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# Workplace Loneliness: Unraveling Causes, Effects, and Mitigation Mechanisms

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# 職場における孤独感：原因，影響および緩和メカニズムの解明

# Workplace Loneliness: Unraveling Causes, Effects, and Mitigation Mechanisms

靳　佳頴

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# Chapter 1. Introduction

## Abstract

This study aims to prevent and alleviate workplace loneliness among employees while verifying these mechanisms across different work contexts. With the advancement of the digital era, workplace loneliness has become increasingly prevalent in organizations. Workplace loneliness reduces employees' performance and well-being, and, for organizations, it hinders goal achievement and employee commitment. Therefore, exploring effective mechanisms to alleviate workplace loneliness is crucial for improving employee well-being and essential for sustaining organizational development.

Since the COVID-19 pandemic, telework and hybrid work arrangements have become the norm. Although these new work patterns increase flexibility, they also reduce interpersonal communication and emotional connections among employees, thereby heightening the risk of workplace loneliness. To ensure the effectiveness of hybrid work, establishing mechanisms to mitigate workplace loneliness has become an urgent priority. However, existing research remains limited in systematically examining how leadership reduces workplace loneliness across various work settings.

This study first reviews the concept of workplace loneliness and related research, identifying key factors influencing its emergence and alleviation. Within existing research, leadership and leader behaviors are recognized as factors potentially affecting employee relationship quality and mental health. Therefore, this study explores how different organizational support behaviors and management approaches influence the occurrence and alleviation of workplace loneliness in both traditional and hybrid work environments. This study consists of six chapters:

**Chapter 1** outlines the concept, structure, and measurement of workplace loneliness and states the research objectives.

**Chapter 2** investigates how workplace loneliness inhibits job crafting and proactive behaviors.

**Chapter 3** analyzes how servant leadership alleviates workplace loneliness through empathetic communication in traditional settings.

**Chapter 4** examines how inclusive leadership reduces workplace loneliness by enhancing communication in hybrid settings.

**Chapter 5** explores the role of leader support in mitigating workplace exclusion and loneliness in hybrid contexts.

**Chapter 6** summarizes the study's findings and implications.

## 1.1 Research Background

### 1. The Concept of Loneliness

Loneliness is a negative emotional experience associated with feelings of loss and isolation. It represents a universal psychological phenomenon that arises from the gap between desired and actual interpersonal relationships (Peplau & Perlman, 1982). The degree of loneliness is not static but fluctuates across life stages. Research indicates that loneliness is most prevalent and intense during adolescence, gradually decreases in adulthood, yet still affects approximately one-quarter of adults (Atiku et al., 2025; Weeks, 1994). Moreover, individual factors shape the experience of loneliness. People with stronger social needs are more likely to feel lonely when their interpersonal relationships are insufficient, because loneliness is a subjective psychological experience rather than an objective condition of social connection. Cutrona (1982) noted that satisfaction with interpersonal relationships predicts loneliness more accurately than the mere frequency of social contact. Furthermore, individual characteristics such as gender, shyness, and self-esteem are closely related to loneliness. Many studies have shown that females, individuals with higher levels of shyness, and those with lower self-esteem tend to experience greater loneliness (Nicolaisen & Thorsen, 2024; Pagan, 2020; Perlman & Peplau, 1981).

In addition to personal traits, situational factors also play an important role. For instance, factors such as low socio-economic status, living alone or being divorced,

social isolation resulting from telework, and disadvantageous social comparisons can all intensify the experience of loneliness (Arnold et al., 2021; Solmi et al., 2020). In sum, loneliness is not merely an individual's internal emotional state but a social psychological phenomenon that is widespread across various social contexts.

According to McCarthy et al. (2025), loneliness can be explained through four theoretical frameworks: evolutionary theory, social-needs theory, cognitive discrepancy theory, and social exchange theory. From an evolutionary perspective, people naturally seek a sense of belonging and social connection within societies and organizations as a means of survival and adaptation (Cacioppo & Cacioppo, 2018). Second, the social-needs theory emphasizes that humans are born with a fundamental need for social interaction, and when this need is unmet, individuals experience loneliness (Baumeister & Leary, 1995). Third, the cognitive discrepancy theory explains loneliness from a subjective perspective, suggesting that it arises from the gap between ideal and actual interpersonal relationships in terms of both quantity and quality (Perlman & Peplau, 1995). Finally, the social exchange theory focuses on the consequences of loneliness, proposing that lonely individuals struggle to establish reciprocal and mutually beneficial social relationships, which may lead to withdrawal from social interaction (Cropanzano & Mitchell, 2005; Lawler, 2001).

## 2. The Structure of Loneliness

Loneliness is viewed as a multidimensional construct, though scholars have yet to reach consensus on its dimensions. Moustakas (1961) first distinguished two forms of loneliness: loneliness anxiety and existential loneliness. Loneliness anxiety refers to the feelings of anxiety and distress that arise when individuals lack satisfactory social relationships, whereas existential loneliness denotes the inevitable human condition of being fundamentally alone in the world. Subsequently, based on the functions of social relationships, Weiss (1973) proposed a two-dimensional model of loneliness consisting of emotional loneliness and social loneliness, which respectively represent the absence of intimate attachment and the lack of broader social

connectedness. This two-dimensional structure has been extensively validated in subsequent studies and is now the most widely accepted theoretical framework of loneliness. Attachment relationships and social connectedness are commonly used to assess these two dimensions (De Jong-Gierveld & van Tilburg, 2006). Meanwhile, research on the third dimension (existential loneliness) has steadily increased in recent years (Ettema et al., 2021; Gökdemir-Bulut & Bozo, 2018). Recent empirical research has confirmed the three-dimensional structure of loneliness, with existential loneliness being particularly salient among terminally ill, end-of-life, and elderly individuals (Van Tilburg, 2021).

In addition, viewed from a temporal perspective, Perlman & Peplau (1981) classified loneliness into transient (state) and chronic (trait) forms. State loneliness refers to a temporary emotional state typically triggered by situational social isolation in daily life, whereas trait loneliness is a stable psychological tendency reflecting a long-term lack of social connection. An individual may experience loneliness only occasionally, or may have a persistent tendency to feel lonely. When individuals frequently experience loneliness across various situations, it gradually develops into a personality trait (Neto & Barros, 2000). Survey data indicate that approximately 15% of the population experiences chronic loneliness (Shiovitz-Ezra & Ayalon, 2010). The negative consequences of long-term loneliness accumulate over time, manifesting in accelerated aging and increased risks of both physical and mental health problems (Caspi et al., 2006; Hawkley & Cacioppo, 2007). Therefore, loneliness should be understood as a dynamic and modifiable state requiring continuous attention and intervention.

## 3. Measurement of Loneliness

To date, researchers have developed single-item, unidimensional, and multidimensional measures to assess loneliness. Among these, the most widely used is the UCLA (University of California, Los Angeles) Loneliness Scale (Russell et al., 1980), which measures individuals' overall level of loneliness. However,

unidimensional scales cannot accurately capture different types of loneliness. Guided by Weiss (1973) two-dimensional conceptualization of loneliness, Wittenberg & Reis (1986) and De Jong-Gierveld & Kamphuls (1985) developed two-dimensional scales to measure emotional loneliness and social loneliness. Later, De Jong-Gierveld & Van Tilburg (2010) created a shortened six-item version of the De Jong-Gierveld Loneliness Scale, which has been widely used in large-scale surveys.

Regarding the multidimensional structure of loneliness, DiTommaso & Spinner (1993) developed the Social and Emotional Loneliness Scale for Adults (SELSA), which assesses family, romantic, and social loneliness. For specific populations, Asher & Wheeler (1985) developed a unidimensional scale to assess loneliness among adolescents; Mayers et al. (2002) developed a 22-item unidimensional scale to evaluate existential loneliness among terminally ill patients; and Hadeei (2024) and McKenna-Plumley et al. (2024) developed existential loneliness scales for adults. In addition, Wright et al. (2006) developed the Workplace Loneliness Scale, which measures employees' experiences of emotional and social loneliness in organizational settings. Table 1 summarizes the major scales currently used to measure loneliness.

**Table 1.1 Measures of Loneliness**

| **Authors (Year)** | **Scale** | **Dimensions** |
|---|---|---|
| Gerson & Perlman (1979) | State–Trait Loneliness Scale (STLS) | State loneliness (20 items)<br>Trait loneliness (20 items) |
| Shaver et al. (1985) | Revised State–Trait Loneliness Scale (R-STLS) | State loneliness (10 items)<br>Trait loneliness (10 items) |
| Russell et al. (1980) | University of California, Los Angeles Scale (UCLA) | Unidimensional (20 items) |
| Asher & Wheeler (1985) | Children's loneliness scale | Unidimensional (24 items) |
| Wittenberg, & Reis (1986) | Emotional versus Social Loneliness Scale | Emotional loneliness (6 items)<br>Social loneliness (6 items) |

| | | |
|---|---|---|
| De Jong-Gierveld & Kamphuls (1985) | De Jong-Gierveld loneliness scale | Emotional loneliness (6 items)<br>Social loneliness (6 items) |
| DiTommaso & Spinner (1993) | Social and emotional loneliness scale for adults (SELSA) | Family loneliness (15 items)<br>Romantic loneliness (12 items)<br>Social loneliness (10items) |
| Mayers et al. (2002) | Existential loneliness questionnaire (ELQ) | Unidimensional (22 items) |
| Wright et al. (2006) | Workplace loneliness scale | Emotional deprivation (8 items)<br>Social companionship (8 items) |
| De Jong-Gierveld & van Tilburg (2010) | Short De Jong-Gierveld loneliness scale | Emotional loneliness (3 items)<br>Social loneliness (3 items) |
| Hadeei (2024) | Existential loneliness scale for adults | Unidimensional (10 items) |
| McKenna-Plumley et al. (2024) | Brief Existential Loneliness Scale | Unidimensional (6 items) |

However, despite the large number of instruments developed to measure loneliness, most scales primarily assess trait or long-term loneliness, while giving less attention to state or short-term loneliness (Heinrich & Gullone, 2006; Marangoni & Ickes, 1989). Gerson & Perlman (1979) and Shaver et al. (1985) developed scales designed to measure both trait and state loneliness. However, these tools have rarely been applied in subsequent studies, and their reliability and validity remain unclear. To address this limitation, Hawkley et al. (2003) and Van Roekel et al. (2014) used the Experience Sampling Method to capture individuals' momentary experiences of loneliness and its daily fluctuations.

## 4. Loneliness in the Workplace

In recent years, research on loneliness has increasingly focused on context-specific experiences, rather than general feelings of loneliness, as situational factors such as the workplace and others' perceptions of lonely individuals can significantly influence how loneliness is experienced (Heinrich & Gullone, 2006). Solomon et al. (1986) were the first to identify loneliness within a work-related environment, examining soldiers in a high-stress occupational context.

Subsequently, Wright et al. (2006) proposed a two factor structural model conceptualizing workplace loneliness as comprising two components: emotional deprivation and lack of social companionship. Emotional deprivation refers to the absence of emotional support and deep interaction at work, whereas lack of social companionship reflects limited social connection and reduced sense of belonging. Recent systematic reviews have acknowledged this two-dimensional model, which has been extensively validated in workplace research (e.g., Bryan et al., 2023; D'Oliveira & Persico, 2023). Therefore, this study adopts this two-factor framework as the most appropriate conceptualization of workplace loneliness, given its strong empirical foundation and its demonstrated relevance across organizational settings.

Workplace loneliness has attracted increasing scholarly attention due to its negative impact on employee performance, job satisfaction, and retention. A large-scale survey of more than 20,000 workers in Japan found that approximately 8% reported feeling lonely at work (Kawakami et al., 2025). During the COVID-19 pandemic, telework weakened employees' social ties with other organizational members. When they returned to the office, some employees struggled to reintegrate into their teams, which contributed to phenomena such as the Great Resignation and quiet quitting. To preserve their psychological well-being under interpersonal stress, lonely employees adopt self-protective strategies such as performing only the minimum required tasks and avoiding extra effort (Harter, 2022; Scheyett, 2023). Lonely employees also tend to remain silent in organizational decision-making, participate less in social interactions, and ultimately withdraw from the organization

(Atiku et al., 2025). Leaders should take active measures to help socially detached employees reconnect with workplace networks and rebuild their sense of belonging to the organization.

However, in reality, lonely employees often fail to receive the support they need and may even face quiet firing. As a typical form of covert hostility, some leaders intentionally create unfavorable work environments, limiting employees' career opportunities and access to resources to prompt voluntary resignation (Hamouche et al., 2023). In the short term, this practice allows organizations to avoid the economic costs associated with directly dismissing underperforming employees (Ellera et al., 2025). Over time, quiet firing weakens lonely employees' organizational attachment and impairs overall team cohesion and trust (Anand et al., 2025; Mahand & Caldwell, 2023).

Therefore, appropriate leadership and positive leader behaviors play a crucial role in reducing workplace loneliness and interrupting the vicious cycle of quiet quitting and quiet firing. The subsequent chapters of this study further examine the mechanisms through which leadership mitigates workplace loneliness, demonstrating that positive leadership styles, such as servant leadership and inclusive leadership, can effectively reduce employees' loneliness and enhance their sense of organizational belonging.

## 1.2 Antecedents of Workplace Loneliness

### 1. Contextual Factors

***Organizational size and hierarchy***. Organizational size and hierarchy are generally regarded as fundamental contextual factors influencing workplace loneliness. However, empirical evidence suggests that organizational size is not significantly associated with workplace loneliness among employees or teams (Jopling et al., 2023; Özçelik & Barsade, 2018). About organizational hierarchy, empirical findings have been inconsistent. Some studies have shown that leaders tend

to experience loneliness, and their levels of loneliness are influenced by industry characteristics and leadership styles (Dor-Haim & Oplatka, 2021; Gabriel et al., 2021). Wright (2013) found that while managers and employees reported similar loneliness, the predictors differed. Emotional connection and mutuality significantly predicted employees' workplace loneliness but not that of managers (Silard & Wright, 2022). This discrepancy may arise from factors such as power distance and role isolation, which complicate the antecedents of leaders' loneliness (Chen et al., 2021). Leaders' loneliness not only affects their psychological health and leadership effectiveness but may also have detrimental implications for organizational climate and performance.

***Economic and Social Status***. Individuals with higher household income and lighter financial burdens tend to report lower levels of loneliness (Luk et al., 2023; Page & Cole, 1991). This may be because financial stability enables them to satisfy social connection needs through leisure and consumption-based activities. In organizational contexts, those with greater power or higher hierarchical positions are less likely to feel lonely, whereas low-power employees engage in fewer close workplace interactions, thereby experiencing greater loneliness (Foulk et al., 2020; Waytz et al., 2015). Similarly, employees at the periphery of the organization feel more isolated, primarily due to limited communication opportunities and a lack of connection to organizational support systems (D'Oliveira & Persico, 2023). Furthermore, employees seeking higher status tend to view colleagues as competitors, which reduces close relationships and heightens loneliness (Wright, 2005).

***Leadership***. Leadership is commonly defined as the process by which an individual persuades a group of individuals to work toward a common goal (Northouse, 2025). Early leadership research framed leadership as influence, with Stogdill (1950) describing leadership as the activity of influencing an organized group's behavior to achieve a purpose. Similarly, Bass (1985) defined leadership as the relationship between leaders and followers in which influence is used to achieve common goals. In corporate settings, Yukl (2012) further defined leadership as the activity of convincing others to understand and support. Leadership is related with

reduced workplace loneliness. Servant leadership and inclusive leadership share a common foundation of interpersonal sensitivity and supportiveness, yet they differ in their focal mechanisms. Servant leadership emphasizes leaders' empathy, humility, and individualized support, aiming to meet followers' socio-emotional needs (Greenleaf, 1977; Liden et al., 2008). In contrast, inclusive leadership focuses on fostering fairness, voice, and participation by actively integrating diverse perspectives and ensuring that all employees feel valued within the team (Carmeli et al., 2010; Nembhard & Edmondson, 2006).

While both styles can mitigate workplace loneliness, servant leadership primarily operates through emotional connection and deep relational care, whereas inclusive leadership reduces loneliness by enhancing employees' sense of belonging, participation, and inclusion within the group. These theoretical distinctions justify examining the two leadership styles separately and clarifying their respective pathways in addressing workplace loneliness.

In contrast, authoritarian leadership might lead employees to remain silent and weaken their sense of organizational belonging (Duan et al., 2018; Guo et al., 2018; Wei & Shuyuan, 2024). Moreover, transactional and laissez-faire leadership have been found to be positively associated with workplace ostracism, which may, in turn, indirectly contribute to workplace loneliness by reducing employees' perceived acceptance (Howard & Smith, 2020; Kanwal et al., 2019).

***Organizational justice***. When nursing staff perceive insufficient distributive and procedural justice, they experience workplace alienation (Sookoo, 2013; Stănescu & Romașcanu, 2024). Such perceptions of unfairness significantly intensify employees' feelings of workplace loneliness, leading to reduced psychological well-being and increased knowledge-hiding behaviors (Firoz et al., 2025).

***Telework***. During the COVID-19 pandemic, the widespread adoption of telework fundamentally altered employees' work and socialization patterns. The decrease in the frequency and quality of social interactions under telework significantly boosts employees' loneliness (Buecker & Horstmann, 2022; Ernst et al., 2022; Taser et al.,

2022). Compared with traditional office settings, telework often entails social isolation, which undermines employees' relationships with office-based colleagues and leaders (Hager, 2018). However, the negative effects of telework are not inevitable. Job autonomy and communication efficiency serve as critical factors in preventing loneliness among teleworkers. Higher job autonomy and access to accurate and timely information mitigate the risk of loneliness associated with telework (Chuang et al., 2020; Wang et al., 2021). Notably, telework also reduces the frequency of face-to-face hostile behaviors, such as workplace bullying, thereby indirectly lowering feelings of loneliness (Bollestad et al., 2022).

***The use of Information and Communication Technology (ICT)***. Regarding the use of ICT, researchers have expressed mixed views. On one hand, excessive ICT use may replace necessary face-to-face communication, reduce emotional interactions, and opportunities for building close relationships within organizations (Deutrom et al., 2022; Kaur & Srivastava, 2025). On the other hand, the widespread adoption of ICT also offers new avenues for maintaining social connections, mitigating the negative impacts of social isolation and loneliness on older adults (Latikka et al., 2021; Llorente-Barroso et al., 2021). In summary, to ensure the mental health and productivity of teleworkers, organizations and leaders must enhance telework support systems by providing both emotional and technical support. Simultaneously, organizations should enrich communication through diverse online channels, such as video conferencing, instant messaging, and virtual collaboration platforms, to compensate for the social support and sense of belonging typically derived from face-to-face interactions.

***Negative workplace behaviors***. Workplace conflicts, exclusion, incivility, and bullying all damage employees' interpersonal relationships and social support networks, thereby intensifying workplace loneliness (Kuriakose et al., 2019; Li et al., 2019). Specifically, workplace ostracism triggers feelings of loneliness, and both factors jointly contribute to organizational silence (Özişli, 2022). Furthermore, workplace incivility shows a significant positive correlation with workplace

loneliness (Gilmer et al., 2023), and workplace bullying serves as a strong predictor of loneliness at work (Bollestad et al., 2022). Conversely, positive interpersonal climates, such as relation-based and emotion-based climates, effectively mitigate workplace loneliness (Erdil & Ertosun, 2011).

## 2. Job Characteristics

***Job resources***. According to the job demands-resources model, all job characteristics can be categorized into job resources and job demands, both of which directly influence employee well-being (Demerouti & Bakker, 2011):

(1) *Social support*. Support from colleagues and leaders is an essential job resource that shapes employees' experiences of workplace loneliness. Extensive research indicates that a lack of colleague support increases workplace loneliness (D'Oliveira & Persico, 2023; Wright, 2005), whereas employees who receive higher levels of social support tend to experience lower loneliness (Cui et al., 2021). Consequently, exploring how effective leadership and management strategies can alleviate employee loneliness has become a key topic in contemporary organizational research (Jin & Ikeda, 2023; Sullivan & Bendell, 2023). Notably, when employees seek assistance from their leaders but receive no response, they experience emotional exhaustion, which further reinforces loneliness (Galek et al., 2011; McIlroy et al., 2025).

(2) *Knowledge Sharing*. Findings from a three-wave longitudinal study revealed that timely knowledge sharing significantly alleviates loneliness among teleworkers (Chuang et al., 2020). However, knowledge hiding, defined as the intentional concealment or withholding of information when requested by others, has also been closely linked to workplace loneliness (Connelly et al., 2012). Such behavior indicates reduced social support and disrupted interpersonal exchanges, thereby amplifying workplace loneliness and diminishing employees' emotional commitment to the organization (Anand, 2024; Garg & Anand, 2020).

(3) *Job autonomy*. Job autonomy can mitigate work alienation and workplace

loneliness by enhancing employees' sense of insider identity and involving them in decision-making processes (Öztürk Çiftçi, 2021; Wang & Liu, 2021). It helps lessen multitasking stress by allowing flexibility in task planning (Wei et al., 2025).

***Job Demands***. The main types of job demands that influence workplace loneliness are as follows:

(1) ***Workload and stress***. Excessive workload leads to job burnout and stronger loneliness in both professional and personal life (Altaf & Awan, 2011; Howard & Mallory, 2008). Stress is also an important antecedent of workplace loneliness, and high job demands further exacerbate this experience (Bryan et al., 2023; Jansson & Graneheim, 2018). Studies have found that in telework settings, employees' work frequency and perceived stress are positively associated with workplace loneliness (Mäkiniemi et al., 2021; Miyake et al., 2021).

(2) ***Workplace conflict***. Relationship, process, and task conflicts at work undermine employees' perceptions of organizational support and interpersonal trust, thereby increasing loneliness and reducing well-being (Glilekpe et al., 2022; Kuriakose et al., 2019). In addition, role ambiguity and role conflict also contribute to workplace conflict, causing employees to feel disconnected from the organization and increasing their loneliness (De Dreu & Weingart, 2003; Wright & Silard, 2021).

(3) ***Emotional labor***. In many occupations, employees are expected not only to meet task-related goals but also to regulate their own emotions and manage others' emotions, a process known as emotional labor (Hochschild, 2012). Emotional labor is associated with higher stress and lower job satisfaction (Kinman et al., 2011). Numerous studies have shown that employees in service industries experience greater burnout and emotional exhaustion due to emotional labor, which in turn increases workplace loneliness (Jung et al., 2022; Yagil & Medler-Liraz, 2017).

***Job insecurity***. Differences in employment types influence employees' workplace loneliness. A survey of 17722 UK workers revealed that gig workers report significantly higher levels of workplace loneliness than full-time and part-time employees, along with poorer mental health (Wang et al., 2022). This suggests that

unstable employment relationships may weaken employees' sense of organizational belonging and increase the risk of workplace loneliness (Blomqvist et al., 2023). Employees experiencing job insecurity also tend to show poorer physical health and higher levels of loneliness and depression (Kalil et al., 2010).

***Task interdependence***. Task interdependence refers to the extent to which employees depend on other team or organizational members to accomplish their tasks (Molleman, 2009). Task interdependence is a double-edged sword: it enhances perceived social support, strengthens social connections, and reduces loneliness. On the other hand, high interdependence can also increase emotional strain, leading to feelings of exhaustion and powerlessness when collaboration breaks down (Vashdi et al., 2024). Task interdependence can buffer the positive relationship between telework and workplace loneliness and mitigate its negative effects (Cheng et al., 2023). However, employees with high task interdependence experience greater emotional exhaustion when facing task setbacks (Chong et al., 2020).

### 3. Individual Factors

***Personality***. The Big Five personality traits have been widely examined in relation to individuals' workplace loneliness, though empirical findings remain inconsistent. Abdellaoui et al. (2019) found that neuroticism shows the strongest association with loneliness, and that correlations between loneliness and other traits are largely explained by their shared association with neuroticism. Neurotic individuals tend to report higher loneliness, whereas extraversion, agreeableness, conscientiousness, and openness are generally negatively correlated with loneliness, with extraverts showing the lowest levels (Buecker et al., 2020). Extraverted individuals are typically more proactive and quicker to develop and maintain social relationships, resulting in broader interpersonal networks. In contrast, neurotic individuals form relationships more slowly and are more easily influenced by negative emotions (Wilt et al., 2017). However, some studies have found only a weak association between extraversion and loneliness (Gubler et al., 2020), and Cacioppo &

Cacioppo (2018) suggested that openness is not significantly related to loneliness. Beyond the Big Five, rejection sensitivity leads individuals to engage in greater social avoidance and withdrawal, which in turn increases loneliness (Abdellaoui et al., 2019; Watson & Nesdale, 2012). Highly independent employees rarely experience loneliness because they have lower interpersonal needs (Silard & Wright, 2022).

***Psychological Capital.*** Based on the framework of positive organizational behavior, Luthans et al. (2007) developed a four-dimensional construct of psychological capital, including self-efficacy, hope, optimism, and resilience. Psychological capital is regarded as a positive psychological resource that enables individuals to cope with organizational challenges and stress with a constructive mindset. Empirical evidence from employees in Chinese small- and medium-sized enterprises indicates that psychological capital is negatively associated with workplace loneliness and thought suppression. When psychological capital is high, thought suppression can even help reduce workplace loneliness (Li et al., 2025)

(1) ***Self-efficacy***. Although self-efficacy rarely directly predicts workplace loneliness, it often acts as a mediator or moderator, mitigating its detrimental effects. For instance, self-efficacy mediates the relationships among loneliness, stress, depression, and life satisfaction (Tu & Zhang, 2015). Self-efficacy also strengthens the mitigating effects of trust and transformational leadership on workplace loneliness (Munir et al., 2016).

(2) ***Hope and optimism***. The hope and optimism dimensions are closely associated with positive work attitudes such as organizational commitment and job satisfaction (Avey et al., 2011; Marques et al., 2013). High levels of hope and optimism enhance individuals' perceptions and expectations of interpersonal relationships, helping to prevent or alleviate workplace loneliness. In telework settings, fostering teleworkers' hope has been shown to be an effective strategy for reducing workplace loneliness (Bareket-Bojmel et al., 2023).

(3) ***Resilience***. Resilience is the capacity to bounce back or recover from adversity, conflict, and failure (Luthans, 2002). Research identifies resilience as one

of the most critical buffering factors against workplace loneliness, second only to coping behaviors (Labrague et al., 2021). In a Danish sample, resilience was negatively correlated with loneliness, and highly resilient individuals perceived loneliness more positively, thereby lessening its depressive effects (Jakobsen et al., 2020).

***Self-regulation and coping behaviors***. Self-regulation is an essential skill that enables employees to maintain psychological balance when facing negative emotions and workplace difficulties. Emotion regulation, together with personality traits, predicts individuals' levels of loneliness (Gubler et al., 2020). In a study of entrepreneurs, lonely entrepreneurs adopted emotion-focused or problem-focused self-regulation strategies to alleviate loneliness, either by adjusting their cognitive attitudes toward loneliness or by proactively engaging in social interactions with others (Cardon & Arwine, 2024; McCarthy et al., 2025). Similarly, individuals also rely on nostalgia to restore a sense of social connectedness damaged by loneliness. Wildschut et al. (2010) demonstrated that nostalgic experiences evoke feelings of warmth and gratitude, thereby alleviating the psychological distress caused by loneliness.

## 1.3 Consequences of Workplace Loneliness

Workplace loneliness affects employee well-being across three major aspects: job attitudes, work behaviors, and psychological well-being and health.

### 1. Job Attitudes

***Job satisfaction***. Most studies have shown that workplace loneliness is often accompanied by a decline in job satisfaction (Bryan et al., 2023; Gilmer et al., 2023). Empirical research on employees of large enterprises in Pakistan found that workplace loneliness is highly and positively correlated with job dissatisfaction (Basit & Nauman, 2023). Similarly, a study of primary school teachers indicated that

loneliness significantly predicts lower job satisfaction (Tabancalı, 2016). However, some studies have reached different conclusions. Bakır & Aslan (2017) found a small positive correlation between school principals' workplace loneliness and job satisfaction. A survey of Chinese migrant workers revealed that individuals with higher levels of loneliness reported greater job satisfaction, possibly because their job attitudes depend more on wage levels. At the same time, heavy workloads leave them little time to feel lonely (Chan & Qiu, 2011). These findings suggest that the relationship between workplace loneliness and job satisfaction may be moderated by factors such as occupational characteristics, social status, and the primary needs associated with one's work.

***Organizational commitment***. Workplace loneliness negatively affects employees' organizational commitment (Jung et al., 2021; Özçelik & Barsade, 2018). Ayazlar & Güzel (2014) found that among the two dimensions of workplace loneliness, only the lack of social companionship decreases employees' affective and continuance commitment, whereas emotional deprivation has little impact on organizational commitment. This finding suggests that employees' organizational commitment depends more on their interpersonal networks and perceived career opportunities than on close relationships with colleagues.

***Turnover intention***. Employee turnover can be regarded as a coping mechanism in response to workplace loneliness (McCarthy et al., 2025). Workplace loneliness indirectly increases employees' intention to leave by reducing their affective commitment to the organization (Ertosun & Erdil, 2012). Similarly, Ghadi (2017) found that workplace loneliness strengthens academics' turnover tendencies. Based on a large-scale survey of 5927 U.S. employees, Bowers et al. (2022) proposed that lonely employees exhibit higher levels of absenteeism and turnover intention.

## 2. Work Behaviors

***Performance***. Existing research generally indicates that workplace loneliness is negatively related to employee performance. Lonely employees, who struggle to build

close relationships with colleagues, have fewer accessible social resources and perceive lower organizational support, which leads to reduced performance (Özçelik & Barsade, 2018; Uslu, 2021; Tian et al., 2023). Studies in the healthcare sector also show that nurses' feelings of isolation and loneliness at work are associated with reduced job performance (Amarat et al., 2019). However, this negative relationship has not been consistently supported across all groups. For example, empirical research on students found no significant correlation between loneliness and academic performance (Nicpon et al., 2006). Therefore, similar to job satisfaction, the adverse effects of loneliness may vary depending on individuals' identities and work contexts.

***Organizational citizenship behavior***. Workplace loneliness diminishes employees' organizational citizenship behaviors (OCB), as lonely employees are less willing to help others or engage in extra-role tasks (Firoz & Chaudhary, 2022; Lam & Lau, 2012). Specifically, workplace loneliness indirectly reduces OCB by lowering work engagement, and this negative effect is stronger for women than for men (Tian et al., 2021). Thus, gender may serve as a moderating factor in the relationship between workplace loneliness and organizational citizenship behavior.

***Knowledge hiding***. With the growing prevalence of hybrid work, cross-location information exchange and knowledge sharing have become increasingly important for achieving organizational goals. Employees in telework or hybrid environments are more susceptible to workplace loneliness, which significantly hinders their willingness to share knowledge with others (Cheng et al., 2023). When employees feel ignored or marginalized at work, they often intentionally conceal or withhold knowledge as a self-protective response (Dutta et al., 2024; Li et al., 2019). Reduced knowledge sharing not only weakens trust and collaboration within teams but also undermines organizational innovation and overall performance.

***Creativity and voice***. Employees experiencing loneliness process information more cautiously and focus on details, leading them to rely on conventional rather than innovative problem-solving approaches (Lin et al., 2014a; Fredrickson & Branigan, 2005). A survey of 67 work teams in China showed that workplace loneliness

negatively predicts both employee creativity and leader-member exchange (Peng et al., 2017). Lonely employees generally have lower psychological safety and are more sensitive to criticism from others in the organization (Jha, 2023). A three-wave longitudinal study of South Korean police officers further revealed that workplace loneliness not only suppresses voice behavior but also increases deviant behavior (Chung et al., 2024).

**3. Psychological well-being and health**

Workplace loneliness has detrimental effects on employees' well-being (Dhir et al., 2023), and lonely employees experience lower life satisfaction (Itzick & Kagan, 2021). Particularly in the aftermath of COVID-19, workplace loneliness and social isolation among teleworkers have become prominent social phenomena. Compared with office-based employees, teleworkers experience higher levels of stress and loneliness, along with lower job satisfaction and well-being (O'Hare et al., 2024). Regarding physical health, longitudinal data from 8786 participants in the UK revealed that social isolation and loneliness among older adults are significantly associated with poorer future physical performance (Philip et al., 2020). Similarly, loneliness has been found to be associated with declines in working memory over a 2-year period among the elderly (Kuiper et al., 2020).

## 1.4 Research Purpose

In summary, workplace loneliness not only exerts negative effects on employees' job attitudes, work behaviors, and psychological well-being and health, causing them to gradually lose enthusiasm and a sense of meaning in their work, but also hinders organizational learning and transformation processes at the organizational level, thereby impeding the achievement of organizational goals. This study aims to clarify the specific behavioral outcomes, psychological mechanisms, and relational processes through which workplace loneliness affects employees, and to examine how different

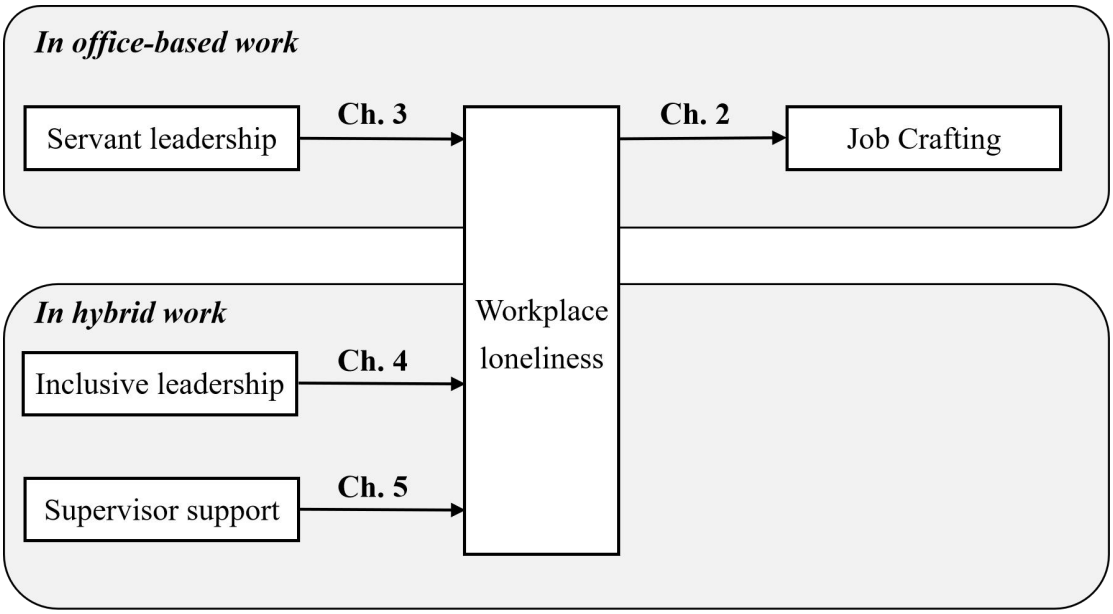
forms of leadership and communication can mitigate loneliness across traditional and hybrid work contexts.

The overall framework of this study is illustrated in Figure 1.1. The research focuses on two work contexts: traditional office-based work and emerging hybrid work. Chapter 2 explores the inhibitory effect of workplace loneliness on job crafting, a proactive work behavior that has received increasing scholarly attention, in office-based contexts. Chapter 3 examines how servant leadership alleviates workplace loneliness through empathetic communication in traditional workplaces. Chapters 4 and 5 focus on hybrid work environments: Chapter 4 investigates how inclusive leadership facilitates relationship restoration between hybrid and office-based employees, while Chapter 5 further examines whether traditional leader support remains effective in reducing workplace loneliness among hybrid employees.

To establish theoretical integration, this study incorporates workplace loneliness, leadership, and the contextual conditions of work arrangements (traditional office-based work and hybrid work) into a unified framework. Leadership, as a core social resource, can compensate for these deficiencies by providing emotional support, fostering inclusiveness, and rebuilding social connectedness. Moreover, hybrid work exacerbates both emotional and social loneliness by reducing informal interactions and weakening relational maintenance, thereby making leadership behaviors particularly critical. This integrated perspective clarifies the study's logical structure, and the subsequent chapters serve as complementary examinations of concrete pathways to alleviate loneliness in contemporary work environments.

Overall, this study identifies effective leadership styles across diverse work contexts and employee groups, offering a comprehensive theoretical foundation and practical insights to reduce workplace loneliness.

**Figure 1.1 Overview of the Present Study**



# Chapter 2. Workplace Loneliness Makes Employees Passive: Undermining Organization-Based Self-Esteem and Job Crafting

## Abstract

Previous studies have indicated that experiences of loneliness influence employees' perceptions of interpersonal relationships and their expectations for future social interactions. To maintain psychological balance, employees engage in two types of proactive self-regulation when facing workplace loneliness. The first is cognitive regulation, in which employees try to reinterpret or reduce the negative meaning of loneliness (Cardon & Arwine, 2024). The second is behavioral regulation, where employees adjust their work behaviors to reduce the stress caused by loneliness. For instance, lonely employees may become more proactive in making new friends and collaborating with others to restore social connectedness (Maner et al., 2007).

Chapter 2 investigates how workplace loneliness influences employees' job crafting behaviors. As a typical proactive behavior, job crafting refers to employees' self-initiated efforts to redefine and redesign aspects of their work from the bottom up to achieve a better person–job fit (Wrzesniewski & Dutton, 2001). By restructuring tasks, rebuilding workplace relationships, or changing the way they perceive their work, employees can enhance their sense of meaning and satisfaction at work. However, while many studies have focused on the negative consequences of workplace loneliness, few have examined how loneliness undermines employees' proactive behaviors. Lonely employees may experience reduced motivation, which hinders their ability to engage in job crafting to improve job satisfaction and well-being.

## 2.1 Research Background

### 1. Workplace Loneliness and Job Crafting

Workplace loneliness arises from the gap between expected and actual workplace relationships (Wright et al., 2006). It may stem from a negative interpersonal climate (Wright & Silard, 2021), job characteristics (Altaf & Awan, 2011), and organizational hierarchy (Waytz et al., 2015). Workplace loneliness negatively affects both individuals and organizations, including increased turnover intentions and emotional exhaustion, and reduced quality of leader-member exchange (Lam & Lau, 2012; Öztürk Çiftçi, 2021). Although many studies have identified its consequences, it remains unclear whether employees actively adjust their work-related cognition and behavior in response to workplace loneliness.

Unlike traditional top-down approaches to work design led by managers (Morgeson & Humphrey, 2006), job crafting refers to employees' self-initiated behaviors aimed at shaping, modifying, or redefining aspects of their work (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). Job crafting is a bottom-up form of work redesign (Grant & Parker, 2009). Wrzesniewski & Dutton (2001) conceptualized job crafting as employees proactively altering the boundaries of their tasks, relationships, and cognitive perceptions of work, identifying three forms: task, relational, and cognitive crafting. This study adopts their model to explore the relationship between workplace loneliness and employees' job crafting.

Among different directions of job crafting, approach crafting involves expanding or enriching the scope of work and is generally considered more beneficial than avoidance crafting (Van Wingerden et al., 2017; Wang et al., 2024). Therefore, this study focuses on approach crafting. Beyond its known negative consequences, workplace loneliness may also reduce employees' motivation to engage in approach crafting.

Previous research has shown that loneliness triggers cognitive biases in individuals' perceptions of themselves and others (Cacioppo & Cacioppo, 2018).

Lonely employees often experience self-deprecation (Brown & Mankowski, 1993) and social anxiety (Lim et al., 2016), ruminate on negative social experiences, and hold pessimistic expectations about future interactions (Teneva & Lemay Jr., 2020). Behaviorally, lonely individuals are more likely to avoid self-disclosure at work (Cacioppo et al., 2002) and refrain from expanding social networks (Solano et al., 1982). Thus, workplace loneliness may reduce employees' motivation to engage in cognitive and relational crafting.

Workplace loneliness also weakens employees' work abilities and performance (Baumeister et al., 2002), decreases concentration and focus on tasks (Park et al., 2020), and undermines task performance (Özcelik & Barsade, 2018; Tian et al., 2023). One possible explanation is that loneliness drains cognitive resources and weakens self-regulation (Baumeister et al., 2005; Cacioppo & Hawkley, 2009), making it more difficult for employees to engage in task crafting (Tims et al., 2013).

**H1：** Workplace loneliness negatively affects employees' job crafting.

## 2. The Mediating Role of Organization-Based Self-Esteem

Loneliness is closely associated with self-esteem. Individuals who feel lonely may negatively expect future social interactions (Creemers et al., 2012), and loneliness is often accompanied by lower self-esteem (Cacioppo & Cacioppo, 2018). However, the relationship between loneliness and self-esteem in the workplace has received limited attention. Self-esteem refers to a person's overall evaluation of their competence and self-worth (Rosenberg, 1965). Organization-based self-esteem (OBSE) extends this concept to the organizational context and reflects the extent to which employees see themselves as capable and valued members of their organization (Pierce et al., 1989). OBSE develops through the internalization of others' evaluations at work (Korman, 1970, 1976) and through successes and failures in one's work experiences (Brockner, 1988).

Lonely employees may receive more negative feedback from colleagues and leaders (Peng et al., 2017), which significantly decreases their organization-based self-esteem (Takhsha et al., 2020). Research has confirmed that OBSE is negatively associated with workplace loneliness (Mohapatra et al., 2023; Stark et al., 2000). We hypothesize that workplace loneliness damages employees' organization-based self-esteem. OBSE is positively correlated with self-efficacy (Lee, 2003). Employees with low OBSE may have weaker beliefs in their own capabilities (Gabriel et al., 2021), which in turn suppresses proactive behaviors such as job crafting (Su et al., 2022). According to the job demands–resources theory (Bakker & Demerouti, 2007), OBSE functions as a key job resource that stimulates motivation and fosters work engagement (Taris & Schaufeli, 2015). Individuals with high OBSE are more likely to be satisfied with their performance (Pelham & Swann, 1989) and feel confident in taking on new challenges, whereas those with low OBSE may deliberately hold back their efforts, fearing that failure would further undermine their self-worth (Campbell, 1990; Dipboye, 1977). Therefore, OBSE may mediate the relationship between workplace loneliness and job crafting.

**H2:** Organization-based self-esteem mediates the relationship between workplace loneliness and job crafting.

### 3. The Moderating Role of Self-Rated Performance

As discussed above, employees with high OBSE are more likely to perceive themselves as valuable members of the organization, which stimulates proactive behaviors (Chung & Yang, 2017). However, the translation of this psychological resource into job crafting depends on individual evaluations of their abilities.

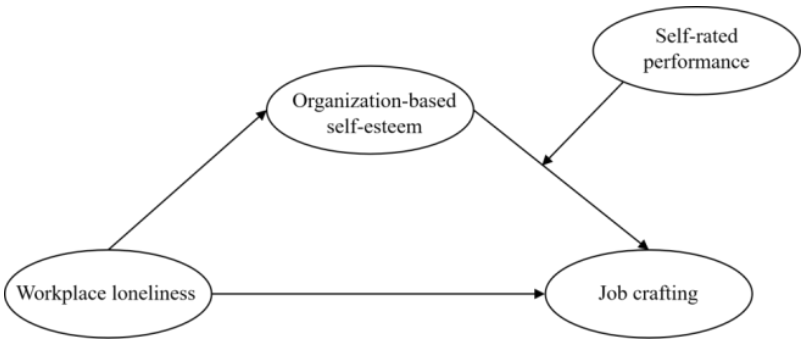
Performance is both a result of prior conduct and an indicator of employees' future expectations. According to expectancy theory (Vroom, 1964), employees evaluate the likelihood of achieving future goals based on prior performance, which subsequently informs their willingness to exert effort. As a result, those with high

OBSE and strong performance may be more inclined to actively adjust their tasks, relationships, or perceptions of work. In contrast, employees with low self-rated performance may underestimate the feasibility and effectiveness of job crafting, thereby dampening the positive influence of OBSE on job crafting (Vancouver & Kendall, 2006).

From the perspective of self-determination theory (Deci & Ryan, 1985), the intrinsic motivation to engage in job crafting depends on fulfilling three basic psychological needs: autonomy, competence, and relatedness. Employees' self-rated performance reflects their subjective perception of competence (Heidemeier & Moser, 2009). When employees perceive their performance as high, OBSE is more likely to be translated into concrete job crafting. Conversely, low self-rated performance may weaken intrinsic motivation, thereby suppressing job crafting. The hypothesized model is shown in Figure 1.

**H3:** Self-rated performance moderates the relationship between organization-based self-esteem and job crafting.

**Figure 2.1 The Hypothesized Model**




## 2.2 Methodology

### 1. Participants and Procedure

365 employees from a major human resource service company in Japan participated in the questionnaire survey, which was conducted in June 2024. All participants were informed about the study purpose, confidentiality, and their right to withdraw. Among them, 97.8% (n = 357) had been working at their current workplace for more than three years. The sample consisted of 93.7% women (n = 342) and 6.3% men (n = 23). Regarding job type, 66.6% (n = 243) were engaged in clerical work, 7.1% (n = 26) in front-desk services, and 5.7% (n = 21) in customer service or sales. In terms of organizational hierarchy, 80.5% (n = 294) were general employees, 17.0% (n = 62) were section chiefs or leaders, and 2.5% (n = 9) were project leaders. Demographic characteristics are presented in Table 2.1.

**Table 2.1 Demographic Characteristics of the Participants**

| Demographic characteristics | Category | *n* | Percentage |
|---|---|---|---|
| Gender | Female | 342 | 93.7% |
| | Male | 23 | 6.3% |
| Age | 20–29 years old | 2 | 0.5 |
| | 30–39 years old | 22 | 6.0 |
| | 40–49 years old | 97 | 26.6 |
| | 50–59 years old | 138 | 37.8 |
| | 60–69 years old | 101 | 27.7 |
| | > 70 years old | 5 | 1.4 |
| Organizational level | General employees | 294 | 80.5% |
| | Leaders | 62 | 17.0% |
| | Project leaders | 9 | 2.5% |
| Tenure | < 1 year | 3 | 0.8% |
| | 1-3 years | 5 | 1.3% |
| | > 3 years | 357 | 97.8% |
| Education | High school | 75 | 20.5% |
| | Vocational/Junior College | 149 | 40.8% |
| | Bachelor | 134 | 36.7% |
| | Graduate degree | 5 | 1.4% |
| | Others | 2 | 0.5% |

## 2. Measures

All items were rated on a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Confirmatory factor analyses (CFA) using AMOS 26.0 were conducted to assess construct validity.

***Workplace loneliness***. Workplace loneliness was measured using the two-dimensional scale developed by Wright et al. (2006), including Emotional Deprivation (e.g., "I often feel emotionally distant from the people I work with") and Social Companionship (e.g., "There is someone at work I can talk to about my day-to-day work problems if I need to"). A shorter scale was used to reduce common method bias and minimize respondent burden. Three items were selected from each dimension. The model showed good fit ($\chi^2/df = 1.83$, RMSEA = .05, GFI = .98, CFI = .99), with Cronbach's $\alpha = .89$ and .81 for the two subscales. Hughes et al. (2004) demonstrated that retaining only the highest-loading items, which represent the central emotional experience of loneliness, produces a short-form scale that preserves the structural validity and acceptable reliability of the full version.

***Organization-based self-esteem (OBSE)***. OBSE was measured with three items from Pierce et al. (1989), such as "I am important in this organization." The scale showed good reliability ($\alpha = .92$) and satisfactory fit ($\chi^2/df = 2.08$, RMSEA = .06, GFI = .98, CFI = .98).

***Job crafting***. Job crafting was measured using five items adapted from Sekiguchi et al. (2017), which originally developed a nine-item scale based on Wrzesniewski and Dutton (2001), such as “I adopt new ways of doing my work to improve efficiency when needed.” The scale was treated as a unidimensional construct ($\alpha = .84$), and CFA indicated acceptable fit ($\chi^2/df = 4.02$, RMSEA = .09, GFI = .99, CFI = .99). Prior studies have not reached consensus regarding the dimensional structure of job crafting (Leana et al., 2009; Tims et al., 2013), which possibly due to cultural and contextual differences, the CFA results in this study supported a clear single-factor solution, with all factor loadings exceeding .60. Consistent with Wrzesniewski and Dutton's (2001) conceptualization of job crafting as a bottom-up

proactive behavior, job crafting was treated as a proactive behavioral outcome in this study.

***Self-rated performance***. Self-rated job performance was assessed with one item adapted from Kessler et al. (2003): "Please rate your overall job performance during the past four weeks, assuming that 100% represents your usual performance when you are healthy and uninjured." Higher scores indicated better perceived performance.

***Control variables***. Gender, age, job position, education, and organizational tenure were included as control variables, as these factors have been shown to influence job-related attitudes and behaviors (Ng & Feldman, 2008; Petrou et al., 2012; Pierce & Gardner, 2004).

### 2. Data Analysis

Because all data were collected at a single point in time using self-report measures, Harman's one-factor test was conducted to assess common method bias. A confirmatory factor analysis loading all items onto a single factor showed poor model fit ($\chi^2$/df = 17.29, RMSEA = .21, GFI = .62, CFI = .61, TLI = .54, RMR = .19), indicating that common method bias was not a serious concern. To test the hypotheses, hierarchical regression and moderated mediation analyses were conducted using the PROCESS macro (Model 4 and Model 14; Hayes, 2012) in SPSS 28.0. Model 14 tested whether the indirect effect of workplace loneliness on job crafting through organization-based self-esteem was moderated by self-rated performance.

## 2.3 Result

### 1. Descriptive Statistics

As presented in Table 2.2, OBSE was negatively associated with workplace loneliness and positively associated with job crafting, supporting its potential mediating role. Self-rated performance showed weak or nonsignificant correlations with the main study variables. Among the control variables, age and position were

associated with the key constructs, indicating that older employees and those in higher positions tended to report lower workplace loneliness and higher job crafting.

## 2. Hypothesis Testing

After controlling for gender, age, job position, education, and organizational tenure, hierarchical regression and mediation analyses were conducted using PROCESS Model 4 (Hayes, 2012). Workplace loneliness had a significant negative effect on job crafting (b = −.29, p < .01) and organization-based self-esteem (OBSE). (*b* = –.55, *p* < .01), supporting H1.

OBSE positively predicted job crafting (*b* = .24, *p* < .01). Bootstrap analysis further confirmed the mediating effect of OBSE (*b* = –.13, SE = .03, 95% CI [–.19, –.08]); both direct (*b* = –.29, SE = .05, 95% CI [–.38, –.20]) and indirect effects were significant. Thus, H2 was supported. Tables 2.3 and 2.4 present the detailed regression and bootstrap results.

**Table 2.2 Descriptive statistics and correlations**

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.Age | 8.15 | 1.66 | | | | | | | | |
| 2.Gender | 0.06 | 0.24 | .31** | | | | | | | |
| 3.Position | 1.22 | 0.47 | -.17** | -.05 | | | | | | |
| 4.Education | 4.29 | 1.61 | .05 | .03 | .07 | | | | | |
| 5.Tenure | 2.96 | 0.29 | .31** | .04 | .06 | .06 | | | | |
| 6.Workplace loneliness | 2.73 | 1.11 | -.15** | -.04 | -.11* | -.03 | -.11* | | | |
| 7.OBSE | 4.58 | 1.11 | .17** | .03 | .10 | .05 | -.04 | -.57** | | |
| 8.Job crafting | 4.75 | 0.96 | .18** | .03 | .15** | .05 | -.05 | -.50** | .48** | |
| 9.Self-rated performance | 78.44 | 20.77 | .09 | -.09 | .09 | .05 | -.05 | -.03 | -.04 | -.02 |

*Note.* *N* = 365; ** *p*< .01, * *p*< .05; Gender was coded 1 for male and 0 for female; self-rated performance was measured using a percentage scale (0%–100%); OBSE = Organization-based self-esteem

The moderating effect of self-rated performance on the relationship between OBSE and job crafting was examined using PROCESS Model 14 (Hayes, 2012). Self-rated performance moderated the effect of OBSE on job crafting, as indicated by a significant interaction between OBSE and self-rated performance ($b$ = –.01, $p < 0.05$, 95% CI [–.02, –.01]), supporting H3.

As shown in Table 2.5, after controlling for demographic variables (age, gender, position, education, and tenure), both OBSE and self-rated performance exhibited significant positive effects on job crafting, while workplace loneliness showed a significant negative effect.

**Table 2.3 The Mediating Effect of Organizational-Based Self-Esteem**

| | Organization-based self-esteem | Job crafting |
|---|---|---|
| Variable and statistic | *b* | *b* |
| Step 1: Control variables | | |
| Age | .06 | .05 |
| Gender | -.06 | .50* |
| Position | .48** | .15 |
| Education | .04 | -.06* |
| Tenure | .15 | -.02 |
| Step 2: Main variables | | |
| Workplace loneliness | -.55** | -.29** |
| OBSE | | .24** |
| R2 | .35 | .35 |
| F | 32.28** | 27.37** |

*Note.* $N$ = 365; *$p$< .05, ** $p$< .01; OBSE = Organization-based self-esteem

As presented in Table 2.6, the mediating effect of OBSE was stronger among employees with low self-rated performance ($b$ = –.18, BootSE = .04, 95% CI [–.27, –.11]) and weaker but still significant among those with high self-rated performance ($b$ =–.08, BootSE = .04, 95% CI [–.16, –.01]). This finding suggests that employees

who evaluated their performance more positively were less vulnerable to the negative indirect effect of workplace loneliness on job crafting through reduced OBSE.

**Table 2.4 Bootstrapped Indirect Effects of Organization-based self-esteem**

| | | | 95% bootstrap confidence interval | | |
|---|---|---|---|---|---|
| | Effect | *SE* | Lower | Upper | % of Total Effect |
| Total Effect | -0.43 | 0.04 | -0.5 | -0.35 | |
| Direct Effect | -0.29 | 0.05 | -0.38 | -0.2 | 67.44% |
| Indirect Effect | -0.13 | 0.03 | -0.19 | -0.08 | 30.23% |

**Table 2.5 The Moderating Effects of Self-Rated Performance**

| | | Bootstrapping CI | |
|---|---|---|---|
| | *B* | Lower | Upper |
| Variable and statistic | | | |
| Step 1: Control variables | | | |
| Age | .05 | –.00 | .11 |
| Gender | .48** | .13 | .83 |
| Position | .14 | –.04 | .33 |
| Education | -.06* | –.11 | –.01 |
| Tenure | -.01 | –.29 | .27 |
| Step 2: Main variables | | | |
| Workplace loneliness | -.29** | –.40 | –.18 |
| OBSE | .58** | .27 | .94 |
| Self-rated performance | .02** | .00 | .04 |
| OBSE * Self-rated performance | -.01* | –.02 | –.01 |
| R2 | | .36 | |
| F | | 21.83** | |

*Note.* $N = 365$; *$p < .05$, ** $p < .01$; OBSE = Organization-based self-esteem

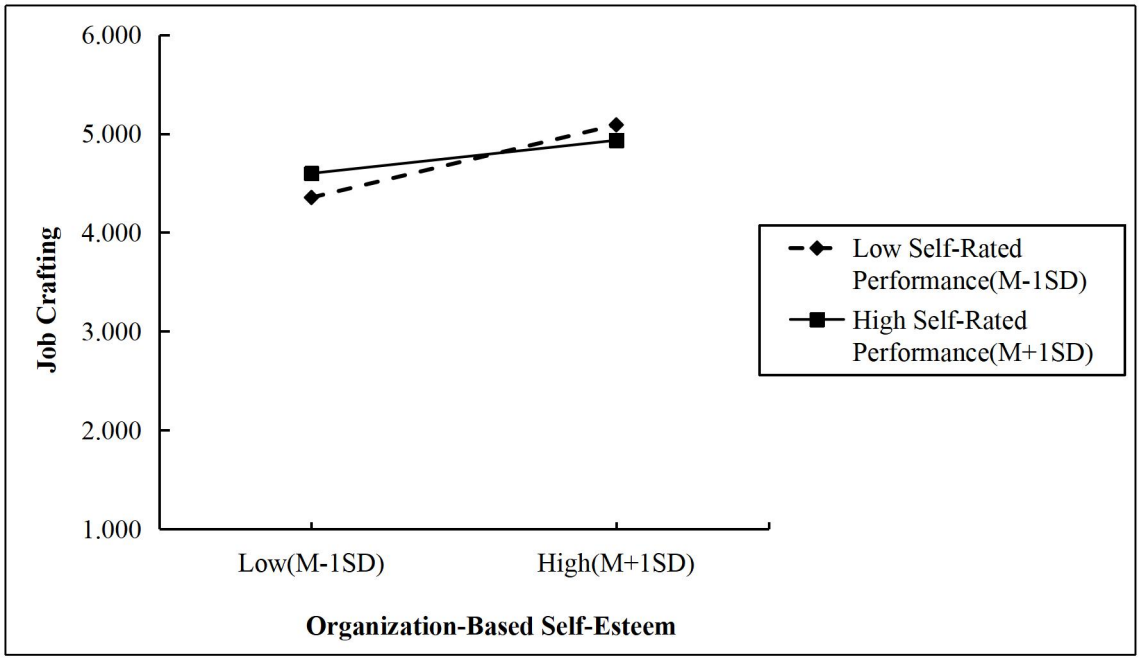
**Table 2.6 Indirect Effects at Different Levels of Self-rated Performance**

| | | | | Bootstrapping CI | |
|---|---|---|---|---|---|
| | Self-rated Performance | *b* | Boot*SE* | Lower | Upper |
| Indirect Effects of OBSE | 57.67 (M-1SD) | -0.18 | 0.04 | -0.27 | -0.11 |
| | 78.44 (M) | -0.13 | 0.03 | -0.2 | -0.08 |
| | 99.21 (M+1SD) | -0.08 | 0.04 | -0.16 | -0.01 |

*Note.* $N = 365$; self-rated performance was measured using a percentage scale (0%–100%); OBSE = Organization-based self-esteem

Simple slope analysis (Aiken et al., 1991) confirmed that OBSE significantly predicted job crafting when self-rated performance was low (simple slope = .33, $t = 5.59$, $p < .001$) and remained significant but weaker when performance was high (simple slope = .15, $t = 2.46$, $p < .05$), as illustrated in Figure 2.2.

**Figure 2.2 Moderating Effect of Self-Rated Performance on the Relationship Between Organization-Based Self-Esteem and Job Crafting**




## 2.4 Discussion

## 1. Theoretical Implications

This study deepens the understanding of the behavioral consequences of workplace loneliness by linking it to job crafting. Previous research has mainly focused on how loneliness affects employees' interpersonal relationships and work attitudes, while few studies have examined its influence on proactive work behaviors. Consistent with Firoz & Chaudhary (2022), the present findings demonstrate that workplace loneliness reduces employees' willingness to proactively adjust their tasks and relationships, thereby explaining how loneliness weakens prosocial behaviors such as organizational citizenship.

Second, this study clarifies the boundary conditions of job crafting as an adaptive behavior. Although job crafting has been regarded as a strategy for employees to cope with adversity (Berg et al., 2008), the present findings reveal that loneliness impairs its effectiveness. When interpersonal connections are poor, employees may struggle to regulate themselves through job crafting, supporting Tims et al. (2022) argument that the quality of social relationships constrains employees' capacity for job crafting.

Third, this study identifies organization-based self-esteem (OBSE) as a key psychological mechanism linking workplace loneliness and job crafting. Consistent with previous evidence that loneliness is associated with low self-esteem (Kong & You, 2013; Vanhalst et al., 2013), our results show that workplace loneliness diminishes employees' sense of value and belonging, which, in turn, reduces their motivation to engage in proactive work redesign. OBSE thus serves as an important internal resource that sustains proactive behaviors in organizations.

Finally, this study provides preliminary evidence that self-rated performance may play a modest moderating role in the relationship between OBSE and job crafting. Although the interaction was statistically significant, the effect size was small, and the use of a single-item measure warrants caution in interpretation. The findings suggest that employees with lower perceived performance may be less likely to translate OBSE into proactive work redesign, but further research using multi-item and more robust performance measures is needed to confirm this pattern.

## 2. Practical Implications

This study provides several managerial insights for reducing workplace loneliness and promoting job crafting. First, managers should view loneliness not only as an emotional issue but as a barrier to employees' proactive behavior. Building an inclusive and supportive organizational climate can prevent loneliness and facilitate engagement in job redesign.

Organizations should strengthen employees' psychological resources, particularly OBSE. Positive feedback, recognition, and career development opportunities can enhance employees' perceived value, helping them resist the negative impact of workplace loneliness and encouraging relational and cognitive crafting. Moreover, attention should be paid to employees' subjective evaluations of performance. When there is a mismatch between self-esteem and perceived performance, employees may question the fairness of evaluations and withdraw from proactive behaviors. Fair and transparent appraisal systems that recognize both effort and contribution can mitigate this effect.

Finally, the finding that male employees report higher OBSE than females highlights the need to address gender differences in self-perception. Creating a fair, gender-inclusive work culture can strengthen women's organizational identity and confidence in engaging in job crafting.

## 3. Limitations and Future Studies

This study has several limitations. One limitation concerns the use of cross-sectional data, which constrains the ability to infer causal relationships between workplace loneliness and job crafting and may introduce potential method bias. Future research could strengthen validity by employing longitudinal or multi-source designs. More importantly, correlations involving self-rated performance were weak or non-significant, and the interaction effect was very small, indicating that its

moderating influence is limited.

In addition, although job crafting is theoretically multidimensional, this study focused on the overall suppression of proactive work behavior rather than differences across specific dimensions. Accordingly, job crafting was treated as a unidimensional construct. However, this approach may overlook nuances among its facets. Future research should employ multidimensional scales to determine whether workplace loneliness affects different dimensions of job crafting in distinct ways.

A further consideration concerns the gender imbalance in the present sample, with a substantially higher proportion of female participants. Future research should seek more gender-balanced samples to enhance the generalizability of findings and to explore potential gender differences in workplace loneliness and job crafting.

# Chapter 3. Alleviating Workplace Loneliness: Servant Leadership Builds an Empathy Cycle among Employees

## Abstract

Chapter 3 focuses on the mechanism through which leadership alleviates workplace loneliness in traditional work settings. Drawing on servant leadership theory, the study examines the direct and indirect effects of servant leadership on workplace loneliness through empathic communication. A total of 267 employees from 28 provinces in China participated in a questionnaire survey. The results indicate that servant leaders indirectly alleviate followers' workplace loneliness by promoting empathic communication among colleagues, thereby creating an "empathy cycle" that mitigates employees' loneliness. This study reveals how servant leadership in traditional workplace contexts enhances followers' emotional connections and well-being through empathic communication. More importantly, it underscores empathy as a key mechanism linking leadership behaviors to employees' psychological outcomes, offering valuable insights for building a more compassionate and sustainable workplace culture.

## 3.1 Research Background

### 1. Workplace Loneliness

Building relationships at work is not easy. Unfavorable workplace conditions, such as work overload, job burnout, and workplace ostracism, can increase employees' workplace loneliness (Galek et al., 2011; Kinman et al., 2011; Zhou, 2018). Overwork not only intensifies employees' short-term stress but also damages their social relationships (Ganster et al., 2018). According to the International Labour Organization, more than one-third of all workers worldwide regularly work over 48 hours per week (International Labour Organization, 2023). In addition, since the COVID-19 pandemic, employees have been working at more flexible times and locations, and the reduction of face-to-face communication has further exacerbated workplace loneliness. To date, there has been little quantitative research on how organizations can effectively reduce employees' workplace loneliness. Elche et al. (2021) called for further research on how organizations help employees alleviate workplace loneliness, and this study responds to that call.

Because the lack of friends is often viewed as a form of social failure (Perlman & Joshi, 1989), loneliness is often stigmatized or trivialized (Cacioppo & Patrick, 2008; Holt-Lunstad, 2018). Employees may attempt to conceal their loneliness through self-masking and may engage in social avoidance to escape relationship building (Lam & Lau, 2012; Yu et al., 2007). Similarly, lonely individuals often avoid self-disclosure, which hinders the normal development of interpersonal relationships (Solano et al., 1982). Since individuals find it difficult to escape this vicious cycle on their own, exploring the role of leadership in alleviating workplace loneliness is of great importance.

Unlike general loneliness, workplace loneliness is more directly affected by relationships among organizational members, particularly the interactions between leaders and followers (Zhou, 2018). A large body of research has demonstrated that leadership plays a key role in shaping interpersonal relationships in the workplace

(Amir, 2019; McCallum & O'Connell, 2009; Yang et al., 2017). Servant leadership, introduced by Greenleaf (1977), emphasizes "serving others" and prioritizing followers' interests over leaders'. Based on servant leadership theory, this study examines the relationships among servant leadership, behavioral empathy (empathic communication), and employees' workplace loneliness. It aims to reveal how servant leadership reduces employees' workplace loneliness through empathic communication and to demonstrate its positive effect on maintaining employees' mental health.

**H1:** Servant leadership is negatively related to followers' workplace loneliness.

## 2. Servant Leadership and Workplace Loneliness

Although Greenleaf (1977) did not offer an explicit definition of servant leadership (Smith et al., 2004), later studies have identified several core characteristics of this leadership style. The central driving force behind servant leadership lies in a genuine desire to serve others (Bass, 2000; Sendjaya & Sarros, 2002). Servant leaders place followers' needs above those of the organization or themselves (Sendjaya, 2015), with a strong emphasis on followers' personal development and growth (Ehrhart, 1998; Laub, 1999). Unlike leadership approaches that primarily aim to enhance organizational goals and performance, servant leadership emphasizes interpersonal interaction and takes followers' well-being, emotions, and moral values into account (Gotsis & Grimani, 2016; Zhang et al., 2012). By prioritizing followers' mental health and personal development, servant leadership fosters greater employee engagement and productivity (Eva et al., 2019). Moreover, servant leadership cultivates trust-based relationships with followers (Chan & Mak, 2014) and enhances the quality of leader–member exchange (Newman et al., 2017), enabling followers to experience higher job satisfaction, greater well-being, and reduced burnout (Amah, 2018; Coetzer et al., 2017; Hunter et al., 2013).

Because the ideal number of social relationships differs across individuals, the quality of relationships may be more crucial than their quantity in preventing and

reducing workplace loneliness (Lam & Lau, 2012). From the perspective of followers' social well-being, servant leadership values enduring relationships with followers and demonstrates sensitivity to their emotional needs (Liden et al., 2008; Page & Wong, 2000), thereby contributing to a more positive and cohesive team climate (Bierhoff & Müller, 2005). For example, servant leadership fulfills followers' need for belonging by fostering an inclusive organizational environment and encouraging open, honest communication that allows followers to express their authentic selves (Gotsis & Grimani, 2016; Pless & Maak, 2004). Taken together, these arguments suggest that servant leadership may improve the relational quality experienced by lonely employees. Consequently, followers under servant leadership are likely to experience lower levels of workplace loneliness.

**2. Empathy**

Empathy is an essential characteristic of servant leadership (Spears, 1995), and higher empathy may explain servant leaders' sensitivity to followers' emotional needs. Most researchers have considered empathy a multidimensional concept, with affective and cognitive empathy being the most common distinctions (Hall & Schwartz, 2019). Affective empathy is defined as emotional congruence between the target person and observer (Cox et al., 2012; de Vignemont & Singer, 2006; Gallese & Goldman, 1998), and cognitive empathy refers to the comprehension of others' mental and emotional states (Clark et al., 2019; Irving & Dickson, 2004). ognitive empathy is necessary for socializing and for perceiving others' internal states (Decety & Sommerville, 2003), representing an imaginative understanding of others' situations (Batson, 2009; Davis, 1983).

Besides comprehension of the target's internal state, empathy is also reflected in behavior. Empathy involves understanding others and expressing that understanding to them (Hall & Schwartz, 2019; Schrooten & de Jong, 2017). Multiple processes are involved in empathy, including identifying and comprehending others' mental states and responding with appropriate behaviors (Amiruddin et al., 2017). The research

review has suggested three types of empathy: affective, cognitive, and behavioral (Clark et al., 2019). Behavioral empathy is the external manifestation of empathy, and in contrast to cognitive and affective empathy, focuses on the target person (Teherani et al., 2008). Behavioral empathy is the ultimate consequence of the entire empathy process.

Different communication styles influence the target's perception of empathy (Silvester et al., 2007). As a form of behavioral empathy, Empathic communication indicates that the observer intentionally expresses an understanding of the target person's internal state based on emotional and/or cognitive empathy, including inquiries, rhetorical questions, and nonverbal behaviors (e.g., eye contact, concerned facial expressions) (Cohn et al., 2007; Kraft-Todd et al., 2017; Suchman et al., 1997). Through empathic communication, individuals can consciously help others (Betancourt, 1990). Extensive research has been conducted on the effectiveness of empathic communication in doctor-patient interactions (Bylund & Makoul, 2002; Derksen et al., 2013). However, the impact of empathic communication on fostering workplace relationships still needs to be verified. Applying empathic communication may be an effective way to combat loneliness.

## 3. Leader Empathy

Followers perceive leadership via leaders' emotional and mental abilities, and empathy can promote followers' perceptions of leadership (Kellett et al., 2002). Empathy is a valuable leadership characteristic (Seligman, 1980), yet it is considerably undervalued compared to other leadership traits, such as responsibility and passion (Holt & Marques, 2012). Empathy reveals leaders' authentic concern for their followers' needs and interests (Russell, 2001), and followers also desire an emotional connection with their leaders through empathy (Goleman et al., 2003).

As an interpersonal helping strategy, empathy fosters positive leader-follower relationships and high-quality LMX (Arghode et al., 2022; Mahsud et al., 2010). Followers perceive servant leadership as possessing strong empathy (Washington et

al., 2006), which may explain servant leaders' sensitivity to followers' needs (Liden et al., 2008). Empathy is the foundation for leaders' relation-oriented behaviors and enables leaders to choose the most effective behaviors to meet followers' requirements (Mahsud et al., 2010). Servant leaders are better able to alleviate followers' pain by incorporating empathy as a core leadership skill (Davenport, 2015). The qualitative research confirmed that servant leaders' empathy with their followers' suffering motivates their perspective-taking and compassionate response to help followers maintain emotional balance (Jit et al., 2017). Accordingly, servant leaders may utilize empathic communication to alleviate followers' workplace loneliness. The hypotheses are as follows:

**H2:** Leaders' empathic communication mediates the relationship between servant leadership and followers' workplace loneliness.

**4. Colleagues' Empathy**

Servant leaders trust that serving their followers improves the organization's long-term success (Van Dierendonck, 2011). Assisting followers in their personal growth and development is a crucial characteristic of servant leadership (Ehrhart, 2004; Liden et al., 2008), as it encourages followers to act in ways that benefit the organization (Lara, 2012). Servant leadership is dedicated to cultivating morality in its followers, motivating them to serve, and advancing the common good; its ultimate objective is for followers to become servants (Graham, 1991).

Servant leadership develops a cycle of service (Hunter et al., 2013). Servant leaders inspire their followers to perform actions to support colleagues in distress at both the individual and organizational levels. Based on social learning theory (Bandura & Walters, 1977), because followers regard servant leaders as trusted role models (Chan & Mak, 2014; Russell & Stone, 2002), they aspire to imitate leaders' behaviors (Wood & Bandura, 1989) and desire to support colleagues in distress (Liden et al., 2014). Following social exchange theory (Blau, 2017) and norm or reciprocity

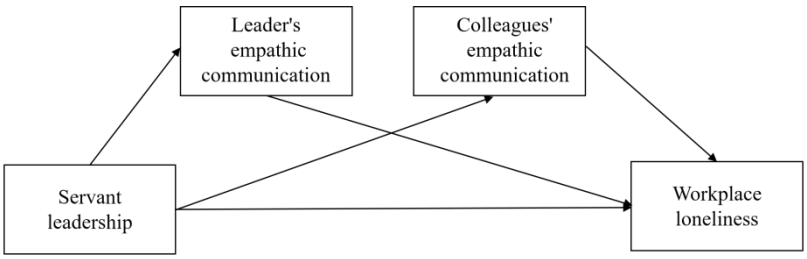
(Gouldner, 1960), servant leadership shows concern for followers' well-being, which makes followers more devoted to their leader and organization and obligingly aids their colleagues in reciprocating these positive leader behaviors (Zou et al., 2015). At the organizational level, servant leadership fosters a collaborative environment by emphasizing group identity and facilitating social exchange among followers (Page & Wong, 2000). Specifically, servant leadership fosters a variety of positive organizational climates, indirectly encouraging followers' organizational citizenship behavior (Ehrhart, 2004; Walumbwa et al., 2010).

Shaping followers' empathy is vital for motivating followers' service behaviors and organizational citizenship behavior (Elche et al., 2020). Followers with strong empathy are more likely to help their lonely colleagues (Joireman et al., 2006). Empathy training shows that empathic expression is a teachable communication skill (Bonvicini et al., 2009; Platt & Keller, 1994; Teding van Berkhout & Malouff, 2016), and cognitive empathy significantly increased after training (Lajante et al., 2023). In conclusion, servant leaders will implement empathic communication with lonely followers to satisfy their emotional needs, and based on social exchange theory and social learning theory, other followers will learn the empathic behaviors of servant leaders, which indirectly reduces workplace loneliness. Figure 3.1 presents the hypothesized model of this study.

**H3:** Colleagues' empathic communication mediates the relationship between servant leadership and followers' workplace loneliness.

**H4:** Servant leadership indirectly reduces followers' workplace loneliness through leaders' and colleagues' empathic communication.

**Figure 3.1 Hypothesized model**



## 3.2 Methodology

The participants of the formal survey were 267 employees from different companies in China who worked in traditional office-based environments. The data were collected in November 2021. All variables were measured using 5-point Likert scales, ranging from 1 (strongly disagree) to 5 (strongly agree).

***Servant leadership***. Employees' perceptions of servant leadership were measured using the 7-item Servant Leadership-7 (SL-7) scale (Liden et al., 2015). An example item is: "I would seek help from my leader if I had a personal problem." The scale had satisfactory fit values for a single-factor structure ($\chi 2(14)=33.604$, $p < .05$; $\chi 2/df=2.4$; RMSEA=0.073; RMR=0.048; CFI=0.965; NFI=0.942) and Cronbach's $\alpha=0.82$.

***Leader's empathic communication***. Employees reported their leader's empathic communication by 6 items developed by Nicolai et al. (2007). A given item was: "My leader treats me as an equal partner in communication.". The CFA results showed support for the integrity of the scale for a unidimensional solution ($\chi^2(9)=15.864$, $p > .05$; $\chi^2/df =1.763$; RMSEA= 0.054; RMR=0.021; CFI=0.992; NFI= 0.982) and Cronbach's $\alpha=0.9$.

***Colleagues' empathic communication***. We also applied the 6 items developed by Nicolai et al. (2007) to test participants' perceptions of communication with their colleagues. The CFA showed satisfactory fit ($\chi^2(8)=22.719$, $p < .05$; $\chi^2/df=2.84$; RMSEA=0.083; RMR=0.02; CFI =0.969; NFI= 0.954). Cronbach's $\alpha$ for this scale was 0.81.

***Workplace loneliness***. Followers' work loneliness was measured by Wright et al. (2006) with 16 items. One item was omitted because it had a low loading (< 0.4) on the social companionship factor. A CFA for a two-factor model showed satisfactory fit ($\chi^2(77)=157.34$, $p < .05$; $\chi^2/df=2.043$; RMSEA=0.063; RMR=0.025; CFI =0.946; NFI= 0.902). Cronbach's $\alpha$ for emotional deprivation and social companionship subscales were 0.85 and 0.81.

## 3.3 Result

Harman's single-factor test was conducted to examine common method bias. The first principal component explained 36.56% of the total variance, which is below the critical threshold of 40%, indicating that common method bias was not a serious issue.

### 1. Descriptive Statistics

Table 3.1 shows the demographic characteristics of the participants: 159 (59.6%) were males, and 108 (40.4%) were females. Participants' mean age was 31.5 years (SD=5.05). We questioned participants about their tenure, positions, and other variables to assess the test's generalizability.

**Table 3.1 Demographics characteristics of the participants**

| Demographic Characteristics | Category | *N* | Percentage |
|---|---|---|---|
| Age | | 31.5 | |
| Gender | Male | 159 | 59.6 |
| | Female | 108 | 40.4 |
| Education | College and below | 58 | 21.8 |
| | Undergraduate | 190 | 71.2 |
| | Master or above | 19 | 7.1 |
| Tenure (years) | ＜5 | 86 | 32.1 |
| | 5–10 | 142 | 53.2 |
| | ＞5 | 39 | 14.6 |
| Company size | ＜50 | 23 | 8.6 |
| | 50–100 | 79 | 29.6 |
| | 101–500 | 101 | 37.8 |
| | ＞500 | 64 | 24 |
| Position | General employee | 91 | 34.1 |
| | Junior manager | 120 | 44.9 |
| | Middle manager | 54 | 20.2 |
| | Senior manager | 2 | 0.7 |
| working hours (per week) | ＜40 | 49 | 18.4 |
| | 40–50 | 204 | 76.4 |
| | ＞50 | 14 | 5.2 |
| Total | | 267 | 100.0 |

Correlation coefficients for each variable are shown in Table 3.2. There was a significant positive correlation between servant leadership and leader's empathic communication ($r = 0.80$, $p < 0.01$) and a significant negative correlation between servant leadership and workplace loneliness ($r = -0.64$, $p < 0.01$). Moreover, leader's empathic communication was positively correlated with colleagues' empathic communication ($r = 0.56$, $p < 0.01$), which provides preliminary support for the serial mediation model.

Given the relatively high correlations among several variables, additional multicollinearity diagnostics were conducted. The VIF values were modest (servant leadership: 3.11; Leader's empathic communication: 2.83; Colleagues' empathic communication: 1.76) and remained well below the threshold of 5, indicating that multicollinearity was not a concern.

**Table 3.2 Results of confirmatory factor analysis**

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| 1. Servant leadership | 3.82 | 0.75 | | | | |
| 2. Leader's empathic communication | 3.98 | 0.80 | .80 ** | | | |
| 3. Colleagues' empathic communication | 4.32 | 0.50 | .60 ** | .56** | | |
| 4. Workplace loneliness | 1.62 | 0.44 | −.50 ** | −.59** | −.64 ** | |

*Note: ** p < 0.01. M: mean. SD: standard deviation*

## 2. Hypothesis Testing

Hierarchical regression analyses were performed, controlling for age, tenure, and position. In Table 3.3, servant leadership significantly predicted leaders' empathic communication ($\beta = 0.85$, $p < .001$) and colleagues' empathic communication ($\beta = 0.28$, $p < .001$). Leaders' empathic communication also positively predicted colleagues' empathic communication ($\beta = 0.13$, $p < .05$). However, the direct effect of servant leadership on workplace loneliness was not significant, indicating that H1 was not supported.

To test H2–H4, a serial mediation analysis with bootstrapping (5,000 samples) was conducted. Results indicated that all three mediation pathways were significant. As shown in Table 3.4, all three mediation pathways were significant. The total indirect effect of servant leadership on workplace loneliness was −0.35 (SE = 0.06, 95% CI [−0.470, −0.249]). Specifically, the indirect effect through leaders' empathic communication (H2) was −0.19 (95% CI [−0.304, −0.082]), through colleagues' empathic communication (H3) was −0.12 (95% CI [−0.183, −0.061]), and the serial indirect effect (H4) through both leaders' and colleagues' empathic communication was −0.05 (95% CI [−0.115, −0.003]). These results supported H2, H3, and H4.

**Table 3.3 Results of hierarchical regression analysis**

| Variables | Leader's empathic communication | | Colleagues' empathic communication | | Workplace loneliness | |
|---|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| Constant | 3.69 ** | 0.87 ** | 4.44 ** | 3.05 ** | 1.80 ** | 4.03 ** |
| Age | −0.01 | −0.01 | −0.02 * | −0.02 ** | 0.01 | 0.01 |
| Tenure (years) | 0.03 | 0.01 | 0.05 ** | 0.04 ** | −0.04 ** | −0.02 ** |
| Position | 0.19 ** | 0.02 | 0.06 | −0.02 | −0.12 ** | −0.07 * |
| Servant leadership | | 0.85 ** | | 0.28 ** | | 0.07 |
| Leader's empathic communication | | | | 0.13 * | | −0.22 ** |
| Colleagues' empathic communication | | | | | | −0.38 ** |
| $R^2$ | 0.05 | 0.64 | 0.11 | 0.44 | 0.16 | 0.53 |
| F | 4.92 | 114.70 | 11.31 | 40.54 | 16.28 | 48.03 |

*Note: * $p < 0.05$. ** $p < 0.01$*

**Table 3.4 Bootstrap 95% confidence intervals for mediation pathways**

| Path | Effect | BootSE | Boot LLCL | Boot ULCL | Ratio of Indirect Effects |
|---|---|---|---|---|---|
| Total indirect effect | −0.35 | 0.06 | −0.470 | −0.249 | 1 |
| Path 1: Servant leadership → Leader's empathic communication → Workplace loneliness | −0.19 | 0.06 | −0.304 | −0.082 | 52.40% |

| | | | | | |
|---|---|---|---|---|---|
| Path 2: Servant leadership → Colleagues' empathic communication → Workplace loneliness | −0.12 | 0.03 | −0.183 | −0.061 | 33.59% |
| Path 3: Servant leadership → Leader's empathic communication → Colleagues' empathic communication → Workplace loneliness | −0.05 | 0.03 | −0.115 | −0.003 | 14.01% |
| Path 1−Path 2 | −0.07 | 0.07 | −0.334 | 0.110 | |
| Path 1−Path 3 | −0.14 | 0.06 | −0.418 | −0.025 | |
| Path 2−Path 3 | −0.07 | 0.05 | −0.300 | 0.040 | |

*Note: BootSE: bootstrap standard error. BootLLCI: bootstrap lower-limit confidence interval. BootUULCI: bootstrap upper-limit confidence*

## 3.4 Discussion

### 1. Theoretical Implications

This study introduced empathic communication as a strategy for servant leadership to reduce workplace loneliness and tested the mediation effect of leaders' and colleagues' empathic communication on the relationship between servant leadership and followers' workplace loneliness. Previous research has shown that leadership behavior can reduce employees' negative emotions (Kloutsiniotis et al., 2022). The present findings show that the direct effect of servant leadership on workplace loneliness was not supported, whereas the indirect effect through empathic communication was confirmed. Thus, servant leadership alleviates loneliness not directly, but through the empathic communication it promotes. Overall, these results suggest that servant leadership can still contribute to reducing workplace loneliness via communication-driven pathways.

This study further confirmed that colleagues' empathic communication mediates the relationship between servant leadership and followers' workplace loneliness. Servant leadership caring behaviors not only directly affect lonely followers but also inspire other employees to reciprocate leaders' altruism through helping behaviors. In

other words, when colleagues of lonely followers receive care and assistance from servant leaders, they tend to reciprocate by engaging in organizational citizenship behaviors that benefit both leaders and colleagues (Ehrhart, 2004; Walumbwa et al., 2010).

Finally, leaders' and colleagues' empathic communication play a serial mediating role between servant leadership and followers' workplace loneliness. This result is consistent with Hunter et al. (2013), who found that servant leadership cultivates "servant followers." Servant leaders initiate a "cycle of service" through empathic communication, creating a service-oriented and inclusive organizational climate (Gotsis & Grimani, 2016) and fostering followers' prosocial values (Donia et al., 2016), thereby motivating them to learn empathic communication skills and build positive interactions with lonely colleagues. According to social learning theory, followers view servant leaders as role models (Brown et al., 2005). After observing leaders' empathic behaviors toward lonely colleagues, they tend to imitate and act on those behaviors. Therefore, servant leaders reduce workplace loneliness not only through their own actions but also by modeling and promoting a culture of helping among followers.

## 2. Practical Implications

This study provides practical advice for organizations looking to combat workplace loneliness. First, the findings indicate that servant leadership is an effective strategy for reducing employee loneliness because it is sensitive to followers' negative emotions and can detect subtle cues of social withdrawal. Organizations might thus consider implementing training programs to improve leaders' empathetic communication skills, enabling them to detect early signs of loneliness and respond with empathy-based interventions, such as one-on-one check-ins and emotional support.

Furthermore, the findings suggest that empathy should be developed as a behavioral ability rather than only as a personal quality. Empathic communication, as

evidenced by verbal understanding and nonverbal concern, directly affects how employees perceive their social connectedness at work. Thus, behavioral empathy training should be included in leadership development programs (for example, active listening, emotional feedback, and inclusive discourse). Another limitation is the potential multicollinearity indicated by the relatively high correlation between servant leadership and the leader's empathic communication. Although these constructs are theoretically distinct, they may share overlapping behavioral components. Future studies should further clarify their discriminant validity.

At last, the confirmed serial mediation effect of leaders' and colleagues' empathic communication indicates that servant leadership contributes to the development of a broader culture of mutual support. Empathic communication between leaders and employees creates a psychologically safe workplace where emotional support flows horizontally and vertically. Fostering an empathy-driven business culture can boost employee well-being and lessen leaders' interpersonal management burden.

# Chapter 4. Workplace Loneliness in Hybrid Work: Inclusive Leadership Reduces Communication Barriers

## Abstract

Chapter 4 extends the discussion from traditional work settings to hybrid work environments, where employees split their time between telework and office-based work. While Chapters 2 and 3 examined the inhibiting effect of workplace loneliness on job crafting and the role of leadership empathy in traditional workplaces, Chapter 4 turns to the emerging context of hybrid work, where physical separation and reduced informal contact present new relational challenges.

With hybrid work becoming increasingly common after the COVID-19 pandemic, workplace loneliness among hybrid workers has gained growing attention. This study investigates how communication challenges with office-based colleagues contribute to workplace loneliness among hybrid workers, emphasizing the roles of communication satisfaction and informal communication. Furthermore, this chapter explores how inclusive leadership enhances communication and alleviates feelings of loneliness. We collected data from hybrid workers in Japan via a two-wave survey, yielding 231 valid responses. The results show that hybrid workers experience less loneliness when they are satisfied with their communication and have sufficient informal interactions with office-based colleagues. Moreover, inclusive leadership alleviates loneliness both directly and indirectly by enhancing both forms of communication.

## 4.1 Research Background

### 1. Workplace Loneliness in Hybrid Work Contexts

Chapter 3 showed that colleagues' empathic communication was more strongly linked to workplace loneliness than leaders' communication. Building on this result, Chapter 4 shifts its analytical focus from leaders to colleagues. Recent research on telework and hybrid work highlights that peer interactions play an increasingly central role in shaping employees' communication satisfaction, task coordination, and overall work effectiveness (Wang et al., 2021). Given that hybrid workers rely heavily on colleagues for daily support, informal communication, and relationship maintenance, examining colleague relationships becomes essential for understanding loneliness and relational dynamics under telework conditions.

The COVID-19 pandemic has made managers realize the benefits of telework. However, telework also brings challenges such as loneliness and isolation (Babapour Chafi et al., 2021). To balance the advantages and disadvantages of telework and office-based work, many organizations in Japan have implemented hybrid work, in which employees work from home on certain days of the week (Leonardi et al., 2024). Due to its advantages in flexibility, autonomy, and support for work-life balance (Fonner & Roloff, 2010), hybrid work has become a preferred choice for many employees after the pandemic.

Although much research has explored telework's benefits and drawbacks (Golden, 2009; Greer & Payne, 2014), relatively few studies have focused on the well-being of hybrid workers. Hybrid workers rely on technology-mediated communication, which limits the formation of high-quality workplace relationships (Cheng et al., 2023; Golden, 2007). Even when they are present in the office, the scarcity of face-to-face interactions does little to alleviate loneliness (Masi et al., 2011). Hybrid workers may face a unique social dilemma different from traditional office-based workers and full-time teleworkers, yet the specific causes of their workplace loneliness remain unclear.

When working from home, hybrid workers must use Information and Communication Technologies (ICTs) to communicate with office-based colleagues. However, this mediated communication restricts access to situational context and hinders the development of shared understanding within the organization (Jones et al., 2004). As a result, hybrid workers often report lower communication satisfaction because they spend more time interpreting information and receive slower feedback (Cramton, 2001). When they return to the office, awareness of information asymmetry further weakens their impressions of office-based colleagues and reduces their willingness to communicate (Breuer et al., 2016; Collins et al., 2016). In addition, prolonged telework weakens hybrid workers' organizational identification and decreases their participation in informal communication with office colleagues (Bartels et al., 2007; Bartel et al., 2012). Even when they return to the office, they may engage less in casual small talk, being reluctant to invest time in weak social ties with office-based colleagues (Yang et al., 2022). Overall, hybrid workers' workplace loneliness may primarily stem from communication barriers with office-based colleagues—particularly low communication satisfaction and limited informal interaction.

Given the adverse effects of workplace loneliness, such as reduced performance (Lam & Lau, 2012) and increased turnover intentions (Wright et al., 2006), organizations must take action to prevent loneliness among hybrid workers. Inclusive leadership strengthens hybrid workers' sense of belonging by providing emotional support and enhancing psychological safety (Ahmed et al., 2021; Randel et al., 2018; Sabharwal, 2014). It also encourages hybrid workers to connect with office-based colleagues and seek support when facing work challenges (Detert & Edmondson, 2011). This study investigates how communication satisfaction, informal communication, and inclusive leadership affect workplace loneliness among hybrid workers. The results show that communication satisfaction and informal communication significantly influence loneliness, while inclusive leadership reduces it both directly and indirectly by improving communication.

## 2. Communication issues between hybrid workers and office-based colleagues

Workplace loneliness refers to a sense of detachment experienced by employees that arises from the gap between their expected and actual interpersonal relationships within the organization (Wright et al., 2006). This emotion undermines employees' creativity, work engagement, and affective commitment (Peng et al., 2017; Wright & Silard, 2021; Ozcelik & Barsade, 2018), ultimately affecting long-term organizational performance. Since loneliness is often concealed by employees (Cacioppo et al., 2000), it is difficult for leaders to promptly recognize their emotional needs. Therefore, exploring the mechanisms and coping strategies of workplace loneliness in hybrid work contexts is of great significance.

Hybrid work has become increasingly common, yet research rarely addresses hybrid workers' unique experiences. It remains unclear whether their dissatisfaction concerns all organizational members or primarily office-based colleagues. While hybrid work mainly affects coworker relationships rather than those with leaders (Gajendran & Harrison, 2007), the quality of relationships between hybrid workers and office-based colleagues is significantly lower (Collins et al., 2016). This may result from distinct work identities formed by different work modes and experiences (Felstead et al., 2003), which reduce communication satisfaction and willingness to interact, as office-based colleagues are often perceived as an out-group (Cramton, 2001).

Communication plays a key role in shaping hybrid workers' perceived proximity to others (Wilson et al., 2008), and barriers or limited interaction can lead to workplace loneliness (Müller et al., 2022). Therefore, this study focuses on task-oriented communication satisfaction and relationship-oriented informal communication between hybrid workers and their office-based colleagues.

## 3. Hybrid workers' communication satisfaction and workplace loneliness

Hybrid workers' excessive use of electronic communication during telework causes communication dissatisfaction with office-based colleagues. Electronic communication is more ambiguous and incomplete than face-to-face interaction, resulting in poor information transmission and reception (Kock, 2005) and limiting knowledge sharing (Taskin & Bridoux, 2010). Although electronic communication is mainly task-oriented, the absence of social context cues such as facial expressions and body language makes it difficult to understand colleagues' status and emotions in the office, hindering hybrid workers' ability to assess work progress.

Moreover, task-oriented communication is typically conducted through asynchronous channels such as email (Hertel et al., 2005), which can delay responses to urgent tasks or unexpected events for hybrid workers. Golden & Veiga (2005) indirectly supported this issue: high task interdependence reduces teleworkers' job satisfaction. As a result, hybrid workers need to spend more time understanding and coordinating task-related information, decreasing their task-oriented communication satisfaction.

Conversely, office-based colleagues are less inclined to support hybrid workers due to dissatisfaction with benefits like greater flexibility (Golden, 2007). Anonymity in electronic communication makes hybrid workers more self-centered and less likely to adjust their tone or perspective to accommodate office-based colleagues, intensifying mutual misunderstandings and communication dissatisfaction (Wilson et al., 2006). Hybrid workers feel dissatisfied with communication due to increased communication barriers, misunderstandings, and potential hostility, which undermines collaboration, trust, and workplace loneliness.

**H1:** Communication satisfaction between hybrid workers and office-based colleagues negatively predicts hybrid workers' workplace loneliness.

### 4. Hybrid workers' informal Communication and Workplace Loneliness

Beyond task-oriented communication, emotional support is a key determinant of hybrid workers' assessments of interpersonal relationships (Kram & Isabella, 1985). Informal communication allows employees to share personal concerns, build mutual understanding, and strengthen interpersonal closeness within the organization (Kraut et al., 1990). However, working via telework several days a week reduces opportunities for face-to-face interactions between hybrid workers and their office-based colleagues and limits informal communication. While the content and frequency of task-oriented communication between teleworkers and their colleagues remain consistent, informal communication has declined (Gallatin, 2018).

Even when hybrid workers and office-based colleagues are co-located, informal communication has not returned to pre-pandemic levels because hybrid workers still tend to use electronic communication during in-office work (Bloom et al., 2022; Cameron & Webster, 2005). Prolonged telework diminishes shared identity between hybrid workers and office-based colleagues, making hybrid workers feel extraneous to their organization (Cramton, 2001). This reduces their willingness to engage in informal workplace communication, increasing social distance and workplace loneliness.

**H2:** Informal communication between hybrid workers and office-based colleagues negatively predicts hybrid workers' workplace loneliness.

### 5. Inclusive Leadership

Inclusion reflects the degree to which employees feel they belong, have access to resources, and can participate in team activities (Mor Barak & Cherin, 1998; Roberson, 2006). Leadership is crucial in supporting hybrid workers' adaptation and sense of inclusion (Urrila et al., 2025). As a strategy for managing workforce diversity, inclusive leadership involves treating all employees as valued insiders, fostering shared identity, and recognizing individual differences (Nembhard & Edmondson, 2006). Inclusive leaders actively support participation and acknowledge each

member's unique contributions, regardless of background. While telework may weaken peer relationships, it does not necessarily harm relationships with leaders. Indeed, increased telework intensity can improve Leader-member exchange (Golden, 2006). Hybrid workers rely more on their leaders for support and guidance, which may enhance the impact of inclusive leadership.

**H3:** Inclusive leadership negatively predicts workplace loneliness among hybrid workers.

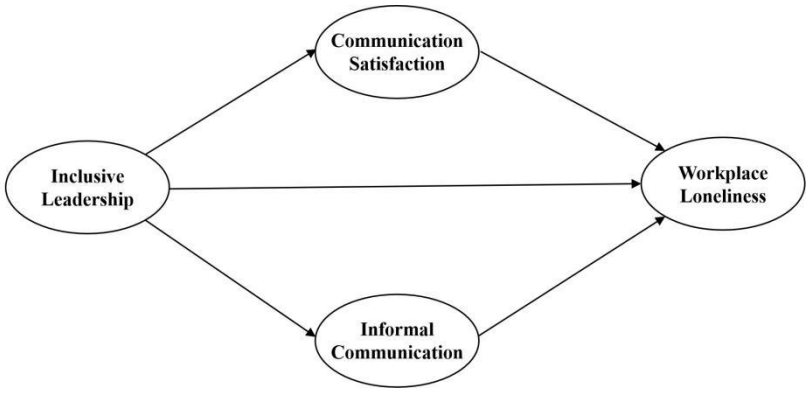
Communication problems can lead to role ambiguity, and hybrid workers may not know the expected outcomes or whom to ask for help (Sardeshmukh et al., 2012). Inclusive leaders help create a supportive climate where hybrid workers feel accepted by office-based colleagues (Bartel et al., 2012; Randel et al., 2018). When these relationships improve, hybrid workers may blame communication problems on external factors rather than on colleagues (Heider, 1958; Kelley, 1967), which contributes to greater communication satisfaction.

Inclusive leadership also lowers psychological stress (Ahmed et al., 2021) and encourages team members to share ideas and knowledge (Hirak et al., 2012). When hybrid workers feel treated fairly by office-based colleagues, they feel more connected to the organization and more likely to engage in informal communication to maintain these relationships (Yang et al., 2022). Overall, informal conversations help build emotional bonds and provide valuable, unspoken work-related information (Urrila et al., 2025). Figure 4.1 illustrates the relationships among the variables.

**H4a:** Inclusive leadership indirectly reduces workplace loneliness among hybrid workers by promoting communication satisfaction with office-based colleagues.

**H4b:** Inclusive leadership indirectly reduces workplace loneliness among hybrid workers by promoting informal communication with office-based colleagues.

**Figure 4.1 Hypothesized model**




## 4.2 Methodology

### 1. Participants and Procedure

This study targeted hybrid workers in Japan who engaged in telework one to four days per week during the post-pandemic period, with data collected from June to November 2023. Participants were informed of the study purpose and confidentiality, and those who consented completed two online surveys five months apart. At Time 1, 444 participants reported on communication satisfaction, informal communication, and perceived inclusive leadership; at Time 2, 231 participants provided data on workplace loneliness.

The final sample (N= 231) included 44.6% men and 55.4% women, aged 23–80 years (M = 41.14, SD = 12.13). Regarding telework frequency, 46.8% worked remotely 1–2 days per week, 18.6% worked 3 days, and 34.6% worked 4 days. Most (75.4%) had no telework experience before COVID-19. Participants primarily worked in manufacturing (28%), information and communications (25.4%), and wholesale/retail trade (11.2%). Among them, 22.9% were managers, and 67.1% reported that over half of their colleagues also engaged in telework.

### 2. Measures

All measures used a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

***Communication satisfaction with office-based colleagues***. We adapted a 4-item scale from the horizontal communication subscale of Downs & Hazen (1977) to measure hybrid workers' communication satisfaction with their office-based colleagues. The wording of the items was modified to specifically refer to office-based colleagues (e.g., "I am satisfied with the way communication with office-based colleagues is handled in emergency situations"). This variable was used as the first mediator in the hypothesized model and Cronbach's alpha was 0.95.

***Informal communication with office-based colleagues***. We measured informal communication between hybrid workers and their office-based colleagues using a 4-item scale (Beehr & King, 1990). The items assessed the extent to which hybrid workers talked about their personal lives with their office-based colleagues (e.g., "We discuss things that are happening in our personal lives"). This variable was used as the second mediator and Cronbach's alpha was 0.90.

***Workplace Loneliness***. Workplace loneliness among hybrid workers was measured using a 16-item scale (Wright et al., 2006), which captures two dimensions of loneliness: Emotional Deprivation (e.g., "I often feel disconnected from others at work") and Lack of Social Companionship (e.g., "There is no one at work I can share personal thoughts with if I want to"). Cronbach's alpha was 0.93 for the overall scale, 0.91 for Emotional Deprivation, and 0.88 for Social Companionship.

***Inclusive Leadership***. Perceived inclusive leadership among hybrid workers was measured using a 9-item scale (Carmeli et al., 2010) (e.g., "The manager is ready to listen to my requests"). Cronbach's alpha was 0.97.

***Control variables***. This study controlled for age, gender, the proportion of hybrid workers in the workplace, and telework frequency (i.e., the number of telework days per week), because these factors may influence workplace loneliness.

## 4.3 Result

Validity analysis was done using a split-sample method. The full sample (N = 231) was randomly divided into two groups: 116 participants for EFA in SPSS 28.0 and 115 for CFA in AMOS 24.0. The results supported the expected factor structures and showed an acceptable model fit for all scales (see Table 4.1). The communication satisfaction model showed marginal fit ($\chi^2/df = 3.04$; RMSEA = 0.13), but overall fit was acceptable given strong CFI and TLI (MacCallum et al., 1996).

We also tested for common method bias using Harman's one-factor test. A single-factor CFA was conducted on communication satisfaction, informal communication, inclusive leadership (all measured at Time 1), and workplace loneliness (measured at Time 2). CFA models showed poor fit for both Time 1 ($\chi^2/df = 13.19$, RMSEA = 0.230, NFI = 0.645, RFI = 0.595) and Time 2 ($\chi^2/df = 10.03$, RMSEA = 0.198, NFI = 0.668, RFI = 0.617), indicating that common method bias was not a major concern. We tested the hypotheses using hierarchical regression and parallel mediation analysis with the PROCESS macro in SPSS 28.0.

**Table 4.1 EFA and CFA Results (Split-Sample Approach)**

| | **EFA (*N* =116)** | | | | **CFA (*N* =115)** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | KMO | Bartlett's Test (p) | Factor(s) | Variance Explained | $\chi^2/df$ | RMSEA | CFI | TLI | AVE | CR |
| Communication Satisfaction (T1) | 0.83 | < .001 | 1 | 72.46% | 3.04 | 0.13 | 0.994 | 0.981 | 0.90 | 0.97 |
| Informal Communication (T1) | 0.79 | < .001 | 1 | 81.68% | 0.98 | 0.01 | 0.994 | 0.988 | 0.72 | 0.91 |
| Inclusive Leadership (T1) | 0.95 | < .001 | 1 | 79.31% | 2.26 | 0.07 | 0.988 | 0.981 | 0.77 | 0.97 |
| Workplace Loneliness (T2) | 0.91 | < .001 | 2 | F1: 35.75% F2: 31.39% | 2.71 | 0.08 | 0.958 | 0.944 | F1: 0.59 F2: 0.71 | F1: 0.92 F2: 0.93 |

*Note.* EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis; $\chi^2/df$ = Chi-square divided by degrees of freedom, RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, AVE = Average Variance Extracted, CR = Composite Reliability

## 1. Descriptive Statistics

Table 4.2 presents descriptive statistics and correlations. Inclusive leadership was positively correlated with communication satisfaction ($r = 0.59$, $p < 0.01$) and informal communication ($r = 0.49$, $p < 0.01$), both of which were negatively correlated with workplace loneliness ($r = – 0.63$, $p < 0.01$; $r = – 0.58$, $p < 0.01$). Control variables showed no significant correlations.

## 2. Hypothesis testing

Table 4.3 shows that inclusive leadership negatively predicted workplace loneliness among hybrid workers ($\beta = -0.20$, $p < 0.05$). Communication satisfaction ($\beta = -0.34$, $p < 0.001$) and informal communication ($\beta = -0.30$, $p < 0.001$) were also significant negative predictors. H1、H2 and H3 were supported.

Both mediation pathways were significant, with a total indirect effect of −0.28 (95% CI [−0.39, −0.19]). Inclusive leadership reduced loneliness via hybrid workers' communication satisfaction ($b = -0.17$, 95% CI [−0.25, −0.09]) and informal communication ($b = -0.11$, 95% CI [−0.18, −0.05]). H4a and H4b were supported. The difference between the two indirect effects was insignificant ($b = -0.06$, 95% CI [−0.18, 0.06]). Figure 2 presents the final parallel mediation model with standardized coefficients.

**Table 4.2 Descriptive statistics and correlations among variables**

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 1.Age (T1) | 41.14 | 12.13 | - | | | | | | |
| 2.Gender (T1) | 1.55 | 0.50 | –0.18** | - | | | | | |
| 3.Proportion of hybrid workers (T1) | 5.67 | 2.68 | –0.09 | 0.08 | - | | | | |
| 4.Telework intensity (T1) | 2.65 | 1.17 | 0.05 | 0.01 | 0.38** | - | | | |
| 5.Communication satisfaction (T1) | 3.37 | 0.93 | –0.02 | 0.07 | 0.04 | 0.09 | - | | |
| 6.Informal communication (T1) | 2.68 | 0.93 | 0.04 | 0.05 | –0.06 | –0.09 | 0.57** | - | |
| 7.Inclusive Leadership (T1) | 3.29 | 0.51 | –0.08 | 0.04 | –0.08 | 0.02 | 0.60** | 0.49** | - |
| 8.Workplace loneliness (T2) | 2.35 | 0.77 | –0.09 | 0.05 | –0.07 | –0.01 | –0.63** | –0.58** | –0.55** |

*Note.* T1 = Time 1; T2 = Time 2. Gender was coded 1 for male and 2 for female. Proportion of hybrid workers was coded from 1 to 10, representing 10% to 100% in 10% increments. Telework intensity: the number of days hybrid employees worked remotely out of a five-day workweek. **p < 0.01

**Table 4.3 Hierarchical Regression Analysis for Workplace Loneliness**

| | Workplace loneliness (T2) | | |
|---|---|---|---|
| **Variable and statistic** | **Model 1** | **Model 2** | **Model 3** |
| Step 1: Control variables | | | |
| Age | –0.09 | –0.10 | –0.11* |
| Gender | 0.04 | 0.08 | 0.07 |
| Proportion of hybrid workers | –0.08 | –0.09 | –0.08 |
| Step 2: Main variables | | | |
| Telework intensity | | 0.03 | 0.03 |
| Communication satisfaction (CF) | | –0.36** | –0.34** |
| Informal communication (IC) | | –0.27** | –0.30** |
| Inclusive Leadership (IL) | | –0.21** | –0.20* |
| Step 3: Interaction terms | | | |
| CF × IL | | | 0.03 |
| IC × IL | | | 0.12 |
| Change in $R^2$ | 0.02 | 0.50** | 0.02 |
| $R^2$ | 0.02 | 0.52 | 0.54 |
| Adjusted $R^2$ | < 0.01 | 0.50 | 0.52 |
| *F* | 1.12 | 58.25** | 4.04** |
| *df* | 3, 227 | 7, 223 | 9, 221 |

*Note.* $N$ = 231. Gender was coded 1 for male and 2 for female. Proportion of hybrid workers was coded from 1 to 10, representing 10% to 100% in 10% increments. Telework intensity: the number of days hybrid employees worked remotely out of a five-day workweek. *$p$ < 0.05, **$p$ < 0.01.

**Figure 4.2 Results of the Parallel Mediation Model**

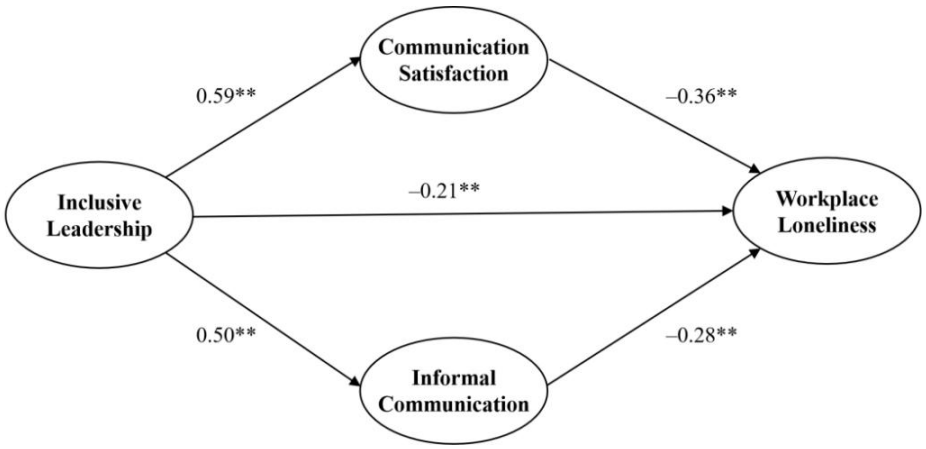



**Table 4.4 Hierarchical Regression Analyses for Communication Satisfaction and Informal Communication**

| | Communication satisfaction (T2) | | Informal communication (T2) | |
|---|---|---|---|---|
| **Variable and statistic** | **Model 1** | **Model 2** | **Model 1** | **Model 2** |
| Step 1: Control variables | | | | |
| Communication satisfaction (T1) | 0.65** | 0.56** | 0.10 | 0.08 |
| Informal communication (T1) | 0.13* | 0.08 | 0.68** | 0.67** |
| Step 2: Main variables | | | | |
| Inclusive Leadership (T1) | | 0.21** | | 0.05 |
| Change in $R^2$ | 0.54** | 0.03** | 0.55** | < 0.01 |
| $R^2$ | 0.54 | 0.57 | 0.55 | 0.55 |
| Adjusted $R^2$ | 0.53 | 0.56 | 0.55 | 0.55 |
| *F* | 132.14** | 14.52** | 140.21** | 93.53** |
| *df* | 2, 228 | 3, 227 | 2, 228 | 3, 227 |

*Note.* N = 231. T1 = Time 1; T2 = Time 2. Gender was coded 1 for male and 2 for female. Proportion of hybrid workers was coded from 1 to 10, representing 10% to 100% in 10% increments. Telework intensity: the number of days hybrid employees worked remotely out of a five-day workweek. **$p < 0.01$

## 4.4 Discussion

### 1. Theoretical implications

This study broadens the scope of inclusive leadership. Most past research has focused on its role in ethnically or nationally diverse teams (Sabharwal, 2014), but our findings show that inclusive leadership is also effective in teams divided by work arrangements, such as hybrid and office-based teams. However, its underlying mechanisms may vary across cultural contexts. In collectivist cultures, improving employee communication and interaction is a practical way for inclusive leadership to fulfill the need for belonging.

Moreover, we found that the key factor contributing to workplace loneliness among hybrid workers was their disconnection from office-based colleagues, rather than the entire workforce. Low communication satisfaction and limited informal interaction with office-based colleagues are major contributors to this loneliness. While past research has emphasized increasing informal interactions to reduce loneliness (Gallatin, 2018; Viererbl et al., 2022), this study suggests that low informal communication may stem from weak shared identity and a sense of belonging. Golden (2006) observed that teleworkers consciously engage in informal communication when they feel connected to their organization. Thus, satisfying task-related communication may help build trust and serve as a foundation for reducing loneliness.

Finally, this study challenges the assumption that hybrid work characteristics, including telework frequency and the proportion of hybrid workers, affect workplace loneliness. While earlier research linked these factors to employee well-being (Walz et al., 2024), our findings show no significant relationship with loneliness or communication problems. One reason may be that, in the post-pandemic period, many employees choose hybrid work voluntarily and can better manage stress (Kaduk et al., 2019). As a result, job characteristics that were impactful during mandatory telework may now have less influence.

## 2. Practical implications

This study provides practical implications for improving hybrid work. First, organizations should develop inclusive leadership to strengthen the psychological connection between hybrid workers and their office-based colleagues. Hybrid team leaders should embrace diverse work styles, recognize hybrid workers' contributions, and ensure clear, timely communication to mitigate the perceived neglect caused by delayed or uneven information.

Second, organizations should improve hybrid workers' remote communication skills. In this study, many participants lacked prior telework experience, which may contribute to lower communication satisfaction and increased loneliness. Training should address collaboration technologies, role clarity, context awareness, and independent decision-making in hybrid settings. Furthermore, organizations should also work to build a shared identity between hybrid and office-based colleagues. This study highlights that communication issues between these groups contribute to workplace loneliness. Hybrid teams should avoid dividing employees strictly by work mode. Instead, assigning tasks that encourage collaboration across work arrangements can help reduce the "us vs. them" dynamic and strengthen team cohesion.

Finally, managers should avoid overemphasizing formal interventions to increase informal interactions. This study shows that hybrid workers' loneliness is not solely due to a lack of informal communication. Support and understanding gained through task-oriented interactions with office-based colleagues, and emotional inclusion felt through inclusive leadership, also contribute to meeting employees' need for belonging. Thus, while informal communication decreases loneliness, managers should also focus on enhancing employees' sense of involvement, understanding, and trust through high-quality work-related communication.

## 3. Limitations and future studies

The two-wave design limits the ability to show causal links between inclusive leadership, communication satisfaction, and informal communication. Further research should use multi-wave longitudinal designs to study mediation effects over time. Another limitation is that workplace loneliness was not measured at Time 1; including Time 1 loneliness as a covariate would have allowed a more rigorous control of baseline differences. Whether the same mechanisms apply in countries with higher telework prevalence remains unclear. Cross-cultural comparisons are recommended to assess the generalizability of our findings.

# Chapter 5. Workplace Loneliness and Ostracism: The Effectiveness of Leader Support

## Abstract

Chapter 5 further explores the antecedents of workplace loneliness among hybrid workers and the positive role of leader support. Building on the findings of Chapter 4 regarding communication difficulties between office-based and hybrid workers, this chapter examines the consequences of social disconnection between these groups. Specifically, office-based colleagues may express dissatisfaction with communication barriers through passive resistance, such as ignoring or avoiding hybrid workers. Therefore, this study hypothesizes that workplace ostracism from office-based colleagues is a key contributor to workplace loneliness among hybrid workers.

Based on this assumption, the chapter does not focus on a particular leadership style but examines whether leader support can reduce ostracism and loneliness in hybrid workplaces. The results show that exclusion by office-based colleagues significantly increases workplace loneliness among hybrid workers, whereas leader support reduces loneliness both directly and indirectly by mitigating workplace ostracism. This study provides new theoretical insights into the interpersonal challenges faced by hybrid workers and further demonstrates the effectiveness of leader support in reducing workplace loneliness.

## 5.1 Research Background

### 1. Increased Ostracism in Hybrid Workplaces

Golden (2007) pointed out that relationship issues between hybrid workers and their office-based colleagues are a major source of interpersonal conflict, and the growing number of hybrid workers may lead to dissatisfaction and decreased performance among office-based colleagues (Van Der Lippe & Lippényi, 2020). Moreover, although online tools enable task completion, they cannot replace the sense of presence generated through face-to-face interactions (Boell et al., 2016). Therefore, this study focuses on the interactions between hybrid workers and office-based colleagues and examines how poor interpersonal relationships between the two groups contribute to workplace loneliness among hybrid workers.

Daily interactions during office attendance shape employees' perceptions of relationships and their sense of belonging. However, because hybrid workers have lower visibility within teams, they are more likely to be ignored or excluded. Furthermore, due to delayed access to information, they often miss out on informal conversations or spontaneous meetings, which can diminish their influence within teams (Yang et al., 2022a). In addition, hybrid workers' office attendance days often do not align with the team's co-presence schedule. Some employees form subgroups to coordinate shared attendance days, making it difficult for those outside these subgroups to meet colleagues even when they come to the office (Moe et al., 2023). Thus, workplace loneliness among hybrid workers may stem from intentional or unintentional exclusion by office-based colleagues (Robinson et al., 2013).

Workplace ostracism is a common phenomenon that is be more prevalent in hybrid teams. Compared with traditional office environments, ostracizing hybrid workers imposes fewer costs and has less impact on office-based colleagues' daily tasks (Howard et al., 2020). Moreover, hybrid work amplifies differences in group identity, encouraging social comparison and increasing dissatisfaction and negative emotions among office-based colleagues, which may lead to ostracism (Maier et al.,

2022). Because hybrid workers have lower visibility, they may perceive even unconscious neglect as ostracism, thereby intensifying feelings of loneliness. In summary, exclusion from office-based colleagues can be a major cause of workplace loneliness among hybrid workers (Li et al., 2019).

The purpose of this study is to clarify the mechanisms underlying workplace loneliness in hybrid work environments and to explore effective strategies for reducing ostracism and loneliness. Both ostracism and loneliness harm employees' well-being and reduce work performance (Xia et al., 2019). According to the Job Demands–Resources model (Bakker & Demerouti, 2007), external support is a critical resource that helps employees cope with stress. Previous research has shown that leader support enhances organizational commitment and reduces interpersonal conflict and ostracism within organizations (Thomas et al., 2005). Furthermore, when employees' expectations align with the support they actually receive, this is perceived as fulfilling a psychological contract, thereby strengthening the positive effects. Conversely, unmet expectations may exacerbate loneliness (Zhao et al., 2007). When employees believe that their leaders value their contributions and well-being, they are more likely to gain psychological buffering against ostracism, which helps alleviate loneliness.

In this study, we designated leader support as the independent variable, ostracism experience as the mediating variable, workplace loneliness among hybrid workers as the dependent variable, and leaders' expectations as the moderating variable. The results showed that leader support reduced workplace loneliness among hybrid workers through both direct and indirect effects.

## 2. Workplace Ostracism and Loneliness

Ostracism refers to a series of behaviors such as avoidance or ignoring others (Williams, 2002). It can occur as a temporary reaction between strangers or as a long-term behavioral pattern among members of the same organization (Williams & Zadro, 2001; Zadro et al., 2004). More than 60% of employees have experienced

ostracism from their leaders or colleagues (Fox & Stallworth, 2005). According to Williams (2007), ostracism undermines four fundamental human needs. Those who experience ostracism feel a lower sense of belonging and control, their self-esteem based on competence decreases, and they struggle to perceive their sense of meaningful existence. Workplace ostracism is a critical phenomenon that negatively affects employees' performance and well-being (Howard et al., 2020). However, its influence on individuals' future social cognition and behavior remains poorly understood. The present study aims to examine how ostracism from office-based colleagues affects the interpersonal perceptions of hybrid workers in hybrid work settings.

Ostracism and workplace loneliness are significant concerns for employees, and hybrid work may intensify these problems. The ostracism that hybrid workers experience is thought to stem mainly from office-based colleagues. Differences in work style and location make hybrid workers more likely to be intentionally or unintentionally ostracized by office-based colleagues (Robinson et al., 2013). In particular, advantages such as reduced commuting time and greater flexibility may provoke dissatisfaction among office-based colleagues (Golden, 2007). Differences in group identity can also slow recovery from the pain of ostracism and increase the risk of loneliness (Wirth & Williams, 2009). Moreover, when hybrid workers do not come to the office, they often become invisible, making their abilities and contributions less recognized or valued and hindering their ability to present a socially desirable image (Buchanan & Settles, 2019). As a result, their workplace relationships weaken, and colleagues in the office may engage in punitive or unconscious forms of ostracism.

This study predicts that ostracism from office-based colleagues will lead to workplace loneliness among hybrid workers. Workplace loneliness is a subjective experience arising from the gap between expected and actual relationships (Wright et al., 2006), and it tends to intensify when individuals' social needs are not met due to ostracism. While workplace ostracism is usually based on observable behaviors, workplace loneliness is an internal, subjective feeling. Employees may not necessarily

feel lonely even when social interactions are limited; conversely, some may feel lonely despite frequent interactions (Wright & Silard, 2021).

Furthermore, experiences of ostracism influence the cognition and behavior of hybrid workers. Cognitively, decreased self-esteem and self-perception undermine confidence in building relationships, leading to avoidance and self-protection, which in turn amplify workplace loneliness (Mao et al., 2020). Behaviorally, ostracism reduces prosocial behavior while increasing aggressive responses (Twenge et al., 2003), thereby hindering relationship improvement with colleagues. In addition, employees who have experienced ostracism tend to narrow their social networks, interacting only with close contacts and minimizing contact with those who ostracized them (Bernstein et al., 2010). Overall, ostracism from office-based colleagues hinders hybrid workers from forming close relationships both psychologically and behaviorally.

**H1:** Experiences of ostracism from office-based colleagues increase workplace loneliness among hybrid workers.

### 3. The Mitigating Effects of Leader Support on Workplace Ostracism and Loneliness

This study predicts that leader support directly reduces workplace loneliness among hybrid workers and indirectly alleviates it by decreasing ostracism from office-based colleagues. According to PM theory (Misumi & Peterson, 1985), leaders play a critical role in maintaining interpersonal relationships and helping organizations adapt to new work arrangements. In particular, leaders hold greater influence within organizations than other members (Fox & Stallworth, 2005), and their importance becomes even more pronounced in hybrid work environments. Golden & Veiga (2008) found that leadership effectiveness increases as telework increases. Therefore, leader support can be considered an important factor in mitigating workplace loneliness among hybrid workers.

Leader support refers to the extent to which leaders value employees' contributions and well-being (Kottke & Sharafinski, 1988). By providing support, leaders build friendly relationships with hybrid workers (Boyd & Taylor, 1998), thereby satisfying their social needs. Moreover, because leaders function as agents of the organization, perceived leader support fosters a sense of being valued and cared for by the organization, thereby reducing workplace loneliness (Tian et al., 2023). Specifically, leader support helps relieve the psychological stress associated with different work styles and enhances employees' motivation to remain in the organization. As a result, the cycle of loneliness is interrupted, and hybrid workers are more likely to shift from avoidance to actively building relationships with their office-based colleagues (Rhoades & Eisenberger, 2002). Furthermore, employees who maintain good relationships with their leaders tend to exhibit more organizational citizenship behaviors, driven by perceptions of reciprocity (Settoon et al., 1996) and fairness (Greenberg, 1990). In particular, when hybrid workers feel that they are treated equally, leader support encourages active participation in teamwork and contributes to improved performance.

**H2:** Leader support reduces workplace loneliness among hybrid workers.

Leader support plays an important role in reducing workplace ostracism and alleviating loneliness. Workplace loneliness is positively related to ostracism experiences; ostracized employees often withdraw or remain silent, which further increases loneliness. Yet, few empirical studies have examined this relationship, and most are cross-sectional. In this study, we measured ostracism experiences (Time 1) and workplace loneliness (Time 2) among hybrid workers to test their causal relationship. We propose that leader support reduces ostracism from office-based colleagues, thereby lowering workplace loneliness. In hybrid environments, , limited interaction between the two groups increases the likelihood of ostracism (Golden, 2007). Previous studies have mainly focused on ostracized individuals, overlooking

the influence of ostracizers and leaders.

According to social balance theory, ostracism results from the interaction among the ostracized person, the ostracizer, and third parties. Leader support can buffer the negative impact of ostracism on interpersonal relationships (Fiset et al., 2017). When leaders express disapproval of ostracism, hybrid workers feel a stronger sense of belonging, reducing loneliness (Mao et al., 2020). Supportive leaders also promote open communication and interaction (Siami et al., 2022), which suppresses exclusion across different work arrangements (Al Riyami et al., 2024). Thus, leader support serves as a key mechanism to prevent ostracism.

Ostracism carries psychological costs, and ostracizers often feel guilt or shame (Legate et al., 2013). When they perceive their behavior as unjustified, they may compensate by engaging in prosocial actions (He et al., 2023). Leader support fosters an inclusive climate, encouraging a shared identity that bridges "office-based colleagues" and "hybrid workers" (Shore & Chung, 2022). When all members see themselves as part of a single group, ostracism becomes socially unacceptable, thereby reducing exclusion (Wirth & Williams, 2009).

Additionally, loneliness depends on how ostracism is interpreted (Vanhalst et al., 2015). Leader support may help hybrid workers attribute ostracism to external rather than internal causes—for example, seeing a colleague's neglect as due to workload rather than personal inadequacy. This external attribution helps mitigate loneliness. Therefore, leader support reduces both ostracism and its emotional impact on hybrid workers.

**H3:** Leader support reduces workplace loneliness among hybrid workers by decreasing ostracism from office-based colleagues.

### 4. Moderating Role of Expectations of Leaders

This study predicts that hybrid workers' expectations of their leaders moderate

the relationship between ostracism experiences and workplace loneliness. Previous findings on how ostracism affects employees' future social behavior have been inconsistent. Some studies suggest that ostracism leads to defensive attitudes, indifference, and aggression, reducing prosocial behaviors (Van Beest & Williams, 2006; Van Beest et al., 2012). Others argue that because humans depend strongly on social connections, ostracized individuals may seek reconciliation and reengage with ostracizers at appropriate times (Romero-Canyas et al., 2010). Still, other studies report no significant relationship between workplace ostracism and interpersonal behavior (Ferris et al., 2008). Thus, the link between ostracism experiences and subsequent interpersonal behavior may depend on hybrid workers' coping strategies—whether they choose to approach, avoid, or disengage.

Balliet & Ferris (2013) explained the relationship between ostracism and prosocial behavior as a social dilemma: in the short term, avoiding relationships reduces strain and benefits the self, but in the long term, decreased prosocial behavior leads to further ostracism and personal loss. They found that future orientation moderates this negative relationship. Employees with a stronger future orientation prioritize long-term gains over immediate well-being (Joireman et al., 2008). Based on social exchange theory, hybrid workers view prosocial behaviors as a form of reciprocity and thus strive to maintain relationships with office-based colleagues. Accordingly, this study argues that expectations of leaders enhance hybrid workers' future orientation and weaken the link between ostracism experiences and workplace loneliness.

**H4:** Hybrid workers' expectations of leaders moderate the relationship between ostracism experiences from office-based colleagues and workplace loneliness.

According to implicit leadership theory, employees' expectations of their leaders shape how they perceive and evaluate leader behavior, thereby influencing their well-being (Epitropaki & Martin, 2005). Expectations of leader support also affect

employees' perceptions and satisfaction with that support (Penning de Vries & Knies, 2023). There are two types of expectations toward leaders: normative expectations, which are value-based beliefs about how a leader should behave, and predictive expectations, which are derived from past experiences and indicate how a leader is likely to behave (James, 2009). Prior research has found that predictive expectations are more important than normative ones (Penning de Vries & Knies, 2023).

To prevent workplace loneliness among hybrid workers, it is crucial to foster clear and positive expectations toward leaders. Such expectations help hybrid workers maintain prosocial behavior toward office-based colleagues, even when facing ostracism. Expectations of leaders serve as implicit terms of the psychological contract (Rousseau, 1989). When expectations are met, leader support is perceived as contract fulfillment, strengthening its positive effect on reducing loneliness. Conversely, when support fails to meet expectations, it may be seen as a breach of contract, weakening its beneficial impact. Therefore, predictive expectations may influence perceptions of leader support and moderate the negative relationship between leader support and workplace loneliness.

**H5:** Hybrid workers' expectations of leaders moderate the relationship between leader support and workplace loneliness.

## 5.2 Methodology

### 1. Participants and Procedure

We conducted a two-wave longitudinal survey targeting hybrid workers in Japan who worked from home one to four days per week. The surveys were administered at Time 1 (June 2023) and Time 2 (November 2023), with a five-month interval. Participants were asked to recall their current workplace situations and were informed that their responses would be used solely for academic research and that they could withdraw freely at any time. A total of 444 respondents participated in Time 1 and 231

in Time 2, resulting in a final sample of 231 participants for analysis. Of these, 103 were men (44.6%) and 128 were women (55.4%), with a mean age of 41.14 years (SD = 12.13). Regarding job positions, 179 participants (77.5%) were non-managers and 52 (22.5%) were managers. The number of telework days per week was as follows: 52 (22.5%) one day, 56 (24.2%) two days, 43 (18.9%) three days, and 80 (34.6%) four days. Additionally, 175 participants (75.8%) reported prior telework experience, while 56 (24.2%) did not.

This study explored how leader support influences workplace loneliness in hybrid workers. In the model, leader support was treated as the independent variable, ostracism experience as the mediator, workplace loneliness as the dependent variable, and expectations of leaders as the moderator. Data on leader support, ostracism experience, and expectations of leaders were collected at Time 1, and data on workplace loneliness were collected at Time 2.

## 2. Measures

All scale items in this study were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). To examine the reliability and validity of each scale, we calculated Cronbach's α coefficients and conducted confirmatory factor analyses (CFA). The CFA results are presented in Table 5.1.

***Leader Support***. Five items with high factor loadings related to leader support were selected from the Perceived Organizational Support Scale developed by Eisenberger et al. (1986). Participants were asked how much support they received from their leaders in their daily work. All items were modified to have “my leader” as the subject, including statements such as “My leader cares about my opinions.” The Cronbach's α coefficient for this scale was 0.92.

***Ostracism Experience in the Workplace***. Eight items from Hitlan & Noel (2009) workplace ostracism scale were used to assess ostracism by office-based colleagues experienced by hybrid workers. The term “coworker” was replaced with “office-based members” to specifically measure ostracism from office-based colleagues rather than

all employees. Example items included “Office-based members leave me out of conversations.” To improve reliability and construct validity, two items were deleted—one that reduced reliability and another with a factor loading below 0.40 in the CFA. The final six-item scale yielded a Cronbach's α of 0.88.

***Workplace Loneliness***. Workplace loneliness was measured using the Workplace Loneliness Scale developed by Wright et al. (2006), which comprises two subscales: emotional deprivation (9 items) and social companionship (7 items). Example items include “I feel isolated from people I work with” (emotional deprivation) and “There is no one at work I can share my personal thoughts with” (social companionship). Based on reliability and CFA results, two items (one deemed inappropriate and one with a loading below 0.40) were removed. The final 14-item overall scale had a Cronbach's α of 0.94; the emotional deprivation subscale (8 items) had α = 0.92, and the social companionship subscale (6 items) had α = 0.94.

***Hybrid workers' expectations of leaders***. In this study, the term “expectations” refers specifically to hybrid workers’ expectations regarding how their leaders will treat them. Following prior research on leader–member exchange expectations (Graen & Uhl-Bien, 1995) and perceived leader support (Eisenberger et al., 2002), expectations are defined as employees’ anticipatory beliefs about whether their leaders will value their contributions and care about their well-being. To measure the extent to which participants expected their leaders to value their contributions and well-being, we used a self-developed single item: “My leader will value my contribution and well-being.” Responses were rated on a five-point scale (1 = strongly disagree, 5 = strongly agree).

***Control variables***. Based on prior studies indicating their association with workplace loneliness, the following variables were controlled: age, gender (Tian et al., 2021), job position (Cacioppo et al., 2009), number of telework days per week, and the telework implementation rate in the workplace (Wright & Silard, 2021).

## 5.3 Result

To test the hypothesized model, a correlation analysis was first conducted to examine the relationships among the main variables. Subsequently, to investigate the mediating effect of workplace ostracism and the moderating effect of expectations toward leaders, SPSS macro PROCESS (Hayes, 2017) was used. Specifically, Model 4 (simple mediation model) and Model 15 (moderated mediation model). Model 4 was applied to test the mediating effect of workplace ostracism on the relationship between leader support and workplace loneliness by comparing total, direct, and indirect effects. Furthermore, Model 15 was employed to examine whether expectations toward leaders moderate the paths from workplace ostracism → workplace loneliness and from leader support → workplace loneliness. Control variables included age, gender, job position, number of telework days per week, and telework ratio. The statistical significance of indirect effects was verified using a bootstrap method with 5,000 resamples to estimate 95% confidence intervals.

**Table 5.1 Results of Confirmatory Factor Analyses for Each Scale**

| | $\chi^2$/df | RMSEA | NFI | CFI | TLI | AVE | CR |
|---|---|---|---|---|---|---|---|
| Leader support (T1) | 1.74 | .06 | .99 | .99 | .99 | .73 | .93 |
| Ostracism experience (T1) | 1.10 | .02 | .99 | .99 | .99 | .57 | .89 |
| Emotional deprivation (T2) | 1.62 | .05 | .98 | .99 | .99 | .59 | .92 |
| Social companionship (T2) | 1.68 | .05 | .99 | .99 | .99 | .72 | .94 |

Note: $\chi^2$/df = chi-square divided by degrees of freedom; RMSEA = root mean square error of approximation; NFI = normed fit index; CFI = comparative fit index; TLI = Tucker–Lewis index; AVE = average variance extracted; CR = composite reliability

### 1. Descriptive Statistics

The means, standard deviations, and correlation coefficients of the variables are presented in Table 5.2. A positive correlation was observed between the number of telework days and the telework ratio ($r = 0.38$, $p < 0.01$), indicating that organizations with a higher proportion of hybrid workers tended to have more telework days.

Workplace ostracism showed a strong positive correlation with workplace loneliness ($r = 0.72$, $p < 0.01$). In contrast, leader support was negatively correlated with both workplace ostracism ($r = -0.52$, $p < 0.01$) and workplace loneliness ($r = -0.61$, $p < 0.01$). Similarly, hybrid workers' expectations of leaders were negatively correlated with workplace ostracism ($r = -0.48$, $p < 0.01$) and workplace loneliness ($r = -0.55$, $p < 0.01$).

**2. Hypothesis testing**

Multiple regression analyses were conducted to examine the effects of workplace ostracism and leader support on workplace loneliness. The results are presented in Table 5.3. Workplace ostracism among hybrid workers had a significant positive effect on workplace loneliness ($b = 0.51$, $p < .01$), supporting H1. Perceived leader support showed a significant negative effect on both workplace loneliness ($b = -0.26$, $p < .01$) and workplace ostracism ($b = -0.44$, $p < .01$), supporting H2.

**Table 5.2 Descriptive Statistics and Correlation Coefficients**

| | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | 41.14 | 12.13 | – | | | | | | | |
| 2. Gender | 1.55 | 0.50 | -.18** | – | | | | | | |
| 3. Job position | 0.23 | 0.42 | .38** | .23** | – | | | | | |
| 4. Telework days (T1) | 2.65 | 1.17 | .05 | -.05 | -.05 | – | | | | |
| 5. Telework ratio (T1) | 5.67 | 2.68 | -.09 | -.06 | -.06 | .38** | – | | | |
| 6. Leader support (T1) | 3.26 | 0.87 | -.06 | .10 | .10 | -.04 | .05 | – | | |
| 7. Workplace ostracism (T1) | 1.97 | 0.76 | -.09 | -.20 | -.20** | -.04 | .00 | -.52** | – | |
| 8. Workplace loneliness (T2) | 2.35 | 0.77 | -.09 | .05 | -.19** | -.01 | -.07 | -.61** | .72** | – |
| 9. Expectations of leaders (T1) | 3.10 | 1.06 | .01 | .04 | .12 | -.07 | .07 | .76** | -.48** | -.55** |

*Note.* $N = 231$. $^{**}p < .01$. Gender: 1 = male, 0 = female. Job position: 1 = Department Director or above, 2 = Section Manager, 3 = Assistant Director/Assistant Manager, 4 = Professional (Managerial), 5 = Supervisor/Chief, 6 = Regular

employee, 7 = Professional (Non-managerial). Telework days: Number of telework days per week (out of 5). Telework ratio: Proportion of teleworkers in the organization

**Table 5.3 Results of Multiple Regression Analyses Predicting Workplace Ostracism and Workplace Loneliness**

| | Workplace ostracism (T1) | Workplace loneliness (T2) |
|---|---|---|
| Step 1： | | |
| Age | -.01 | -.01 |
| Gender | -.11 | .18** |
| Job position | -.24* | -.02 |
| Telework days (T1) | -.06 | .01 |
| Telework ratio (T1) | .01 | -.02 |
| Step 2： | | |
| Leader support (T1) | -.44** | -.26** |
| Workplace ostracism (T1) | | .51** |
| Expectations of leaders | | .34 |
| Workplace ostracism × Expectations of leaders | | -.10* |
| Leader support × Expectations of leaders | | -.07 |
| $R^2$ | .55 | .79 |
| F | 16.43** | 63.15** |

*Note.* $N = 231$; ** $p < 0.01$, * $p < 0.05$.

In addition, the interaction between workplace ostracism and expectations of leaders was significant for workplace loneliness ($b = -0.10$, $p < .05$), whereas the interaction between leader support and expectations of leaders was not significant ($b = -0.07$, $p > .05$). H4 was supported, whereas H5 was not. These results indicate that expectations of leaders moderated the relationship between workplace ostracism and workplace loneliness, but not between leader support and workplace loneliness. The standardized path coefficients are shown in Figure 5.1.

The mediating effect of workplace ostracism (H3) was tested using the SPSS macro PROCESS (Hayes, 2017). The results of the simple mediation analysis using Model 4 are shown in Table 5.4. Leader support reduced workplace loneliness among hybrid workers (total effect: $b = -0.54$, 95% CI [−0.63, −0.45]; direct effect: $b = -0.29$, 95% CI [−0.38, −0.20]). The indirect effect accounted for 45.9% of the total effect ($b = -0.25$, 95% CI [−0.35, −0.15]), supporting H3.

**Table 5.4 Total, direct, and indirect effects of leader support on workplace loneliness**

| | | | 95% CI | | |
|---|---|---|---|---|---|
| Effect | *b* | *SE* | LL | UL | Ratio toTotal effect |
| Total effect | -0.54 | 0.05 | -0.63 | -0.45 | 100% |
| Direct effect | -0.29 | 0.06 | -0.38 | -0.20 | 54.1% |
| Indirect effect | -0.25 | 0.05 | -0.35 | -0.15 | 45.9% |

*Note.* $N = 231$, CI = confidence interval

The results of the moderated mediation analysis using Model 15 are presented in Table 5.5. The strength of the mediating effect of workplace ostracism in the relationship between leader support and workplace loneliness varied by expectations of leaders. When expectations were high, the indirect effect was strongest ($b = -0.27$, 95% CI [−0.38, −0.18]); when expectations were low, the indirect effect was weakest ($b = -0.18$, 95% CI [−0.31, −0.07]).

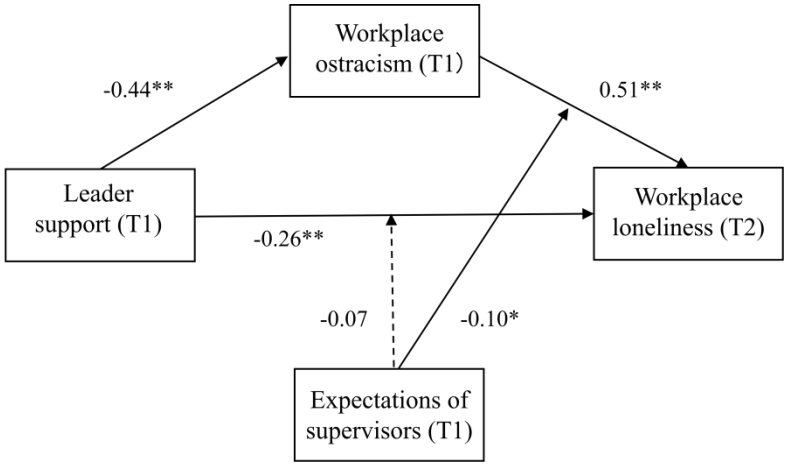
**Table 5.5 Indirect Effects at Different Levels of Expectations of leaders**

| | | | | 95% CI | |
|---|---|---|---|---|---|
| | Expectations of Leaders | *b* | Boot*SE* | Lower | Upper |
| Indirect Effects of Workplace Ostracism | -1.09 (M-1SD) | -0.27 | 0.05 | -0.38 | -0.18 |
| | 0 (M) | -0.22 | 0.05 | -0.37 | -0.14 |
| | 1.09 (M+1SD) | -0.18 | 0.06 | -0.31 | -0.07 |

*Note.* $N = 231$, , CI = confidence interval

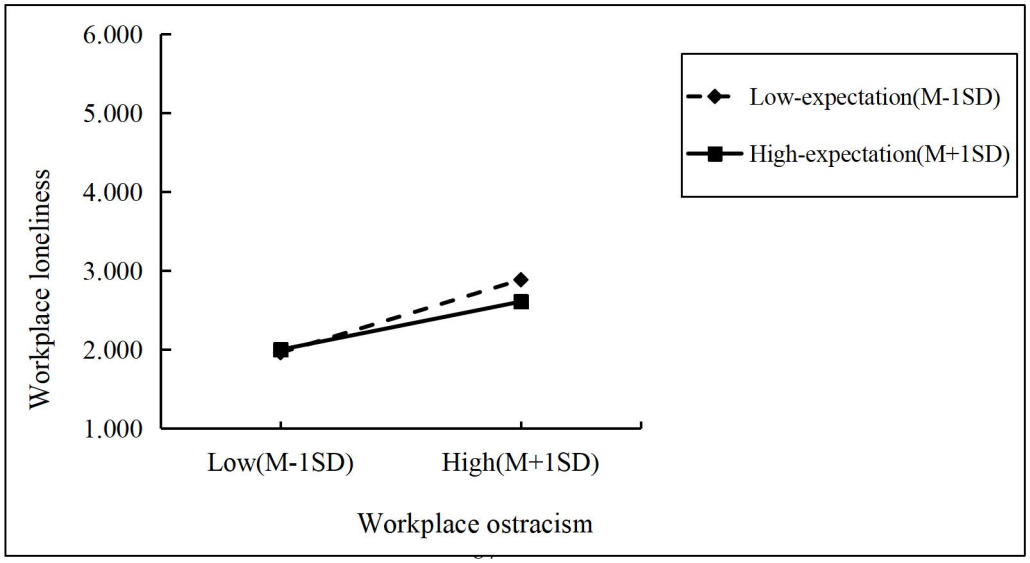
Given the significant interaction between workplace ostracism and expectations of leaders, a simple slope analysis was conducted (Figure 5.2). The results indicated that when expectations of leaders were low (M1–SD), workplace ostracism strongly predicted workplace loneliness ($b$ = 0.61, p < .05). Conversely, when expectations were high (M+1 SD), this effect weakened ($b$ = 0.40, p < .001). These results suggest that hybrid workers with higher expectations of leaders experience less increase in workplace loneliness when facing ostracism from office-based colleagues, implying that expectations of leaders buffer the negative effects of workplace ostracism.

**Figure 5.1 Results of the Multiple Regression Analysis**




*Note.* $N$ = 231; ** $p$< 0.01, * $p$< 0.05

**Figure 5.2 Moderating Effect of Expectations of Leaders**



## 5.4 Discussion

### 1. Theoretical implications

This study expands the theoretical understanding of workplace loneliness in hybrid work settings. Although research on workplace loneliness has been increasing, few studies have specifically focused on hybrid workers. By examining hybrid workers in Japan, this study clarified the mechanisms and determinants underlying their experience of workplace loneliness.

Based on differences in group identity and welfare access, office-based colleagues may intentionally or unintentionally ostracize hybrid workers, leading to heightened loneliness. Furthermore, this study examined how perceived leader support and expectations of leaders influence hybrid workers' sense of loneliness. The results indicated that ostracism from office-based colleagues significantly predicted workplace loneliness, while leader support reduced loneliness both directly and indirectly by decreasing workplace ostracism. Moreover, expectations of leaders buffered the positive relationship between ostracism and loneliness, mitigating the negative emotional impact of exclusion.

The findings highlight that the mechanisms of leadership support differ in hybrid work compared to traditional workplaces. With the growing prevalence of hybrid work after the COVID-19 pandemic, spatial separation and information asymmetry have made management more complex, requiring leaders to develop remote management and online coordination skills. A large-scale survey of over 600 managers found that 65% reported that problem-solving under hybrid work is more difficult (Muller, 2021). Nevertheless, this study demonstrated that traditional forms of leader support—such as respecting subordinates' opinions and helping them realize their potential—remain effective in hybrid contexts by promoting relationship maintenance and enhancing well-being. This result is consistent with Griffin et al. (2001), who argued that employees tend to rely more on their leaders to enhance

well-being when teamwork is weak. Therefore, while leadership becomes more challenging in hybrid work environments, its importance grows even more significant.

In addition, this study empirically emphasized the central role of coworker relationships in hybrid work. The results showed that hybrid workers' loneliness primarily arises from disconnection with office-based colleagues rather than the broader workplace community. Recent research indicates that hybrid work arrangements weaken relationships with office-based colleagues, leading to dissatisfaction and negative feelings (Maier et al., 2022). Consistent with these findings, the present study revealed that ostracism by office-based colleagues was a major predictor of hybrid workers' loneliness.

Interestingly, neither the number of telework days nor the proportion of hybrid workers in the organization was significantly associated with loneliness or ostracism. This suggests that face-to-face interactions remain essential for information exchange and career development, regardless of how many days employees telework. The office continues to serve as a critical space for sustaining coworker relationships.

**2. Practical Implications**

This study provides several practical insights for managing employees in hybrid work environments. First, the findings confirm that leader support remains crucial for promoting well-being and organizational attachment among hybrid workers. Leaders should not only offer clear guidance and emotional support in remote settings but also actively facilitate face-to-face interactions and collaboration among team members to mitigate communication barriers caused by spatial separation.

Second, this study found that expectations of leaders play a vital role in alleviating loneliness. Unlike previous studies that emphasized the congruence between expectations and reality, the current findings suggest that expectations themselves can buffer the negative effects of workplace ostracism. Even when hybrid workers experience exclusion from office-based colleagues, those with higher expectations of leaders tend to feel less lonely.

Contrary to expectations, however, the moderating effect of expectations was not significant for the relationship between leader support and workplace loneliness. This indicates that the beneficial impact of leader support persists regardless of employees' high or low expectations. Thus, the positive effects of leader support appear universal in hybrid work contexts.

Moreover, the moderated mediation analysis indicated that high expectations of leaders weakened the indirect pathway from leader support to workplace loneliness via workplace ostracism. This suggests that hybrid workers with high expectations may rely less on reduced ostracism and more on trust in leader support to maintain psychological stability, even when experiencing exclusion.

In summary, organizations should aim to establish a dual-support system in hybrid work environments: (1) enhance leaders' remote management and emotional support capabilities through targeted leadership development, and (2) strengthen employees' social connectedness through team-building activities and informal communication opportunities. These initiatives can effectively reduce workplace loneliness among hybrid workers while strengthening well-being and organizational cohesion.

### 3. Limitations and future studies

This study has several limitations. First, there are statistical and measurement constraints. Although longitudinal data were used to examine the relationship between workplace ostracism and workplace loneliness, the survey was conducted at only two time points, making it difficult to establish causal direction—particularly regarding the role of leader support. Future research should employ multi-wave longitudinal or experimental designs to more robustly verify causal pathways. In addition, this study used a single-item measure for leader expectations, which, despite precedent in prior research (Fisher et al., 2016; Nagy, 2002), may not fully capture the complexity of this construct. Multi-item scales should therefore be adopted in future studies to enhance measurement precision and construct validity.

Second, although job crafting is theoretically multidimensional, this study focuses on the overall suppression of proactive work behavior rather than on differences across specific dimensions. Therefore, job crafting was treated as a unidimensional construct to capture employees' general tendency to proactively reshape their work. Nevertheless, a single-factor operationalization may not fully represent the nuances of each dimension. Future research should employ multidimensional scales to examine whether different facets of job crafting are differentially affected by workplace loneliness.

Third, while this study focused on the relationships between hybrid workers and office-based colleagues, future research should expand its scope to include other relational dynamics. For example, it is worth examining the interactions between employees who primarily telework and those who primarily work in the office, as well as between those whose hybrid work arrangements stem from organizational requirements and those based on personal preference. Moreover, the cognitive and behavioral responses of hybrid workers who experience ostracism remain unclear. Workers who share similar experiences of exclusion may develop empathy and stronger social support through mutual understanding.

# Chapter 6. General Discussion

## Abstract

Chapter 6 builds upon the literature review in Chapter 1 and the empirical analyses in Chapters 2 through 5 to summarize the specific mechanisms and key findings regarding how different forms of leadership effectively alleviate workplace loneliness in both traditional and hybrid work environments. It then discusses several previously overlooked factors that influence workplace loneliness, outlining the corresponding theoretical and practical implications. Finally, the chapter proposes potential future research directions and unresolved issues in the study of workplace loneliness.

## 6.1 Theoretical Implications

### 1. Leadership and Workplace Loneliness

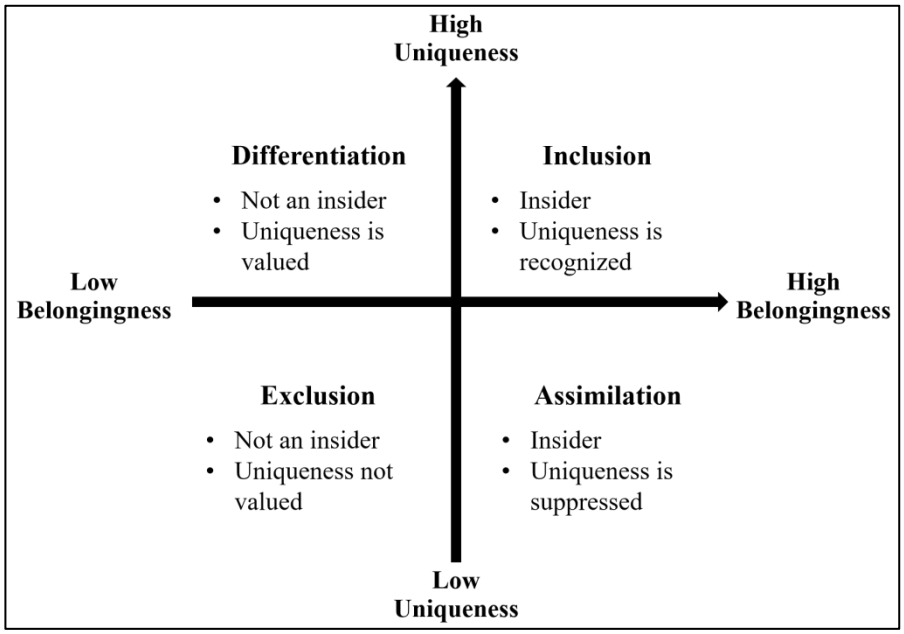
Chapter 3 confirmed that servant leadership significantly alleviates workplace loneliness. The influence of servant leadership on organizational outcomes is indirect: it primarily enhances employees' psychological safety and work engagement, which in turn foster capability development, organizational citizenship behavior, and other positive individual and team processes that ultimately improve organizational performance (Canavesi & Minelli, 2022; Irfan et al., 2022). The findings of this study support this view.

At the team level, servant leaders foster empathy and mutual support among team members, cultivating a warm and positive interpersonal climate. At the individual level, through one-on-one communication, leaders express understanding and appreciation toward lonely employees, helping them overcome their sense of isolation. Notably, these two pathways correspond to the two core dimensions of workplace loneliness—lack of social connection and lack of intimate relationships. Servant leaders reduce employees' social isolation by fostering team-level connections, while simultaneously repairing emotional loneliness through individualized care. Therefore, the key findings regarding servant leadership are: (1) servant leadership promotes positive employee behaviors while mitigating negative psychological states, and (2) it strengthens team cohesion while restoring individual emotional bonds.

In Chapter 4, the study demonstrated that inclusive leadership plays a significant role in reducing workplace loneliness. Unlike Chapter 3, this chapter focused specifically on the hybrid workplace and examined the longitudinal changes in hybrid employees' experiences of loneliness. The findings extend the applicability of inclusive leadership, showing that it is effective not only for diverse work groups but also for hybrid teams. Previous research on inclusive leadership has primarily focused on managing diversity, emphasizing how leaders cultivate respect and inclusion among employees with diverse racial, gender, and cultural backgrounds (Nishii &

Mayer, 2009; Randel et al., 2018). Inclusive leadership emphasizes the simultaneous fulfillment of employees' sense of belonging and uniqueness within organizations, as illustrated in Figure 6.1 (adapted from Shore et al., 2011). Therefore, inclusive leadership can address the dual challenges faced by hybrid employees compared with their office-based colleagues: the loss of social connection resulting from limited in-office interaction, and the distinct role identity created by the hybrid work arrangement.

**Figure 6.1 Two Core Elements of Inclusion (adapted from Shore et al., 2011)**




Chapter 5 confirmed that traditional leader support remains effective in alleviating workplace loneliness within hybrid work settings. In such contexts, leaders' visibility and social presence tend to decrease (Purvanova, 2014), and online communication further complicates management. Conventional management practices that rely on face-to-face interaction may no longer be fully applicable. Previous studies have suggested that traditional leadership may lose some of its effectiveness in integrating and guiding hybrid teams (Contreras et al., 2020), raising

doubts about whether leader support continues to mitigate loneliness under hybrid conditions. The empirical evidence of this study shows that traditional leader support not only reduces hybrid employees' feelings of workplace loneliness but also helps decrease intentional or unintentional exclusion from office-based colleagues, thereby fostering more inclusive social interactions within hybrid teams.

**2. Psychological and Interpersonal Factors of Workplace Loneliness**

This study examined several psychological and interpersonal factors that have often been overlooked yet play a significant role in determining both the level of workplace loneliness and its negative consequences.

Employees' psychological capital and self-perception are indispensable components when exploring the mechanisms through which workplace loneliness operates. Organization-based self-esteem (OBSE) and self-rated performance functioned respectively as a mediator and a moderator, both buffering the adverse effects of workplace loneliness (see Chapter 3). The findings suggest that the inhibitory effect of workplace loneliness on job crafting primarily operates through the indirect reduction of employees' OBSE. As a form of psychological capital, higher OBSE enables employees to maintain confidence and a sense of self-worth, thereby mitigating the destructive influence of workplace loneliness on their proactive behaviors.

In addition, self-rated performance moderates the indirect effect of workplace loneliness on job crafting: when employees hold positive evaluations of their own performance, the negative impact of loneliness is alleviated. Self-rated performance reflects employees' subjective assessments of their work effort, achievement, and efficiency. Although self-reported performance may be influenced by self-enhancement bias and impression management, it nevertheless provides psychological information inaccessible through leader ratings—such as self-efficacy, perceived accomplishment, and effort (Farh et al., 1991).

Research on the relationship between workplace loneliness and job crafting remains scarce. However, the suppression of job crafting may be one of the key mechanisms through which loneliness leads to diminished work outcomes. Chapter 2 confirmed that lonely employees show reduced motivation to engage in job crafting. The importance of job crafting lies in helping employees proactively adjust task boundaries and interpersonal interactions to enhance person–job fit. Employees with a high level of person–job fit tend to achieve better career development and greater subjective well-being, whereas those with low fit often experience reduced work engagement and job satisfaction, ultimately leading to poorer performance (Lin et al., 2014b; Warr & Inceoglu, 2012). Thus, workplace loneliness is not merely an emotional experience but also a destructive psychological mechanism that undermines employees' self-regulation and hinders their efforts to improve work congruence. Over time, this mechanism continuously weakens employees' work engagement and organizational commitment.

Behavioral empathy. Leaders demonstrate effectiveness through both emotional abilities (empathy) and mental abilities (task execution) (Kellett et al., 2002). Empathy has long been overlooked in leadership research, and its actual role in leadership effectiveness remains a topic of debate. According to Derue et al. (2011) integrative review of trait and behavioral theories of leadership, leader behaviors explain more variance in leadership effectiveness than leader traits. Similarly, concrete behavioral expressions of empathy predict subordinates' job satisfaction and organizational commitment better than dispositional empathy (Skinner & Spurgeon, 2005). Hence, although perspective-taking is an important leadership quality, empathy must be understood not only as a personality trait but also as an observable behavior.

This study was among the first to introduce the behavioral dimension of empathy into the workplace context, drawing on the concept of empathic communication originally developed by Nicolai et al. (2007) in physician–patient interactions—that is, expressing understanding of others' emotions and situations through observable behaviors. Chapter 3 found that leaders' empathic communication negatively predicts

employees' workplace loneliness. More importantly, as a visible behavioral form, empathic communication can be directly perceived by organizational members and easily modeled by peers, thereby improving the overall interpersonal climate and relationship quality within the workplace. These findings highlight the theoretical and practical importance of the behavioral dimension of empathy in organizations.

Informal communication and communication satisfaction. Communication in remote or hybrid work has become a prominent topic in organizational research, encompassing the choice of communication channels, information-transfer efficiency, and obstacles to the use of advanced information technologies (Greer & Payne, 2014; Smith et al., 2018). Following the COVID-19 pandemic, the rapid shift toward remote work has prompted scholars to reconsider the relationship between ICT usage and communication deprivation.

Generally, research suggests that moderate use of ICT effectively reduces loneliness and isolation among remote employees. However, under high-frequency telework, its positive effects may diminish or even transform into new psychological burdens and communication stress (Van Zoonen & Sivunen, 2022). Chapter 4 focused on the loneliness experienced by hybrid employees and the communication barriers they encounter, identifying two major sources of workplace loneliness: the reduction of informal communication and dissatisfaction with online communication. The results corroborate existing concerns that decreased informal interaction and lower communication satisfaction are key contributors to workplace loneliness among hybrid employees. More importantly, this chapter emphasized that such communication problems arise not only from spatial separation but also from social-psychological factors, including group identity differences and a weakened sense of belonging between hybrid and office-based employees.

Workplace ostracism is a typical form of workplace incivility. With the growing prevalence of virtual and telework, the negative consequences of ostracism in virtual environments have attracted increasing attention. Individuals who experience exclusion in virtual environments show similar psychological reactions and negative

outcomes as those excluded in real life (Kassner et al., 2012). Cyber ostracism in the workplace can trigger loneliness and communication barriers, further harming remote employees' psychological well-being (Yang et al., 2022b). Chapter 5 further explored the role of traditional leadership behaviors, specifically, leader support in alleviating the ostracism and loneliness experienced by hybrid employees. The results showed that although hybrid work settings introduce new managerial challenges, traditional supportive leadership behaviors still effectively promote employees' psychological well-being and social connectedness.

Expectations of leaders. Leadership effectiveness depends not only on leaders' traits and behaviors but also on employees' expectations of their leaders. An increasing number of studies have examined how employees' expectations of their leader influence work-related outcomes. When employees expect their leaders to be attentive and responsive to their personal and work-related needs, their turnover intentions and counterproductive work behaviors significantly decrease (Gillet et al., 2025). Similarly, when employees anticipate that their leaders value their career development, they demonstrate greater career confidence and better psychological well-being (He et al., 2024).

Building on this literature, the empirical results of Chapter 5 revealed that employees' expectations of their leaders moderated the relationship between workplace ostracism and workplace loneliness. When employees expected their leaders to care about their well-being, the positive association between ostracism and loneliness was significantly weakened. In other words, even when leaders did not take immediate action to intervene, such positive expectations themselves could function as a psychological resource, helping employees maintain mental health and buffer against the negative impact of workplace ostracism.

## 6.2 Practical Implications

Although much of the existing research on telework and hybrid work has been

conducted in Western countries, cultural factors may shape how employees experience and respond to these work arrangements. Western societies tend to emphasize individualism, low-context communication, and relatively egalitarian supervisor–subordinate relationships. In contrast, Japan and other East Asian contexts are generally characterized by higher collectivism, high-context communication norms, and stronger expectations for relational harmony and leader support. These cultural characteristics may heighten employees' sensitivity to relational changes caused by reduced face-to-face interaction, potentially amplifying the effects of hybrid work on communication satisfaction and workplace loneliness.

To better prevent and address workplace loneliness, at the organizational level, managers should consider reducing unnecessary hierarchical structures and establishing a more flexible and open management system to facilitate communication and trust. Leaders need to adjust their leadership styles according to the actual characteristics of their organizations. In traditional workplace settings, nonverbal communication strategies, such as nodding, smiling, and paraphrasing, can help meet employees' interpersonal needs and enhance team empathy.

In hybrid workplaces, although traditional leader support has been shown to remain effective, the absence of nonverbal cues such as gestures and facial expressions may weaken the effectiveness of empathic behaviors. Therefore, leaders in hybrid environments should adopt more inclusive leadership practices that respect and embrace the diversity of hybrid employees, thereby enhancing their sense of belonging and organizational identification. In addition, while developing innovative strategies tailored to hybrid work, organizations should continue to maintain and strengthen traditional supportive leadership practices. Such practices remain valuable for sustaining employees' well-being, fostering inclusion, and reinforcing social connections within hybrid teams.

In promoting employees' proactivity and initiative, leaders should pay closer attention to the task, relational, and cognitive difficulties their subordinates face, listen to their genuine needs, and provide appropriate resource support to help them

adaptively adjust their work. Specifically, leaders can enhance employees' sense of control and meaningfulness at work by providing emotional support, allocating resources fairly, and offering timely feedback. It is noteworthy that lonely employees often evaluate themselves negatively, lack confidence and initiative, and consequently show lower work engagement. Job crafting enables employees to reconfigure their work content and cognitive structure, thereby strengthening person–job fit and alleviating the psychological strain caused by workplace loneliness.

Regarding the use of ICT, organizations should actively introduce diverse online communication channels, such as instant messaging, video conferencing, and virtual office platforms, to enhance the sense of presence among teleworkers and hybrid employees, improve the speed and accuracy of information exchange, and foster perceptions of organizational fairness. At the same time, leaders in hybrid workplaces should not rely solely on online tools; they should also maintain regular face-to-face meetings to promote closeness and coordinate key tasks between hybrid and office-based colleagues.

Ultimately, at the individual level, organizations should acknowledge the unique differences that impact workplace loneliness. Beyond work arrangements and leadership styles, continuous attention to employees' daily psychological experiences is essential. In performance evaluations, combining leader ratings with employees' self-evaluations can help indirectly assess psychological stress and self-perception. Personality assessments can identify employees with higher levels of neuroticism, allowing managers to provide targeted interpersonal support. Moreover, regularly applying the Experience Sampling Method (ESM) to record employees' daily perceptions of interpersonal interactions can help detect potential risks of ostracism and loneliness early, enabling timely psychological intervention and organizational support.

## 6.3 Future Directions

This study primarily examined the roles of servant leadership and inclusive leadership in mitigating workplace loneliness within traditional and hybrid workplaces. However, future research should further explore other leadership styles that may exert positive influences on employees and investigate their mechanisms for alleviating workplace loneliness. The effects of various leadership styles may differ across work contexts. Previous studies have indicated that transformational leadership tends to be more advantageous in highly dynamic and service-oriented industries (Kloutsiniotis et al., 2022); empowering leadership is particularly effective in knowledge-intensive sectors and public organizations (Hou & Cai, 2024); and relational leadership suits interpersonal and care-oriented settings such as healthcare services (Maritsa et al., 2022). Taken together, future studies could compare the distinct communication and emotional-support mechanisms of different leadership styles and, by integrating industry and contextual characteristics, identify more targeted leadership strategies to deepen the understanding of how leadership behaviors alleviate workplace loneliness.

Some studies have provided more nuanced categorizations and measurements of informal communication. Koch & Denner (2022) classified employees into five behavioral types in informal communication: the chatterer, the focuser, the strategist, the small-talker, and the networker. Moreover, Viererbl et al. (2022) analyzed informal communication scenarios under telework arrangements and compared them with those in traditional office settings. Based on qualitative interviews, Gallatin (2018) found that the frequency of work-related communication among teleworkers did not significantly decrease. Therefore, the strategic, task-related aspects of informal communication may be largely preserved, while purely social interactions tend to decline. Future research could examine how these shifts in informal communication influence employees' social connectedness, communication satisfaction, and workplace loneliness.

Since the interval between the two waves was long in Chapters 4 and 5, many participants dropped out. Future studies should explore whether individuals with

certain attributes, such as higher workplace loneliness, are more likely to drop out of the study. In addition, although our models were theoretically grounded, reverse causality cannot be ruled out. Multi-wave or cross-lagged designs would allow a more rigorous test of causal direction.It should be noted that Chapters 4 and 5 use data from the same survey project; however, they examine different research questions and rely on separate sets of variables and analytical models. No hypotheses or results are duplicated across the two chapters. The use of a shared dataset remains a limitation, and future studies should validate these findings with independent samples.

Another limitation of this study is the use of a single-item measure for self-rated performance. Prior research has shown that single-item indicators can be appropriate for capturing global constructs (Bergkvist & Rossiter, 2007; Fisher et al., 2016), and this approach was adopted here to reduce respondent burden and minimize common method bias in a single-wave design. However, self-rated performance and expectations are multifaceted constructs, and a single item may not fully capture their complexity. Future research should therefore employ multi-item scales to provide a more comprehensive and reliable assessment.

Beyond workplace loneliness, its critical antecedent, workplace ostracism, also warrants further investigation. Chapter 5 offered a preliminary analysis of how ostracism influences loneliness, but it remains unclear whether hybrid employees' experiences of ostracism primarily stem from online interactions or in-office contexts. Moreover, differences in the mechanisms and psychological consequences of ostracism in online versus face-to-face communication remain underexplored. Building on these findings, future research could further compare employees' experiences of ostracism across different communication media and examine how these experiences affect their psychological well-being and social connectedness, thereby deepening our understanding of workplace ostracism in hybrid work environments.

## 6.4 Conclusion

Collectively, these findings indicate that workplace loneliness is influenced by leadership, communication, and evolving work arrangements. This dissertation establishes that loneliness persists in both traditional and hybrid workplaces, although its underlying causes may vary according to communication patterns and organizational proximity. Organizations are encouraged to invest in leadership development, robust communication systems, and early-detection strategies to mitigate the risk that loneliness escalates into a more serious concern. Future research should investigate cross-cultural variations, longitudinal changes in hybrid environments, and the effectiveness of technology-based interventions. Such studies would enhance understanding of workplace loneliness within a rapidly changing global context.

This paper systematically deepens the understanding of workplace loneliness, encompassing its negative consequences, unexplored influencing factors, and mitigation strategies. Chapter 2 demonstrates that lonely employees exhibit reduced job crafting, offering critical theoretical support for explaining how workplace loneliness leads to lower performance and diminished organizational commitment. The subsequent chapters confirm the link between leadership behaviors and employees' workplace loneliness. Chapters 3 and 4 confirm the efficacy of currently prominent servant leadership and inclusive leadership in alleviating workplace loneliness, emphasizing their broad applicability and high operational feasibility as organizational-level interventions.

Chapters 4 and 5, conducted in the post-pandemic hybrid work context, address the emerging challenges of workplace loneliness in the new era of work. The findings show that communication quality, workplace exclusion, and leader support remain key determinants of loneliness under new work arrangements. In addition, this dissertation incorporates psychological resources such as behavioral empathy, organization-based self-esteem, and self-rated performance into the analytical framework. Given that lonely employees tend to exhibit heightened social sensitivity,

these resources play a meaningful role in facilitating their organizational adjustment and emotional recovery. Together, these results broaden the theoretical understanding of workplace loneliness and provide a foundation for developing more targeted and contextually appropriate intervention strategies in the future.

This dissertation advances the field of organizational psychology by conceptualizing workplace loneliness as a multi-level phenomenon influenced by leadership, communication structures, and work arrangements. It extends existing theories by demonstrating that loneliness impairs employees' proactive behaviors and interacts with psychological resources, such as empathy and organization-based self-esteem, to affect adjustment. Additionally, it integrates traditional and hybrid work contexts within a unified framework, revealing that the antecedents and relational mechanisms of loneliness vary according to employees' communication environments and organizational proximity. By comparing servant, inclusive, and other leadership styles, the dissertation clarifies how specific leader behaviors mitigate loneliness through communication-based and relational mechanisms, thereby enriching leadership theory. Collectively, these contributions enhance theoretical understanding of workplace loneliness and establish it as a central construct in contemporary organizational behavior research.

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