Flexible paths to innovation: mitigating commuting's impact on creative deviance

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Abstract

Purpose - This study aims to investigate how long commutes negatively affect employees' creative deviance at work, exploring the mediating role that impaired work-life balance plays in linking commute to restricted creative deviance, as well as examining whether access to flexible work arrangements can alleviate commuting's detrimental indirect effects.

Design/methodology/approach - This study employed a three-wave survey methodology conducted over monthly intervals with 246 participants in China's Pearl River Delta region. Rigorous screening ensured a demographically diverse sample.

Findings - Commuting time negatively affects creative deviance, both directly and indirectly through work-life balance. Flexible work arrangements mitigate the adverse effects of long commutes on work-life balance, subsequently weakening the indirect effect of commuting time on creative deviance through work-life balance.

Practical implications - A holistic approach is suggested for organizations aiming to foster a supportive and ethical work environment, which involves a combination of organizational

policies, leadership practices, and individual actions to promote both creativity and employee welfare.

Originality/value - This research breaks new ground by identifying commuting time as a key factor influencing creative deviance in the workplace, mediated by work-life balance. It integrates transportation research with organizational behavior, applying an ethics of care perspective to challenge traditional paradigms. The study's interdisciplinary approach, bridging multiple fields, provides a novel, holistic view of how non-work factors impact workplace innovation.

Keywords Creative deviance, Commuting, Work-life balance, Flexible work arrangement, Grassroots innovation, Ethics of care

Paper type Research paper

Introduction

In the fast-paced business world, innovative employees face a dilemma when their groundbreaking ideas are hindered by organizational resource constraints. This can lead some determined individuals to engage in “creative deviance,” which refers to the deliberate pursuit of creative ideas that deviate from prescribed organizational norms and processes, often without the explicit approval of supervisors (Mainemelis, 2010). It has two main aspects: the “deviant” aspect, often seen negatively within organizations, and the “creative” aspect, typically viewed as positive and beneficial for an organization’s performance and growth (Mainemelis, 2010). For example, an engineer at an automotive company who, outside of assigned projects, secretly develops a new AI-powered safety feature that could revolutionize accident prevention. The deviant aspect lies in the engineer using company resources and repurposing existing technology without formal approval, while the creative

aspect is the innovative safety feature that could significantly enhance the company's market position and profitability. This represents positive creative deviance, where the rule-breaking is driven by the potential to benefit both the organization and society.

Creativity is paramount for organizations a competitive edge and long-term adaptability (Xu *et al.,* 2023). Unlike other forms of deviant workplace behaviors (Singh, 2019), such as workplace aggression (Cao *et al.,* 2023), creative deviance has the potential to produce positive outcomes (Belschak and Den Hartog, 2010; Robinson and Bennett, 1995). However, most research on deviant behavior predominantly examines its negative aspects, with limited exploration of positive deviance. Positive creative deviance involves breaking organizational rules or norms in a way that benefits the organization or its stakeholders (Galperin, 2012; Vadera *et al.,* 2013). It is characterized by innovative and entrepreneurial behaviors that deviate from the status quo but align with the organization's underlying values and goals (Mertens *et al.,* 2016). Conversely, negative creative deviance involves rule-breaking that is self-serving, harmful, or misaligned with organizational goals (B. Lin *et al.,* 2016). It is often driven by personal gain, like pursuing creative ideas solely for personal recognition or engaging in unethical behavior to achieve a desired outcome (Cropanzano and Mitchell, 2005). The study focuses on how organizations can foster a culture that supports positive creative deviance.

Organizations often highlight the significance of ethical leadership and psychological empowerment to foster positive or constructive deviant behaviors, such as whistleblowing and engaging in actions that benefit the organization (Zhang *et al.,* 2022). However, creative deviance often arises when organizations lack the resources or willingness to support innovative behavior through official channels (Augsdorfer, 2005; Globocnik and Salomo, 2015). Stringent budgets, risk-averse cultures, and rigid hierarchies can stifle creativity, leading some employees to pursue ideas covertly (Augsdorfer, 2008). Moreover,

organizations may resist disruptive innovations that challenge the status quo or cannibalize existing products and services (Criscuolo *et al.,* 2014). Faced with these barriers, creative deviants take the initiative to develop novel solutions without formal approval or resources. In such a case, from an ethics of care perspective, organizations have a moral obligation to protect their employees' well-being and work-life balance, thus creating an environment conducive to creative deviance (Phipps and Prieto, 2016). The ethics of care highlights the significance of empathy, compassion, and ethical decision-making in fostering healthier workplace cultures and more responsible organizations (Fotaki *et al.,* 2019). This perspective contends that organizations have a moral obligation to prioritize employee well-being and foster supportive work environments (McDowell, 2004). By demonstrating genuine concern for employees' needs, organizations can cultivate trust, loyalty, and intrinsic motivation (Colbert *et al.,* 2016). In turn, this caring culture encourages employees to engage in constructive behaviors, such as creative deviance, that benefit the organization and its stakeholders (Vadera *et al.,* 2013).

Engaging in creative deviance poses significant challenges for employees, such as a lack of organizational support, pushing boundaries, challenging the status quo, and requiring personal initiative, risk-taking, and potential sacrifices (Mainemelis, 2010; Vadera, *et al.,* 2013). Besides these factors, there is a less-explored challenge: the impact of long commutes, which consume time and energy, potentially reducing an employee's capacity for creative thinking and innovation (Chen *et al.,* 2023). Long commutes, often termed "nightmares" or "hell" by commuters have garnered extensive research attention due to their widespread negative impact (Chen *et al.,* 2023; Gerpott *et al.,* 2021). Previous studies have predominantly focused on individual-level factors, such as self-efficacy, achievement needs, creativity, risk affinity, internal work motivation, work status (Globocnik *et al.,* 2022; Globocnik and Salomo, 2015; Peter, 2012), as well as personal work design features, such as

work discretion, reward systems, and work environment, in relation to creative deviance (Criscuolo *et al.,* 2014; Masoudnia and Szwejczewski, 2012). However, few studies have examined the consequences of lengthy commutes, and many organizations overlook their potential impact on employees' positive creative deviance.

The aim of the study is to investigate how commuting affects employees' capacity to engage in creative deviance. The study seeks to understand the impact of long commutes on employees' ability to engage in creative deviance and how organizations can mitigate these negative effects, improve work-life balance, and foster a culture conducive to positive creative deviance. This study draws upon the conservation of resources (COR) theory and the ethics of care framework to examine the relationship between commuting, employee well-being, and creative deviance in the workplace. Following the ethics of care framework, we argue that organizations can acknowledge the challenges posed by long commutes and implement flexible work arrangements to alleviate commuting stress, improve work-life balance, and foster creative deviance.

Theoretical background and hypotheses

Commuting and creative deviance

In today's era, amid the widespread embrace of remote work and digital technology, traditional commuting remains integral to many individuals' daily work routines. A challenging morning commute imposes significant demands on regulatory resources, hindering goal attainment. The draining impact of a difficult commute can extend into the workplace, reducing the likelihood of employees fully immersing themselves in highly motivated and productive "flow experiences" (Csikszentmihalyi and LeFevre, 1989).

After a long commute, the stress associated with the commute tends to persist as employees begin their workday. As individuals use their internal resources to manage these

emotional and cognitive processes, this has a negative impact on their self-regulatory resources for work (Muraven and Baumeister, 2000). In addition, the allocation of regulatory resources to non-work tasks typically interferes with their ability to focus on work-related tasks (Battiston *et al.,* 2021). Furthermore, due to the limited time available for recovery between commuting and starting work, the resources expended in coping with the pressures of commuting are unlikely to be fully replenished at the start of the workday (Muraven and Baumeister, 2000). As the duration of the commute increases, it gradually depletes individuals' internal regulatory resources, leaving them with fewer resources to allocate to creative deviance at work. Thus,

H1. Commuting time has a significant and negative effect on creative deviance.

Commuting, work-life balance and creative deviance

Commuting is frequently linked to heightened stress and fatigue, setting it apart from more fulfilling daily activities (Gimenez-Nadal and Molina, 2019). The time consumed by long commutes inevitably reduces the resources available for other aspects of life, disrupting the delicate balance (Gimenez-Nadal *et al.,* 2018). The COR theory offers valuable insights into this phenomenon. According to Hobfoll (1989), individuals strive to acquire, maintain, and protect valuable resources such as time and energy. Lengthy commutes deplete these resources, which means less time and energy for personal and family activities, resulting in work-life conflict (Hobfoll and Shirom, 2001; Sturges and Guest, 2004).

Moreover, the stress experienced during commuting can negatively influence other life domains (Lambert, 1990). This negative spillover can exacerbate work-family conflicts, as individuals may have less patience or engagement with family members after a stressful commute (Pedersen and Lewis, 2012). Commute-related stressors, such as traffic congestion and unpredictable travel times, effectively extend the workday and encroach upon personal

time (Novaco and Gonzalez, 2009), making it increasingly challenging for individuals to manage their various life demands effectively (Gobel *et al.,* 1998). Thus,

H2. Commuting time has a significant and negative impact on employees' work-life balance.

Work-life balance is important for employees and organizations across cultures (Brough *et al.,* 2020). It enhances job and family satisfaction (O'Driscoll *et al.,* 2004; Spector *et al.,* 2007), increases work engagement (Chan *et al.,* 2017), and improves mental health by mediating job stress (Timms *et al.,* 2015). Employees with good work-life balance demonstrate better job performance, organizational citizenship, and lower turnover intentions (Brough *et al.,* 2014). It also strengthens self-efficacy, creates a positive spillover between work and personal life, and fosters affective commitment (Kim, 2014). While less researched, work-life balance improves family functioning (Brough *et al.,* 2020).

Conversely, the disruption of work-life balance can lead to a number of negative consequences, including impaired work performance, decreased job satisfaction, and increased absenteeism. One of the less well-understood consequences of this imbalance is its negative impact on innovative work behavior. As suggested by Abstein, Heidenreich, and Spieth (2014), work-life imbalance may lead to stress and burnout, both of which can detrimentally affect cognitive function and hinder creative thinking. Moreover, this conflict poses challenges for employees in allocating time and energy to participate in creative behaviors, as their attention may be overly concentrated on restoring work-life balance. Given these observations, this study posits:

H3. Work-life balance plays a mediating role between commuting time and creative deviance.

Flexible work arrangements

From the organization's perspective, the ethics of care informs policies and practices that support work-life balance by emphasizing the importance of relationships, empathy, caregiving, and individual well-being (McDowell, 2004). The ethics of care challenges the traditional economic and contractual structures (Fotaki *et al.,* 2019), to cultivate a caring culture in organizations boosts employee well-being and performance (Colbert *et al.,* 2016; Lawrence and Maitlis, 2012). This includes offering a variety of flexible work arrangements, such as compressed workweeks, flexible working hours, job-sharing arrangements, telecommuting options, child care support, leave options, and access to stress management resources (Nielsen and Yarker, 2023).

According to COR theory, work-family conflict is a significant stressor impacting mental health and accelerating resource depletion (Cole and Secret, 2012). Employees facing this conflict actively seek external resources for mitigation (Pattusamy and Jacob, 2016). Flexible work arrangements act as an emotional release, effectively buffering resource depletion, and providing valuable time resources to counteract the impact of long commutes, strengthening employees' overall resource reserves. Moreover, by empowering employees to manage their work hours and locations, flexible work arrangements reduce the need for commuting and help achieve work-life balance (Toffoletti and Starr, 2016). Thus,

H4. Flexible work arrangements moderate the link between commute duration and work-life balance, mitigating the adverse influence of commute time on work-life balance.

Under flexible work arrangements, employees enjoy the freedom from fixed working hours, while ensuring that such flexibility doesn't compromise the organisation's rights and interests (De Cieri *et al.,* 2005; Fotaki *et al.,* 2019; McDowell, 2004). Moreover, they stimulate employees to participate in creative activities that contribute to innovation (O'Rourke, 2021). Employees who achieve work-life balance often exhibit a greater willingness to put in extra hours at work (Dahm et *et al.,* 2015), which promotes their

innovative behavior, including creative deviance. Therefore,

H5. Flexible work arrangements moderate the mediating role of work-life balance between commuting time and creative deviance, i.e., the higher the level of flexible work arrangements, the weaker the negative impact of commuting time on work-life balance, and the smaller the mediating effect on creative deviance.

Our research model is presented in Figure 1.

INSERT FIGURE 1 HERE

Research methods

Empirical context

This study focuses on the central cities of the Pearl River Delta in China, a rapidly urbanizing region with significant economic growth, particularly in Guangzhou and Shenzhen. The area's economic importance and severe traffic congestion make it an ideal setting to explore how commuting challenges impact employees' daily lives and their capacity for creative deviance. As a key part of the Guangdong-Hong Kong-Macao Greater Bay Area and a hub for high-tech industries, this region offers a compelling backdrop for examining the relationship between commuting difficulties and innovative behavior.

Sample and data collection

Data were collected from employees working in 10 leading high-tech manufacturing companies across four major cities in the Pearl River Delta region of China (Guangzhou - 3, Shenzhen - 3, Foshan - 2, and Huizhou - 2). We secured the HR managers from these companies' support by distributing and collecting the questionnaires. They were instructed to ensure proportional distribution between office employees (including R&D specialists, engineers and designers, project managers, and marketing and sales personnel) and factory

frontline employees (including machine operators, technicians, quality control inspectors, and production supervisors).

Participants were informed that the study was examining the living conditions of workers in Pearl River Delta enterprises. This general description was intended to protect the specific research focus on creative deviance, thereby reducing potential biases in the responses. To prevent the potential bias associated with data collected from a single source, the data collection was carried out in three waves, each separated by a one-month interval. During the first phase, commuting times and flexible work arrangements were measured. In the second phase, participants' work-life balance was assessed, and in the third phase, data related to creative deviance were collected. To facilitate the matching of data across these three measurements, participants were asked to input the last four digits of their ID number after completing each questionnaire, enabling accurate tracking of responses.

In each of the ten companies, 100 questionnaires were distributed, totaling 1,000 questionnaires. Of these, 326 completed responses were received, resulting in a response rate of 32.6%. After a rigorous screening process to eliminate unusable responses with missing data or excessive similarity in answers, 246 usable questionnaires were retained. Responses with "excessive similarity" were identified using LongString Analysis to detect patterns of repetitive responses. Responses were flagged as problematic if consistent answers spanned half or more of the total scale length, in accordance with Curran's (2016) approach.

The sample exhibited a diverse distribution, meeting the fundamental requirements of the study. Regarding demographic characteristics, 52.8% of participants were male, 81.2% fell within the age range of 20 to 49, 73.2% were married, 52.0% held bachelor's degrees, and 82.3% reported monthly income levels between CNY5,000 and CNY15,000 (Chinese Yuan, after tax). The collected data were analyzed and processed using SPSS 25.0 and Stata. To

mitigate the impact of extreme outlier values, this study employed winsorization, setting the 2% and 98% quantiles of the main variables as cutoff points for data normalization.

Measures

The study employed several well-established constructs to measure key variables:

Creative deviance. To assess creative deviance, a scale developed by B. Lin *et al.,* (2016) was utilized. This scale comprises nine items that have demonstrated high reliability and validity. The internal consistency of this scale, as measured by the alpha coefficient, was found to be 0.907, indicating strong reliability.

Commuting time. Commuting time was measured using a single-item question designed as follows: “You spend ( ) minutes on your way to work every day (round-trip time).” Participants reported their daily commuting time in minutes, which we converted to hours for analysis (minimum 0.200 hours, maximum 3.100 hours, mean 1.140 hours, and standard deviation 0.654 hours).

Work-life balance. The measurement of work-life balance employed a scale borrowed from X. Lin *et al.,* (2016). This scale comprises 17 questions, and its reliability was established with a Cronbach's α coefficient of 0.944, indicating a high level of internal consistency.

Flexible work arrangements. This construct was assessed through two subscales: work autonomy and work flexibility willingness. The work autonomy subscale was adapted from James, A., and Breaugh (1985), and it exhibited a Cronbach's α coefficient of 0.811, indicating good reliability. The work flexibility willingness subscale was adapted from Matthews and Barnes-Farrell (2010) and demonstrated a Cronbach's α coefficient of 0.821, signifying strong internal consistency.

The questionnaire was administered in Chinese. Items assessing creative deviance and flexible work arrangements were originally developed in English and underwent a rigorous back-translation process. The items related to work-life balance were initially created in Chinese. All these items are presented in the Appendix.

Results

Descriptive statistics

Table 1 displays descriptive data for each variable. The findings revealed negative correlations between commuting time and both work-life balance and creative deviance, while work-life balance exhibited a positive correlation with creative deviance. The correlation coefficient between work flexibility and other variables was not statistically significant. To assess multicollinearity, variance inflation factors (VIF) were calculated, and all variables had VIF values lower than 2.5, indicating no evidence of multicollinearity and supporting the subsequent regression model analysis.

INSERT TABLE 1 HERE

Common method variance test

We first analyzed the impact of common method variance (CMV) using Harman's single-factor test. The results indicated that the variance explained by the first factor in the unrotated factor solution was 37.912%, which is below the 40% threshold (Podsakoff et al., 2003), suggesting that CMV is not a serious issue. While Harman's single-factor test is widely used, we recognize its limitations in diagnosing and controlling for CMV (Podsakoff et al., 2003). To provide a more robust assessment of CMV, we further employed the unmeasured latent method construct (ULMC) approach (Williams & McGonagle, 2016). Using AMOS, we compared the model fit before and after adding a common method factor as a latent variable to our structural equation model. The results showed that the change in model fit indices did

not exceed 0.02 (Before: $\chi2$=709.504, df=400, $\chi2$/df=1.774, RMSEA=0.058, TLI=0.934, CFI=0.943, IFI=0.944, SRMR=0.0497; After: $\chi2$=707.436, df=399, $\chi2$/df=1.773, RMSEA=0.058, TLI=0.934, CFI=0.944, IFI=0.944, SRMR=0.0497). This indicates that the impact of CMV in our study is not a concern.

Hypothesis testing

This study uses the PROCESS macro in SPSS 25.0 (Bootstrap = 5000 samples) Model 7 to test the hypotheses and constructs a 95% bias-corrected confidence interval (95% CI). When the interval does not include 0, it indicates that the main and mediating effects are significant. The results are shown in Table 2.

INSERT TABLE 2 HERE

Our first hypothesis (H1) was supported by the results that commuting time significantly negatively affects creative deviance. This finding indicates that longer commutes are associated with decreased creative deviance in the workplace. Moreover, we found support for our second hypothesis (H2), as commuting time also significantly negatively impacts work-life balance, suggesting that longer commutes are detrimental to employees' ability to balance their work and personal lives.

In addition, our results also indicated that work-life balance plays a significant mediating role in the relationship between commuting time and creative deviance. We observed that work-life balance significantly affects creative deviance, and commuting time indirectly affects creative deviance through work-life balance. This supports our third hypothesis (H3), suggesting that while commuting time directly influences creative deviance, a significant portion of this influence is explained by its effect on work-life balance.

Our analysis further revealed that work flexibility indeed moderates the relationship between commuting time and work-life balance, supporting our fourth hypothesis (H4). The

interaction term of commuting time and work flexibility was significant. When work flexibility is low (Mean - 1SD), the negative impact of commuting time on work-life balance is more pronounced. Conversely, under conditions of high work flexibility (Mean + 1SD), although commuting time still negatively affects work-life balance, it does so to a lesser extent . This finding highlights the potential of work flexibility as a buffer against the negative effects of long commutes on work-life balance.

Furthermore, our examination of the moderated mediation effect yielded results that supported our fifth hypothesis (H5). We found significant indirect effects at both low and high levels of work flexibility. When work flexibility was low, the indirect effect was stronger compared to when work flexibility was high. The difference between these indirect effects was significant, indicating that the mediating role of work-life balance in the relationship between commuting time and creative deviance is more pronounced when employees have less flexible work arrangements. The index of moderated mediation further confirmed these findings, demonstrating a significant difference in the indirect effects between high and low levels of work flexibility.

To gain a clearer understanding of the moderation effect between commuting time and work-life balance, the sample was split into two groups according to their work flexibility levels and a simple slope test was conducted, as illustrated in Figure 2. It illustrates that commuting time exhibits a significant negative effect on work-life balance in the case of low work flexibility, and this effect weakens in the case of high work flexibility. This observation provides further support for the moderating effect of work flexibility.

INSERT FIGURE 2 HERE

Discussion

This study explores creative deviance in the corporate world, where employees challenge

norms to pursue innovation. Using COR theory, it investigates how flexible work arrangements mitigate the negative effects of long commutes, improve work-life balance, and encourage creative deviance. The findings reveal that long commutes reduce creative deviance by increasing work pressure and blurring the line between work and personal time. Conversely, a positive work-life balance boosts creative deviance by providing emotional resources and motivation. Flexible work arrangements help alleviate the negative impact of commuting, enhancing work-life balance and fostering creative deviance.

Theoretical implications

The study makes three key theoretical contributions. First, the study identifies commuting time as a novel antecedent of creative deviance, filling a significant gap in the existing literature. Previous research has primarily focused on individual-level factors (Globocnik *et al.,* 2022; Globocnik and Salomo, 2015; Peter, 2012) and personal work design attributes (Criscuolo *et al.,* 2014; Masoudnia and Szwejczewski, 2012) as predictors of creative deviance, while largely overlooking the role of contextual factors such as commuting time. The finding that longer commutes reduce employees' capacity for creative deviance challenges our prior knowledge about the antecedents of creative deviance, and highlights the need for a more holistic approach that considers the spillover effects of non-work factors on employee behavior.

The identification of work-life balance as a mediating mechanism linking commuting time to creative deviance represents a significant theoretical contribution, integrating previously separate streams of research and extending the work-family spillover literature. This study bridges the gap between transportation research and organizational behavior by demonstrating a clear spillover effect from the non-work domain (commuting) to the work domain (creative deviance), with work-life balance serving as the key intermediary mechanism. While previous research has established the negative effects of long commutes

on work-life balance (e.g., Clark *et al.,* 2020; Wheatley, 2012) and the positive effects of work-life balance on employee creativity (e.g., Brough *et al.,* 2014; Chan *et al.,* 2017; Kim, 2014; Timms *et al.,* 2015), this study is the first to integrate these findings and reveal their interconnected nature. This contribution aligns with and extends the job demands-resources model and complements research on family-related demands and resources (Brough *et al.,* 2020), suggesting that non-work factors like commuting can similarly influence work-life balance and workplace behaviors.

The third significant theoretical contribution of this study is the integration of the ethics of care perspective into the study of creative deviance and work-life balance. By adopting an ethics of care lens (Phipps and Prieto, 2016; Tomkins and Bristow, 2023), the study challenges traditional organizational paradigms and emphasizes the importance of human-centric and ethical decision-making in fostering a culture of innovation and ethical integrity. The study demonstrates that organizations that prioritize employees' work-life balance and offer flexible work arrangements create an environment conducive to extra-role innovation activities such as creative deviance (Tomkins and Bristow, 2023). This finding highlights the transformative potential of integrating the ethics of care perspective into organizational frameworks and expands our understanding of how organizations can foster conditions that support both employee well-being and creative deviance. The integration of the ethics of care perspective represents a novel theoretical approach that bridges the fields of organizational behavior, transportation, and ethics.

Practical implications

This study offers practical guidance for organizations aiming to create a supportive, ethical work environment while encouraging creative deviance. Organizations should prioritize the implementation of flexible work arrangements as a key strategy to mitigate the negative effects of long commutes on creative deviance and work-life balance. This can include

options such as remote work, flextime, or compressed workweeks. To effectively implement these arrangements, companies should develop clear policies, invest in necessary technology for remote collaboration, and train managers on leading flexible teams.

Secondly, a strong focus on work-life balance initiatives is critical, given its role as a mediator between commuting and creative deviance. Organizations can support work-life balance by offering workshops on time management and stress reduction and providing resources for mental health and well-being. Moreover, companies should consider offering additional personal days or sabbaticals and encourage managers to model good work-life balance practices.

Lastly, fostering a creativity-supportive environment is essential to counterbalance the potential negative impacts of long commutes on creative deviance. Organizations can achieve this by allocating dedicated time for innovation projects or "creative thinking" sessions, establishing rewards or recognition for innovative ideas, and creating physical spaces that encourage collaboration and creative thinking. Training leaders to recognize and nurture creative deviance and implementing a process for employees to submit and develop innovative ideas are also crucial steps.

Future research

There are several limitations that future research should address. While it focuses on work-life balance and flexible work arrangements, future studies could explore how an ethics of care perspective, including caring relationships and psychological safety, influences innovation. The scope could be expanded to consider both pro-self and pro-social creative deviance, as well as additional commuting stressors beyond length, such as transport mode. Finally, to improve generalizability and reduce potential bias, subsequent studies should utilize objective data sources and broader samples beyond the Pearl River Delta region.

Conclusion

This study significantly advances the understanding of creative deviance within organizational contexts by revealing the intricate relationship between long commutes, work-life balance, and employee innovation. Based on the ethics of care framework and COR theory, the research unveils that extended commuting adversely affects creative deviance through compromised work-life balance. The theoretical implications underscore the transformative potential of integrating the ethics of care perspective into organizational frameworks, challenging traditional paradigms and emphasizing the importance of prioritizing employee well-being.

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Table 1.

Descriptive data

Variables	Mean	SD	1	2	3	4
1. Commuting time (T1)	1.139	0.654	1			
2. Work-life balance (T2)	3.610	0.713	-.580**	1		
3. Creative deviance (T3)	4.889	1.135	-.535**	0.695**	1	
4. Flexible work arrangements (T1)	3.384	0.918	-0.028	0.220*	0.105	1

Notes: *p<0.05,**p<0.01,***p<0.001; T1,T2 and T3 refer to different measurement time periods.
Source: Authors' own creation

Table 2

Hypotheses testing

Hypotheses	Coefficient	Bootstrap SE	Bootstrap LLCI	Bootstrap ULCI
Direct effect				
H1: CT—>DC	-0.344***	0.099	-0.539	-0.149
Indirect effect				
H2: CT—>WLB	-0.624***	0.056	-0.735	-0.512
WLB—>DC	0.924***	0.091	0.745	1.103
H3: CT—>WLB—>DC	-0.576***	0.088	-0.744	-0.399
Moderating effect				
Mean-SD	-0.748***	0.077	-0.900	-0.596
Mean	-0.624***	0.056	-0.735	-0.512
Mean+SD	-0.500***	0.078	-0.654	-0.346
FWA—>WLB	0.155**	0.040	0.076	0.235
H4: CT*FWA—>WLB	0.135*	0.058	0.021	0.249
Conditional indirect effect				
Mean-SD	-0.691***	0.099	-0.876	-0.491
Mean	-0.576***	0.088	-0.744	-0.399
Mean+SD	-0.462***	0.111	-0.672	-0.232
Pairwise contrasts（±SD）	0.229**	0.116	0.018	0.474
H5: Moderated Mediation	0.125*	0.063	0.007	0.258

Notes: Standard errors are in parentheses, *p<0.05,** p<0.01,*** p<0.001. CT=Commuting time; DC=Creative deviance; WLB=Work-life balance; FWA=Flexible work arrangement.

Source: Authors' own creation

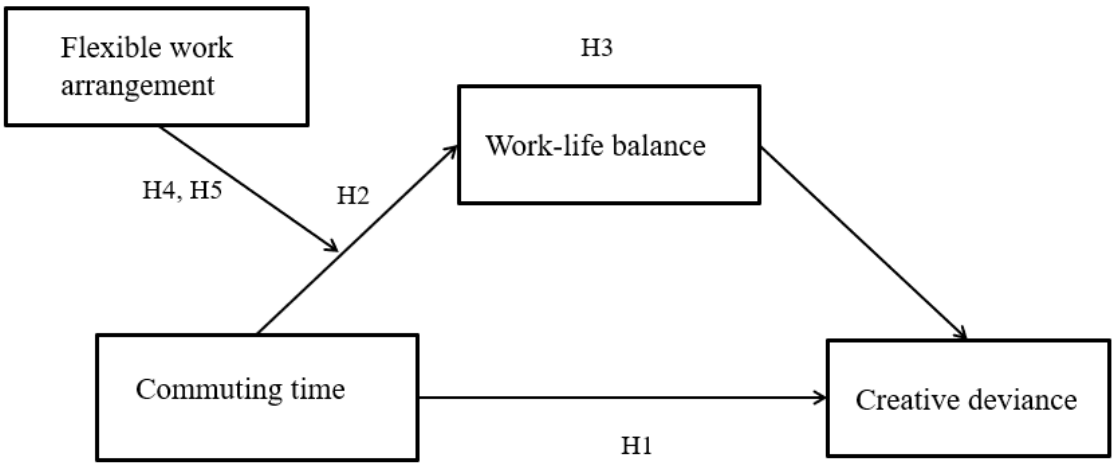

Figure 1.

Research model

Source: Authors' own creation

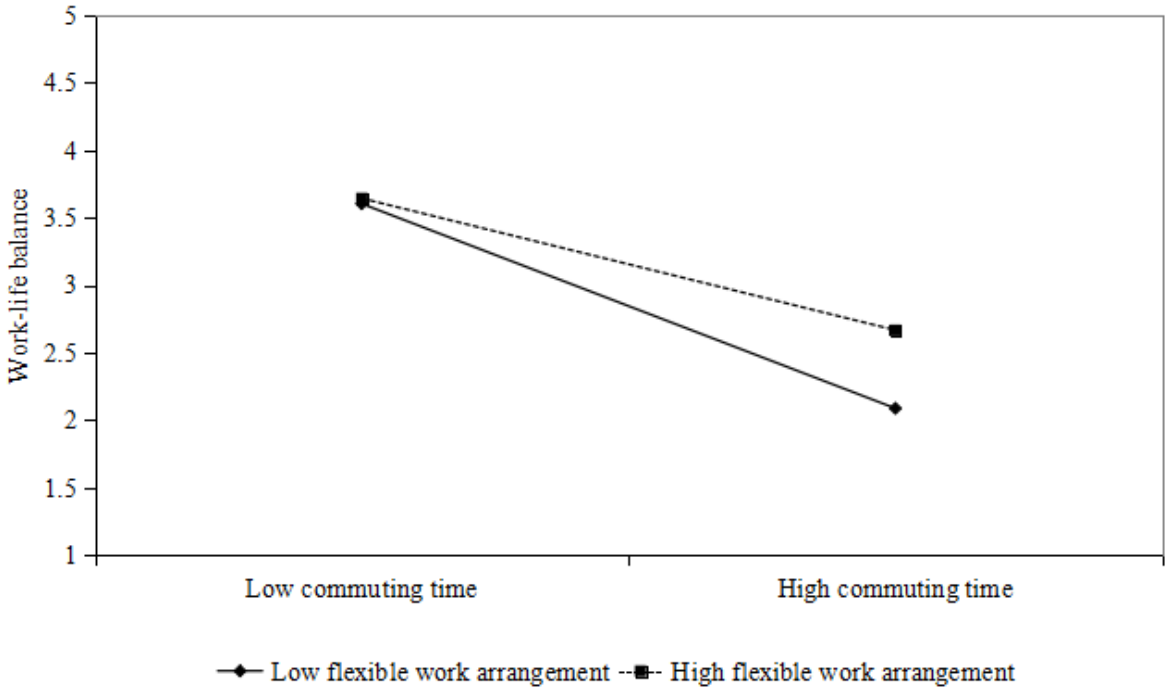

Figure 2.

The moderation of flexible work arrangement

Source: Authors' own creation

Appendix. Construct measures

Creative deviance (Adapted from B. Lin, Mainemelis, & Kark, 2016, through back-translation)

1. I continued to refine some new ideas, even though my supervisor did not approve them.
2. During my work hours, I often thought about how to improve the ideas that were rejected.
3. Despite my supervisor's request to stop developing certain ideas, I continued to work on them.
4. In addition to working on ideas approved by my supervisor, I also put effort into improving the rejected ones by gathering information and trying again.
5. I spent some of my work time developing ideas that were rejected by my supervisor.
6. I have not yet given up on some of the ideas that were rejected.
7. I improved some of the rejected ideas during my working hours.
8. Even though my supervisor stopped certain ideas, I worked on improved versions of those ideas.
9. I continued to work on the rejected ideas using some of my work time or resources.

Work-life balance (Adapted from X. Lin, Wang, Hao, & Li, 2016, translated from the original Chinese scale)

1. Work takes up too much of my family time, creating a conflict that makes me want to change the situation.
2. Family responsibilities consume too much of my work time, creating a conflict that makes me want to change the situation.
3. Work makes me feel very tired, which prevents me from managing family matters, and I want to change this.
4. Family tasks make me feel very tired, which prevents me from focusing on work, and I want to change this.
5. I actively adjust how I allocate my time and energy between work and family.
6. My family has no objections to how I balance work and family responsibilities.
7. I do not perceive a conflict between my work and family arrangements.
8. I carry emotions (both positive and negative) from work into my home life.
9. The emotions (both positive and negative) I experience at home affect my work.
10. I discuss work-related issues with my family.
11. My family's support, understanding, and assistance with my work help me perform more effectively.
12. I believe that effective work performance contributes to family harmony.
13. If my family faces financial difficulties, I will devote more time and energy to work to earn additional income.
14. My supervisor's understanding and support help me manage my family relationships.
15. The social status and resources I gain from work compensate for my limited investment in family matters.

16. The income I earn from work compensates for my limited investment in family matters.
17. I feel that all of my work-related needs are being met.

Flexible work arrangements (Adapted from James & Breaugh, 1985; Matthews & Barnes-Farrell, 2010, through backtranslation)

1. I have control over my work schedule.
2. I have some control over the order of my work activities (i.e., when I do each task).
3. My job allows me to decide when to complete specific work tasks.
4. I am willing to delay my lunch break to address family and personal matters.
5. If my supervisor agrees, I am willing to start work later to better accommodate my family and personal life.
6. I am willing to change or pause my regular work tasks to take care of my family and personal life.
7. I am willing to allocate some work time to address family and personal life issues.