood) coexisted (Dlugonski et al., 2017; Dlugonski & Motl, 2013).

Divorced single mothers (DSMs) working in China's IT/Internet industries may find PA participation challenging because of the intersection of overtime, divorce, single motherhood, gender, and finances. Yet, research has overlooked the PA experiences of Chinese DSMs in IT/Internet industries that are notorious for high work-related pressures (Tan, 2022). Furthermore, intersectional analysis remains absent regarding how organizational culture, work field, and women's other social identities (e.g. gender, motherhood) co-create interrelated barriers to DSMs' PA engagement. Intersectionality examines interconnected and multidimensional inequalities, providing a lens to analyse how intersecting social identities produce and reinforce privilege and oppression (Collins & Bilge, 2020). To fill the research lacuna, this paper offers an intersectional analysis of how organizational culture, divorced-related stress, work field, gender, and single motherhood are intertwined to create both organizational and personal barriers to DSMs' PA participation in China's IT/Internet industries. By examining the barriers to workplace PA participation, this study aims to offer evidence-based recommendations for promoting inclusivity and equity within the workplace PA context in China. This aim is informed by Santos and Miragaia's (2023) systematic review, which highlights the significant benefits of workplace PA for both employees and organizations, including reductions in absenteeism and presenteeism.

## Intersectionality

Intersectionality has been used to investigate how multiple social identities (e.g. gender, race, sexuality) interrelate with personal experiences and mutually shape one another to impact social relations and individual experiences (Collins & Bilge, 2020; Crenshaw, 2013). Moreover, the intersectional framework (Crenshaw, 2013) helps reveal how various types of oppression collaborate to produce injustice. Thus, it provides a theoretical foundation for understanding inequalities (Collins, 2019) and examining how intersecting social identities contribute to the (re)production of privilege and oppression (Collins & Bilge, 2020). Collins (2022) conceptualizes the matrix of domination to demonstrate how various forms of oppression, such as gender, race, and class intersect and operate across multiple levels, including the personal, cultural, organizational, and structural. This framework has been widely applied within sociological research to explore the complex dynamics of power and inequality. In this context, the matrix of domination offers a valuable lens for examining the personal and institutional barriers that Chinese DSMs encounter in their efforts to engage in PA.

Intersectionality-informed analyses have deepened the understanding of gender inequality in PA. Lim et al.'s (2021) review of 41 articles on the intersection of social categories and its impact on PA suggested that an intersectionality-informed analysis could produce a reality-congruent account of the individual and structural factors that contribute to women's inequality in PA participation. Their results also indicated that intersectionality-informed approaches have produced insight into the interrelationships of diverse social categories influencing individuals' PA participation. Regarding approaches to intersectionality, 27 of the articles reviewed by Lim and colleagues (2021) employed the intra-categorical approach, as conceptualized by McCall (2005). This approach focuses on analyzing the lived experiences of individuals within a single social group (e.g. divorced women) that embodies multiple intersecting identities, without necessarily drawing comparisons to other groups (e.g. divorced versus married women). For example, Dlugonski et al. (2017) exemplified this approach by exploring barriers to PA among low-income, Black, single mothers in the United States. Moreover, intersectional approaches have advanced gender research by offering critical insights into the complex and often-overlooked barriers influencing PA participation and proposing actionable strategies to tackle gender disparities in PA (Mielke et al., 2022). Most intersectional analyses in the PA context center on how gender, sexuality, race, disability intersect with each other to produce inequalities in terms

of access (e.g. Ray, 2014). However, the interplay between gender, PA participation and DSMs' social responsibilities (e.g. work and parental demands) has remained underexplored. Our research fills this gap by examining Chinese DSMs' PA engagement in the Chinese work context.

## **Overtime culture in China's IT/Internet industries**

Overtime culture in China's IT/Internet industries negatively influences employees' physical and mental health and creates barriers to their PA. The '996' work schedule has been prevalent in China's corporate culture for the past two decades, particularly as an unwritten rule in the IT/Internet companies in China's megacities (Li, 2023; Yang & Jiao, 2024). Employees adhering to this schedule work 72 hours per week, significantly surpassing the legal maximum of eight hours per day and 44 hours per week as stipulated by China's Labor Law. The widespread continuation of the '996' work culture has been attributed to weak enforcement mechanisms, which has hindered effective government intervention (Li, 2023b). Extensive overwork has been blamed for causing burnout, depression, anxiety, and even overwork-related death (Li, 2019). The death of a young female employee of Pinduoduo (one of China's Ecommerce tycoons), who collapsed while walking home from work at midnight in 2020, reignited the intense public debate on China's overtime culture (Xue, 2021). Notwithstanding severe criticism of this non-isolated incident, the overtime culture remains pervasive and normalized in these industries (Liu & Chen, 2023) and continues to affect employees' wellbeing. Investigations into the consequences of overtime have concentrated on employees' physical and mental health (Chen et al., 2023; Xie et al., 2021) rather than on barriers to PA participation, thus, meriting further attention.

## **Workplace masculinity in IT/Internet industries**

The technology sector is male-dominant and influenced by masculine bravado, which manifests in contests for economic and workplace resources, often culminating in workplace hierarchies (Berdahl et al., 2018; Li, 2023a). Li and Chan (2024) scrutinized masculine culture in China's IT/Internet companies, which promotes proactivity and aggressiveness, overwork norms, and the rhetoric of pursuing career advancement and urban life in developed cities. Their research exposed the presence of hegemonic masculine norms in the organizational context of China's technology workplaces. Berdahl et al. (2018) suggest that organizations with masculinity contest culture (MCC) create dysfunctional environments characterized by toxic leadership and harassment, fostering burnout and reduced employee well-being (Matos et al., 2018). The characteristics of masculinist corporate culture can be effectively illustrated through case studies of prominent technology companies in China. For example, in 2021, China's e-commerce giant Alibaba came under extensive public oversight following reports of sexual harassment, workplace bullying, and an anti-women corporate culture. The issue gained further attention when a female employee staged a protest in the company cafeteria, alleging that she had been sexually assaulted by both her manager and a client after being pressured to consume excessive alcohol at a business dinner (The Guardian, 13 December, 2021). These high-profile cases reveal how MCC manifests across different cultural contexts, highlighting systemic issues related to gender, power, and organizational practices in the global tech industry. Concerning the adverse effects of MCC, women were reported to be particularly vulnerable (Glick et al., 2018), and greater emotional exhaustion was identified among those with higher trait competitiveness than their male counterparts (Regina & Allen, 2023). Existing literature primarily examines the damaging impact of MCC on women's mental wellbeing and access to economic resources, with limited attention paid to women's access to workplace PA.

## **Divorce, single motherhood, and PA participation**

Motherhood and marital status have been closely associated with women's PA levels. Brown and Trost (2003) identified a four-year decrease in PA participation among first-time mothers. When

compared with fathers, married mothers spend almost 1.5 hours less time on PA every two weeks than their spouses (Nomaguchi & Bianchi, 2004). Divorce and separation can further reduce women's PA levels when compared with their married years (Engberg et al., 2012). Consequently, divorce/separation appears to have a negative impact on women's PA, as mothers tend to devote significantly more time to childcare than fathers even within marriage. For example, in Mediterranean countries, the time married mothers dedicated to childcare was five times more than married fathers (García-Mainar et al., 2011). Women also tend to reduce PA engagement and prioritize family demands due to the dominance of care ethics (Miller & Brown, 2005). Changes in motherhood status exacerbate PA decline as single mothers report more challenging life events, limited social support, poverty, and low self-esteem (Atkins, 2010), and face barriers (e.g. lack of time and social support) that hinder their PA participation (Dlugonski et al., 2017). Thus, DSMs often prioritize childcare over self-care, a tendency starkly illustrated by Dlugonski and Motl (2013). Their study found that single mothers were significantly less likely to meet PA guidelines than married mothers, with notable disparities in moderate-to-vigorous PA ( $F(2,58) = 4.39, p = .02$ ). These findings underscore how caregiving demands may constrain DSMs' opportunities for self-care. The adverse impact of single motherhood on women's physical health is also evident (Rousou et al., 2013), with single mothers under 50 displaying a higher risk of poor health and disability in later life compared with married mothers (Berkman et al., 2015). Consequently, DSMs generally experience lower PA levels and a higher risk of poor health than married mothers.

## Methods

Data collection commenced after ethical approval was granted and involved 22 online semi-structured interviews from May to November 2024, averaging one hour and 53 minutes and totaling 2,486 minutes of voice data. Participants identified themselves as DSMs, living in one of the four most developed Chinese cities (Beijing, Shanghai, Guangzhou, and Shenzhen) with full-time jobs in the IT/Internet industries and the sole custody of at least one child. All participants had completed higher education and had an average of 10.8 years of work experience in IT/Internet industries with 10–12 daily working hours. 22 participants were recruited via Xiaohongshu (the Chinese version of Instagram and internationally known as Rednote) and snowball sampling. During the participant recruitment process, the principal investigator (PI) introduced the research to the potential participants via voice calls and text messages. The PI's shared experiences of long-time overwork in China's higher education sector, primary caregiving as a mother in the Chinese socio-cultural context, and limited time for PA due to work and childcare stress contributed to building a rapport and empathy with her participants. Among all participants, 16 were working and living in Beijing, while each of the other three cities were home to two participants. Participants' age ranged between 33 and 51, with an average of 39.2. They had grown up in various regions across China, from remote rural areas to major cosmopolitan cities. At the time of the interviews, participants' DSMs status ranged from six months to 21 years, with an average of 4.2 years.

## Data collection

Participants were informed of the research rationale during pre-data collection interactions with the PI and through the accompanying document outlining the research aims and objectives. Qualitative data was gathered through online in-depth semi-structured interviews (SSI) conducted in Chinese (Mandarin), which is the native language for both participants and the PI and the only official language in China. SSI is an appropriate tool for grasping the essential qualities of the human conversational world (Brinkmann, 2022) and helps induce detailed descriptions and interpretations of interviewees' personal experiences. Online SSIs have recently gained popularity among researchers due to their advantages in lowering data collection costs by virtually accessing geographically hard-to-reach populations and enhancing participants' willingness to discuss sensitive topics because of

visual anonymity, online privacy, and physical distance from the researcher (Salmons, 2015). We carried out visually anonymous (participants' choice/preference), online one-to-one in-depth SSIs via Tencent Meeting (also internationally known as VooV Meeting), the most popular online conferencing tool in China. This tool was employed to accommodate the geographic separation between participants in China and researchers based in the UK during the data collection period. Interviews were recorded using a Dictaphone. Voice data were transcribed verbatim in Chinese using the iFLYKET online transcription service with proofreading carried out to ensure accuracy.

## Data analysis

The transcripts were put to thematic analysis. Identified themes were translated into English and extensively discussed with the research team. Participants' names used in this paper are all pseudonyms chosen by the participants from a curated list of pseudonyms provided by the PI to allow participants' certain control over their representation in the data. The intra-categorical intersectional approach (McCall, 2005) was used to analyse the organizational and personal barriers to PA among Chinese DSMs within organizational settings at a single intersection of four social categories (gender, parental status, marital status, and organizational culture). Thereby, it aimed to elucidate the intricate interplay of gender power dynamics in workplace settings and explore the gender inequality in Chinese DSMs' PA participation.

## Results

### Organizational barriers

#### *Participation impossible: structural exclusion of DSMs from male-dominated wellness spaces*

Although workplace PA initiatives are often presented as inclusive and voluntary, participants in our research revealed that these programs were subtly structured around male-centric norms. The activities commonly offered – such as basketball, weightlifting, and boxing – reflected traditional masculine notions and were typically scheduled to align with the availability and preferences of male employees. Consequently, DSMs encountered both practical and cultural barriers to participation. Their exclusion extended beyond differences in PA preferences; it was rooted in the intersection of gendered expectations, caregiving responsibilities, and rigid time structures that failed to accommodate the lived realities of women with family obligations. These findings underscore how ostensibly neutral workplace wellness initiatives can inadvertently reproduce gender inequalities by privileging male norms and overlooking the diverse needs of a gendered workforce. Fourteen participants reported that their previous or current workplaces ran free PA societies or organized annual sports events for employees. However, they complained that most PA societies were tailored to suit male employees; sports such as basketball, football, rock climbing, and boxing were dominant. When asked about the gender ratio of workplace PA participation, all participants reported a male-dominant environment. Jiang claimed:

My company has badminton, basketball, soccer, and swimming clubs. Male employees primarily attend basketball and soccer clubs. There are both separate men's and women's badminton teams and mixed games. However, most participants in badminton are also male. Swimming is the only activity where female participation is relatively high. (Jiang 35, Beijing)

Other participants also observed that despite the availability of gyms, the exercise space was primarily occupied by male employees. Generally, women were reluctant to compete with men for gym access. Su explained:

Despite each office building having a gym, resources are limited due to too many employees and the relatively small size of the gym room. The employees' availability for exercising is also very concentrated, usually in the evening. By evening, the gym is packed with people. There are lines behind every piece of equipment, and



the crowd is as dense as dumplings boiling in a pot and most people are my male colleagues. Women in my company don't bother to compete with men for gym facilities. (Su 37, Beijing)

When asked about the schedules for their workplace PAs, participants consistently stated that most PAs were scheduled after work, and, thus, they could not engage due to their evening parenting responsibilities as DSMs having sole custody of children. However, despite having children, male employees were regular participants in those PAs. Meng reported:

Our company organizes many PAs in the evenings. Most male employees, even those with children, keep consistent participation in these PAs as fatherhood doesn't seem to disrupt their overall schedule. While after work, female employees usually go home to take care of their children. (Meng 37, Beijing)

Thus, as the above quotes indicate, participants faced marginalization in workplace PA engagement due to the intersection of four factors. First, the gender expectation for women not to compete with men for resources in the public domain, such as in the workplace PA context. Second, the male-dominated culture of workplace PA promotes programs such as basketball, boxing, and weightlifting activities that emphasize traditionally masculine traits like competitiveness and physical strength. This cultural framing subtly excludes DSMs from full participation. Third, entrenched gender norms continue to place the burden of childcare primarily on women, particularly DSMs, who are expected to prioritize caregiving responsibilities over their own well-being. Fourth, workplace wellness policies often adopt a gender-blind approach, failing to consider the time constraints faced by primary caregivers. Accordingly, PA sessions are frequently scheduled after work hours, making them inaccessible to many DSMs. Hence, participants reported limited time, flexibility, facilities, and space to engage in these programs. In contrast, men – even those with children – are generally not expected to carry the same level of domestic responsibility, enabling more consistent participation in workplace PA initiatives.

### *Conflicting clocks: how male dominance and care expectations restrict DSMs' movement*

The gendered time structuring in both the professional and personal context creates incompatible temporal demands for DSMs, whose PA access is shaped not merely by personal choice but by institutionalized expectations of both productivity and caregiving. Male-dominated industries, such as IT/Internet, often operate within an always-on work culture that demands extended working hours and rewards individual performance. Underlying these norms lies the presumption that employees are unburdened by caregiving duties. Meanwhile, social expectations position mothers, especially DSMs, as the default primary caregivers to meet their children's varied needs. These two systems operate on competing schedules: one demands extensive commitments for career productivity, the other for unpaid domestic labor. Hence, DSMs are stuck between two 'clocks,' having little or no discretionary time for PA. Their limited participation is not a manifestation of disinterest, instead a consequence of structurally unequal time allocations shaped by gendered norms.

Male dominance in China's IT/Internet industries, coupled with male-oriented work scheduling, impeded DSMs' PA participation. Work schedules in the participants' companies were arranged around the availability of male employees, with meetings frequently scheduled in the evenings during weekdays, disregarding gender differences in family responsibilities. Consequently, long working hours, combined with domestic responsibilities, left participants physically and mentally exhausted and without capacity to engage in PA. Su criticized the 'always-on' culture that left her little room for flexibility and insufficient time for childcare, which jointly induced her depression and subsequent divorce.

My company requires 24-hour work availability. As a result, even leaving the office, I must constantly monitor the work app on my phone and respond to messages promptly. This constant work demand has hugely drained my energy, leaving me with limited time with my son and no motivation to exercise in the evenings. I have been suffering from serious work-related mental exhaustion and depression in the past three years. My ex-husband asked me to quit my job and be a stay-at-home mother, because I didn't have [enough] time to



undertake household duties. Otherwise, he would file for divorce. I finally got divorced because I chose to continue my career. (Su 38, Beijing)

When questioned about the feasibility for a company to arrange flexible work schedules to accommodate DSMs' availability for work, childcare, and PA, Kong expressed pessimism after working in the IT industry for 10 years.

The IT industry is male-dominated, and women must accommodate the schedules of their male colleagues. For instance, if I finish work at 8 pm but my male colleagues still want to run a work meeting, I cannot leave. Men hold all senior management roles in my company, and they don't care whether as a DSM, I have time for PA or childcare because they are in a different situation from me. (Kong 35, Beijing)

Therefore, the interwoven effect of male dominance in China's IT/Internet industries and gendered expectations of family responsibilities creates conflict between the masculinized time-intensive job structure and the maternal sole-custody family structure that expects DSMs to allocate their limited time to childcare rather than to self-care. Such conflict presents unique constraints on our participants' time and mobility, which significantly hindered their PA participation, and further intensified general gender inequalities in their PA engagement. These organizational barriers also interact with personal barriers (see the next section), further contributing to a lack of PA among DSMs in China's IT/Internet industries.

## **Personal barriers**

### ***From divorce to displacement: a journey of insecurities***

The interplay of divorce-related stress and institutional temporal demands further exacerbated DSMs' physical and emotional strain and rendered their PA and emotional needs marginal. The temporal regime in China's high-demand IT/Internet industries did not merely limit DSMs' opportunities for PA participation but also created intensified marginalization, hence increasing their long-term health risks. When asked about their current health status, fifteen participants reported health conditions, such as depression, insomnia, and frequent infections due to low immunity levels. Having worked as a programmer for 12 years and been a DSM for three years, Zhong commented on the combined effects of divorce and overwork on her health and PA participation:

During the divorce process, I had conflicts with my ex-husband. Ever since then, I have suffered from insomnia and was diagnosed with anxiety and depression. The doctor suggested that if I exercise, I could eventually stop taking medication. Then I started exercising regularly for a while. However, whenever I'm overloaded with work, I become lazy and feel that taking medication is more convenient than exercising. (Zhong 38, Beijing)

Such joint effects took a heavier toll on DSMs who lacked access to workplace support for health care during periods of critical health challenges. Lang revealed her insecurity during her hospitalization.

I became unwell at work and was sent to the hospital. I had surgery and was in hospital for one week. During that whole week, I experienced everything alone and felt extremely helpless and isolated. I was worrying about my son, my job, and my future. Insecurity overwhelmed me entirely. I desperately needed someone for me on these occasions. Yet, I couldn't get access to anyone. (Lang 40, Beijing)

Moreover, the interplay of divorce and high work demand resulted in a profound sense of financial insecurity. Participants expressed feelings of mental exhaustion and demotivation to engage in PAs due to financial instability. As Gao pointed out:

I've been working in the same Internet company for seven years now. People around my age and joining the company around the same time as me, share a similar mind-set. We manage to stay here as long as possible, waiting for the company to lay us off so we can receive severance pay. We have no ambition to achieve career breakthroughs. Plus, my child is taking art lessons and fees are high. As a DSM, I can't risk changing my job, nor do I dare to. Therefore, I end up stuck there ... (Gao 43, Beijing)

Mei (35, Beijing) also confirmed the precarious financial position as a DSM and its adverse effect on her PA participation. She did not renew her Pilates class membership because of the rising fees, job

insecurity, and her prioritization of spending her limited money on her son's after-school activities instead. Furthermore, all participants stated that there were minimal paternal financial contributions, which exacerbated their financial insecurity.

In summary, the quotes illustrate how the combined impact of a pervasive overtime culture and divorce has imposed significant time and financial constraints on participants' PA, while also diminishing their motivation for participation. The complex interplay of temporal pressure and divorce collectively contributed to heightened job insecurity, burnout, depression, anxiety, and feeling marginalized from spaces of health and wellbeing.

### *Intersecting work norms and physical inactivity*

Due to male-dominance in China's IT/Internet industries, work schedules are also male-centred with pervasive overtime culture that has significantly impeded the employees' PA participation and increased their health risks (Xie et al., 2021). The '996' work schedule also affected our participants' PA engagement by depriving them of time and motivation for PA. All participants reported a standard 10-hour workday, with additional two to five work hours during periods of high demand, as well as one to three hours for commuting. Sun recounted her work as the CEO's secretary in an IT company:

I frequently worked overtime, often attending meetings late into mid night. There were times when meetings lasted until 1 am. I still had to answer phone calls from my male boss even after I went back home. It felt like I was on duty 24/7. If I slightly delayed in answering the phone, my boss would think I was not performing my job properly. (Sun 40, Beijing)

The boundary between work and life was further damaged during the long period of Covid restrictions in China, rendering participants tightly bound by work and household duties and devoid of PA time. Having worked in the IT industry for 15 years, Meng stated:

When the pandemic hit, I started working from home. My work hours literally extended from the moment I got out of bed in the morning to the moment I went to bed at night. When working remotely from home, I had no time to think about exercising, as my head was completely full of work tasks and childcare responsibilities because my son was two at that time. (Meng 37, Beijing)

The prolonged working hours, excessive overload, and single motherhood kept participants juggling their jobs and their children's needs throughout their waking hours and left them with limited time for PA. Having worked in the Internet industry for 16 years, Lang revealed the impact of overtime on her PA and mental health:

In the past 10 years, I spent most of my time working until 2 am almost every day. If someone messaged me, I would respond instantly. During these years, I got married, had a child, and eventually divorced, but I barely exercised. On weekends, besides spending time with my son to make up for the time we missed during the week, I also caught up on sleep because I was physically exhausted and mentally drained after a long week's work. I fell into a recurring cycle of overtime work during the week, weekend childcare and rest, and then returning to overtime work. (Lang 40, Beijing)

As a DSM, Lang was not alone in experiencing long-term burnout due to overwork, primary caregiving duties, and the lack of PA. Han, who had worked in the Internet industry for more than 10 years, reinforced Lang's comments. When asked whether she would share her PA experiences with her colleagues in daily exchanges, she claimed:

If I did participate in PA, I would feel uncomfortable sharing my PA experience with my team. Everyone would think that I was not saturated with work hours. The phrase 'your work hours are not saturated' is a classic line used by company CEOs. They expect everyone's work hours to be fully packed. They want us to work until we're utterly exhausted before leaving for the day. It's unacceptable for us to still have any remaining energy to join a badminton club. Although they wouldn't explicitly ban PAs, they would think that if you still have energy to exercise, you haven't dedicated all your energy to work. There's an unwritten rule in big companies: if the boss is still around, even if you've finished your work, you shouldn't leave. (Han 38, Beijing)

Despite realizing the importance of PA for their professional and personal well-being and having free access to PA facilities within office buildings, almost all participants reported a lack of motivation for PA. When asked about the reasons for not using PA facilities at their workplaces, besides the time constraints reported previously, stress related to the annual performance assessment system was another primary reason. Most participants revealed that their companies implemented a stringent annual performance assessment system, which included employees' total annual work hours as an individual key performance indicator (KPI). This rigid assessment system lowered their motivations for using workplace PA facilities. Having worked in the Internet industry for 12 years, Gao expressed caution about partaking in PAs at work and after work during weekdays. When asked whether her boss would consider her workload insufficient if she exercised at her workplace and whether she would post about exercising on social media during weekdays, she stated:

If I use the company gym for exercise, I usually go in the early morning and finish the workout before work starts. However, I rarely share my PA experiences on social media. Although exercising at the workplace hasn't impacted my job performance, I still feel a bit concerned. In my corporate culture, not working overtime may not be seen as my fault, but the company is unlikely to be lenient. This is because the number of my work hours is a KPI for my annual performance assessment. (Gao 43, Beijing)

The widespread concept of unsaturated/insufficient work hours in the IT/Internet industries has led to work overload, presenteeism, and anxiety among participants. Even if they managed to do PAs during lunch breaks, their time and activities were monitored. With a 12-hour daily work schedule in the Internet industry in Shanghai for 10 years, Dong endeavored to do some gym workouts occasionally during her lunchtime. When asked whether she enjoyed exercising, she commented:

Once my boss mentioned that some staff exceeded their lunch break and returned to work late. He made it clear that this shouldn't happen again in the future. When I went to the gym during lunch, I felt pressed for time. On some occasions, I realized I had gone over the time limit; I would quietly sneak back into the office, worrying that the boss might notice me because I carried a gym bag, which was quite noticeable. I felt very stressed and guilty in those situations. (Dong 43, Shanghai, Eastern China)

However, when asked why she still felt guilty for being late while she gave four-hour unpaid extra work daily to the company, Dong explained that:

My boss made us feel that overwork in an Internet company was completely normal. If the boss noticed someone slacking off at work, he might criticize that person to intimidate all employees, sending a message that we shouldn't take it easy. Therefore, I would try to return to the office as quickly as possible during lunch break. Even though I felt uncomfortable with the way my boss treated employees, I never discussed it with him. I feel like I'm willingly allowing myself to be exploited.

When asked about the allocation of their limited free time, all the participants admitted prioritizing childcare over self-care. Having long work hours and sole custody of their children deprived them of time for PA and led to low job satisfaction. This situation is exacerbated when DSMs experience feelings of single-motherhood guilt. Lang stated that:

Besides the long-time anxiety over my work, my guilt lies in that I'm a single mother, and half of the parental company for my son has already gone. Because I'm busy making a living, my company with him is reduced even more. This is the source of my guilt. Whenever I have time, I'll stay with my son instead of doing exercise. (Lang 40, Beijing)

Therefore, the participants' low motivation for PA appeared to stem from the intersecting effects of normalization of the overtime culture, the emphasized expectation of fully booked work schedules, the pressures of the demanding annual performance assessment system, low job satisfaction, and single motherhood. However, in China's IT/Internet sectors, men maintain a strong presence in workplace gyms, even within the same high-pressure work culture that constrains female participation. This disparity underscores the interplay of overwork, caregiving norms, and structural inequalities that together curtail women's, especially DSMs', access to health-promoting opportunities.

## Discussion

Through an intersectionality-informed analysis, we found that organizational culture (overtime culture, rigid work schedules), divorce-related challenges, a male-dominated work environment, gender, and single motherhood have intersected to create both organizational and personal barriers to PA participation among DSMs in China's IT/Internet industries. These barriers deprive DSMs of time and opportunities for PA participation, thereby increasing their health risks.

### *Organizational barriers to DSMs' PA participation*

Our findings suggest that DSMs in China's IT/Internet industries are struggling with multiple organizational barriers regarding PA engagement because of the interrelated effects of their multiple social identities and the organizational culture. Organizational barriers identified in our study accord with previous findings that report workplace culture, such as rigid scheduling, as a common PA participation barrier to the employees in the UK's higher education sector (Safi et al., 2022), and to both married working mothers (Mailey et al., 2014) and single working mothers (Dixon, 2009) in the American higher education sector. They also align with Ryde and colleagues' (2020) discovery that paid work-time PA participation of employees in UK's public organizations encountered significant organizational barriers including high workload and front-line job requirements, and workplace culture and norms. These norms foster peer resentment of PA participation, promote a no break culture, and raise organizational concerns with the cost of lost work time. Our research findings diverge from those discussed above by examining the specific organizational barriers to workplace PA participation faced by a distinct subgroup of women in high-demand IT/Internet industries. Our findings indicate that when the pervasive overtime culture and male-dominated work environment in China's IT/Internet industries intersect with DSMs' gender, marital (divorced), and parental (single motherhood) status, they generate both organizational and personal barriers to PA participation. These overlapping factors produce a compounded effect, whereby institutional constraints – such as rigid work schedules and gender-blind PA programming – interact with personal responsibilities, particularly caregiving obligations. This interplay intensifies the challenges DSMs face, creating a complex web of restrictions and contributing to a socially and structurally disadvantaged environment for their PA engagement. Through this focus, we aim to promote a more gender-equal workplace environment, both broadly and in the context of PA participation. Furthermore, our findings are based on the intersections of participants' multiple social identities and the organizational culture explored here, which is as competitive and demanding as in other countries, such as Japan (Rankin, 2023). Thus, the organizational barriers reported in our research may also contribute to greater understanding of comparable challenges faced by single mothers in other countries.

### *Personal barriers to DSMs' PA participation*

Our research identified six major personal PA participation barriers created by the intersection of DSMs' personal and work life, including lack of time, low motivation and energy, parental responsibilities, mental health challenges (depression, burnout, and anxiety), and physical health challenges (work-related chronic diseases). Personal stressors for PA participation, such as parental demands, chronic diseases, depression, and low motivation, have previously been identified among black American single mothers by Dlugonski et al. (2017). However, lack of time, a major barrier for our participants, was not a primary concern for the participants in Dlugonski et al.'s (2017) study, as fewer than 20% of their respondents had full-time employment, and many lived with partners. This potentially reduced their time constraints on PA participation and provided them with greater social support compared to our participants who were working as DSMs and having the sole custody of at least one child. Employed single mothers in Canada and the US (Dixon, 2009;

Pino Gavidia et al., 2023) reported lack of time and low energy as two substantial personal barriers to their PA engagement. Our study corroborates such findings that emphasize the detrimental impact of time and energy constraints on single mothers' PA participation and provides substantial evidence in advocating for the implementation of time-related social support programs to promote PA engagement among single mothers globally.

### ***Workplace MCC and DSMs' PA participation***

Furthermore, gender oppression from workplace MCC further hinders DSMs' PA participation. The workplace MCC in IT/Internet industries operates as a form of hegemonic masculinity (Connell & Messerschmidt, 2005), whereby male dominance shapes the work environment and excessive work hours, and masculine qualities are promoted. A two-decade long implementation of the '996' work schedule as an unwritten rule has fostered workplace MCC in China's IT/Internet industries that was known as 'wolf culture' in Huawei (China's top IT tech company) highlighting competitiveness and aggressiveness (Fifield, 2018). Jack Ma, the founder of China's e-commerce tycoon Alibaba, called the '996' work scheduling 'a huge blessing' that has brought employees career success and prosperous lives (Gilchrist, 2019). This hegemonic corporate structure disparately harms marginalized social groups, including DSMs, who are compelled to conform to a toxic MCC and work as hard as their male colleagues to manage the intense workplace competition and support their children. The workplace MCC, in turn, plays an essential role in normalizing the masculine overtime culture in these industries, rendering DSMs mentally and physically exhausted. These workplace gender dynamics demotivate women to engage in workplace PAs that require competition with their male counterparts for PA resources.

The complicated interplay between capitalism (private IT/Internet sectors in China) and gender inequalities has generated both organizational and personal barriers to DSMs' PA participation, contributing to health issues that further alienate them from male-dominated workplace PA programs. Long-term lack of PA participation inevitably adversely affects DSMs' career prospects, as Chinese capitalists manifest a distinct preference for physically healthy employees under the age of 35 (Liu, 2024) and unmarried women or women without children (Gao & Li, 2021). This dynamic subjugates Chinese women, particularly DSMs, to sustained exploitation and gender inequality in PA participation.

### **Conclusion**

We examined the complex inter-company and the PA participation of Chinese DSMs working in IT/Internet industries. Our study is the first to identify both the organizational and personal barriers arising from the interplay of employees' social identities and organizational culture. It highlights their interrelated impact on making gender-inclusive workplace PA policies and work schedules in these industries, with a focus on gender-equal PA support for female employees, particularly DSMs. It was found that DSMs in IT/Internet industries experience numerous organizational and personal barriers to PA participation that result from the interrelated effects of an organizational culture of overtime work, divorce-related challenges, a male-dominated workplace PA culture, a male-dominated work field, and single motherhood. Organizational barriers range from conflict between the male-oriented workplace PA schedule and parental responsibilities, conflict between high worktime demands and time for PA, conflict between the male-oriented work schedule and parental demands, limited access to workplace PA facilities, and unequal workplace PA resource allocation favoring male employees. Personal barriers include time limitations, low motivation and energy, financial constraints, mental health challenges such as depression and burnout and physical health challenges of work-related chronic diseases. Although participants recognized the importance of PA, it was usually deprioritized by them in favor of other demands such as work and family responsibilities.

Based on our findings and the widely recognized benefits of workplace PA programs for both organizations and employees globally (e.g. Santos & Miragaia, 2023), the following recommendations should be considered. To increase women's PA participation will require organizational/structural support to remove constraints experienced by DSMs, for example by introducing flexible and gender specific work schedules, gender equality in the allocation of workplace PA resources, affordable weekend childcare, stricter enforcement of the labor law regarding overtime, more comprehensive medical insurance that includes free caregiving and inpatient care, stronger state intervention in wealth redistribution within the private sector, and both governmental and corporate incentives to encourage women's more active participation in PA. Addressing the barriers faced by DSMs has the potential to promote gender equality and increase PA participation and, thus, produce better overall health outcomes for this particular population in China.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## References

- Atkins, R. (2010). Self-efficacy and the promotion of health for depressed single mothers. *Mental Health in Family Medicine*, 7(3), 155–168. PMID: 22477937.
- Berdahl, J. L., Cooper, M., Glick, P., Livingston, R. W., & Williams, J. C. (2018). Work as a masculinity contest. *Journal of Social Issues*, 74(3), 422–448. <https://doi.org/10.1111/josi.12289>
- Berkman, L. F., Zheng, Y., Glymour, M. M., Avendano, M., Börsch-Supan, A., & Sabbath, E. L. (2015). Mothering alone: Cross-national comparisons of later-life disability and health among women who were single mothers. *Journal of Epidemiology and Community Health*, 69(9), 865–872. <https://doi.org/10.1136/jech-2014-205149>
- Brinkmann, S. (2022). *Qualitative interviewing: Conversational knowledge through research interviews*. Oxford University Press.
- Brown, W., & Trost, S. (2003). Life transitions and changing physical activity patterns in young women. *American Journal of Preventative Medicine*, 2(2), 140–143. [https://doi.org/10.1016/S0749-3797\(03\)00119-3](https://doi.org/10.1016/S0749-3797(03)00119-3)
- Chen, X., Masukujjaman, M., Al Mamun, A., Gao, J., & Makhbul, Z. K. M. (2023). Modeling the significance of work culture on burnout, satisfaction, and psychological distress among the Gen-Z workforce in an emerging country. *Humanities and Social Sciences Communications*, 10(1), 1–12. doi:10.1057/s41599-022-01483-z
- China Central TV. (2019, April 5). Crisis re-emerged: more than 40 Internet companies are accused of implementing '996 work schedule. [http://china.cnr.cn/xwwgf/20190405/t20190405\\_524568985.shtml](http://china.cnr.cn/xwwgf/20190405/t20190405_524568985.shtml).
- Collins, P. H. (2019). *Intersectionality as critical social theory*. Duke University Press.
- Collins, P. H. (2022). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment*. Routledge.
- Collins, P. H., & Bilge, S. (2020). *Intersectionality (2nd ed.)*. Polity.
- Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic masculinity: Rethinking the concept. *Gender & Society*, 19(6), 829–859. <https://doi.org/10.1177/0891243205278639>
- Crenshaw, K. W. (2013). *Mapping the margins: Intersectionality, identity politics, and violence against women of color. The public nature of private violence*. Routledge, 93–118. <https://doi.org/10.2307/1229039>.
- Dixon, M. A. (2009). From their perspective: A qualitative examination of physical activity and sport programming for working mothers. *Sport Management Review*, 12(1), 34–48. <https://doi.org/10.1016/j.smr.2008.09.002>
- Dlugonski, D., Martin, T. R., Mailey, E. L., & Pineda, E. (2017). Motives and barriers for physical activity among low-income black single mothers. *Sex Roles*, 77(5–6), 379–392. <https://doi.org/10.1007/s1199-016-0718-7>
- Dlugonski, D., & Motl, R. W. (2013). Marital status and motherhood: Implications for physical activity. *Women & Health*, 53(2), 203–215. <https://www.tandfonline.com/doi/abs/10.108003630242.2013.767304>.
- Engberg, E., Alen, M., Kukkonen-Harjula, K., Peltonen, J. E., Tikkanen, H. O., & Pekkarinen, H. (2012). Life events and change in leisure time physical activity. *Sports Medicine*, 42(5), 433–447. <https://doi.org/10.2165/11597610-000000000-00000>



- Fifield, A. (2018, December 12). 'Bloodthirsty' like a wolf: Inside the military-style discipline at China's tech titan Huawei. The Washington Post. [https://www.washingtonpost.com/world/asia\\_pacific/bloodthirsty-like-a-wolf-inside-the-military-style-discipline-at-chinas-tech-titanhuawei/2018/12/12/76055116-fd85-11e8-a17e-162b712e8fc2\\_story.html](https://www.washingtonpost.com/world/asia_pacific/bloodthirsty-like-a-wolf-inside-the-military-style-discipline-at-chinas-tech-titanhuawei/2018/12/12/76055116-fd85-11e8-a17e-162b712e8fc2_story.html).
- Gang, H., Pekkarinen, H., Hänninen, O., Yu, Z., Huiguang, T., Zeyu, G., & Nissinen, A. (2002). Physical activity during leisure and commuting in Tianjin, China. *Bulletin of the World Health Organization*, 80(12), 933–938. <https://pubmed.ncbi.nlm.nih.gov/12571720/>.
- Gao, F., & Li, X. (2021). From one to three: China's motherhood dilemma and obstacle to gender equality. *Women*, 1(4), 252–266. <https://doi.org/10.3390/women1040022>
- García-Mainar, I., Molina, J. A., & Montuenga, V. M. (2011). Gender differences in childcare: Time allocation in five European countries. *Feminist Economics*, 17(1), 119–150. <https://doi.org/10.1080/13545701.2010.542004>
- Gilchrist, K. (2019, April 15). Alibaba founder Jack Ma says working overtime is a 'huge blessing'. CNBC. <https://www.cnbc.com/2019/04/15/alibabas-jack-ma-working-overtime-is-a-huge-blessing.html>.
- Glick, P., Berdahl, J. L., & Alonso, N. M. (2018). Development and validation of the masculinity contest culture scale. *Journal of Social Issues*, 74(3), 449–476. <https://doi.org/10.1111/josi.12280>
- The Guardian. (13 December 2021). China's Alibaba accused of firing female employee who alleged colleague sexually assaulted her. <https://www.theguardian.com/world/2021/dec/13/chinas-alibaba-accused-of-firing-female-employee-who-alleged-colleague-sexual-assaulted-her>.
- Huang, H., Xia, X., Zhao, W., Pan, X., & Zhou, X. (2020). Overwork, job embeddedness and turnover intention among Chinese knowledge workers. *Asia Pacific Journal of Human Resources*, 59(3), 442–459. <https://doi.org/10.1111/1744-7941.12272>
- Lee, M., Lee, H., Song, K., & Lee, Y.-M. (2022). Benefits of sustained physical activity from middle age to early old age on quality of life in early old age. *Scientific Reports*, 12(1), <https://doi.org/10.1038/s41598-022-20431-0>
- Li, X. (2019). The 996 ICU movement in China: Changing employment relations and labour agency in the tech industry. *Made in China Journal*, 4(2), 54–59. <https://doi.org/10.3316/informit.019670750084977>
- Li, X. (2023, March 17). The men who set the rules in Chinese tech. <https://www.sixthtone.com/news/1012458>.
- Li, X. (2023a). Strategic flexibility in a male-dominated occupation: Women software engineers in China. *Journal of Gender Studies*, 32(4), 330–342. <https://doi.org/10.1080/09589236.2021.2006615>
- Li, X. (2023b). Managerial technique and worker subjectivity in dialogue: Understanding overwork in China's internet industry. *Work, Employment and Society*, 37(6), 1699–1716. <https://doi.org/10.1177/09500170221092585>
- Li, X., & Chan, J. (2024). Migrate to (not) be 'gurus': Unpacking workplace masculinity in China's tech sector. *Gender, Work & Organization*, 31(6), 2618–2633. <https://doi.org/10.1111/gwao.13112>
- Lim, H., Jung, E., Jodoin, K., Du, X., Airtton, L., & Lee, E.-Y. (2021). Operationalization of intersectionality in physical activity and sport research: A systematic scoping review. *SSM – Population Health*, 14, 100808. <https://doi.org/10.1016/j.ssmph.2021.100808>
- Liu, B. (2024). Age discrimination in Chinese internet workplace. *Journal of Education, Humanities and Social Sciences*, 27, 172–180. <https://doi.org/10.54097/j7a9nx66>
- Liu, M., & Chen, Y. (2023). Blessing or curse? Recontextualizing '996' in China's overwork debate. *Critical Discourse Studies*, 20(5), 489–505. <https://doi.org/10.1080/17405904.2023.2289448>
- Mailey, E. L., Huberty, J., Dinkel, D., & McAuley, E. (2014). Physical activity barriers and facilitators among working mothers and fathers. *BMC Public Health*, 14(1), 657. <https://doi.org/10.1186/1471-2458-14-657>
- Matos, K., O'Neill, O., & Lei, X. (2018). Toxic leadership and the masculinity contest culture: How "win or die" cultures breed abusive leadership. *Journal of Social Issues*, 74(3), 500–528. <https://doi.org/10.1111/josi.12284>
- McCall, L. (2005). The complexity of intersectionality. *Signs: Journal of Women in Culture and Society*, 30(3), 1771–1800. <https://doi.org/10.1086/426800>
- Meet You. (2022). Survey on the current state of workplace stress for Chinese women. [https://www.sohu.com/a/549964639\\_120189950](https://www.sohu.com/a/549964639_120189950).
- Mielke, G. I., Malta, D. C., Nunes, B. P., & Cairney, J. (2022). All are equal, but some are more equal than others: Social determinants of leisure time physical activity through the lens of intersectionality. *BMC Public Health*, 22(1), 36. <https://doi.org/10.1186/s12889-021-12428-7>
- Miller, Y., & Brown, W. J. (2005). Determinants of active leisure for women with young children – an 'ethic of care' prevails. *Leisure Science*, 27(5), 405–420. <https://doi.org/10.1080/01490400500227308>
- Nomaguchi, K. M., & Bianchi, S. M. (2004). Exercise time: Gender differences in the effects of marriage, parenthood, and employment. *Journal of Marriage and Family*, 66(2), 413–430. <https://doi.org/10.1111/j.1741-3737.2004.00029.x>
- Pino Gavidia, L. A., MacDermid, J. C., Brunton, L., & Doralp, S. (2023). A qualitative study of healthy eating, physical activity, and mental health among single mothers in Canada. *PLoS One*, 18(11), e0294552. <https://doi.org/10.1371/journal.pone.0294552>
- Rankin, J. R. (2023). *Death by overwork: A systematic review of work-life balance approaches in Japanese firms* [Master's thesis]. University of Maryland University College.
- Ray, R. (2014). An intersectional analysis to explaining a lack of physical activity among middle class black women. *Sociology Compass*, 8(6), 780–791. <https://doi.org/10.1111/soc4.12172>



- Regina, J., & Allen, T. D. (2023). Masculinity contest culture: Harmful for whom? An examination of emotional exhaustion. *Journal of Occupational Health Psychology*, 28(2), 117–128. <https://doi.org/10.1037/ocp0000344>
- Rousou, E., Kouta, C., Middleton, N., & Karanikola, M. (2013). Single mothers' self-assessment of health: A systematic exploration of the literature. *International Nursing Review*, 60(4), 425–434. <https://doi.org/10.1111/inr.12044>
- Ryde, G. C., Atkinson, P., Stead, M., Gorely, T., & Evans, J. M. (2020). Physical activity in paid work time for desk-based employees: A qualitative study of employers' and employees' perspectives. *BMC Public Health*, 20(1), 1–10. doi:10.1186/s12889-019-7969-5
- Safi, A., Cole, M., Kelly, A. L., Zariwala, M. G., & Walker, N. C. (2022). Workplace physical activity barriers and facilitators: A qualitative study based on employees' physical activity levels. *International Journal of Environmental Research and Public Health*, 19(15), Article 9442. <https://doi.org/10.3390/ijerph19159442>
- Salmons, J. (2015). *Qualitative online interview: Strategies, designs, and skills*. Sage.
- Santos, I. L., & Miragaia, D. (2023). Physical activity in the workplace: A cost or a benefit for organizations? A systematic review. *International Journal of Workplace Health Management*, 16(1), 108–135. <https://doi.org/10.1108/IJWHM-04-2021-0076>
- Tan, J. (2022). *996, moyu, and involution: Tech work in the age of platform monopoly* [Doctoral dissertation]. Massachusetts Institute of Technology.
- Xie, X., Zhou, H., Gou, Z., & Yi, M. (2021). Spatiotemporal patterns of the use of green space by white-collar workers in Chinese cities: A study in Shenzhen. *Land*, 10(10), 1006. doi:10.3390/land10101006
- Xue, Y. (2021, January 5). Pinduoduo faces growing PR storm over death of young worker after conflicting public statements on tragedy. *South China Morning Post*, 5 January. <https://www.scmp.com/tech/e-commerce/article/3116485/pinduoduo-faces-growing-pr-storm-over-death-young-worker-after>.
- Yang, Y., & Jiao, F. (2024). "Salute the strivers": China's internet giant founders and the discursive construction of over-work. *Media, Culture & Society*, 46(8), 1559–1579. <https://doi.org/10.1177/01634437241258397>