

International Symposium Loneliness and Social Isolation at Work: A Scientific Approach to Solutions

ABSTRACT BOOK

Date & time

24 November 2025 (Monday) 9:30-17:00

Venue

Tetsumon Memorial Hall, Graduate School of Medicine, The University of
Tokyo, Japan

Organized by

The Solution-Driven Co-creative R&D Program for SDGs (SOLVE for SDGs):
Preventing Social Isolation & Loneliness and Creating Diversified Social
Networks (Kawakami & Matsui Projects), Research Institute of Science and
Technology for Society (RISTEX), Japan Science and Technology Agency (JST)

Contents

Time Schedule.....	1
Keynote Lecture.....	2
Symposium 1	4
Symposium 2	7
Symposium 3	13
Poster presentations	18
Symposium 4	30

Time Schedule

9:30-9:40	Opening
9:40–10:30	Keynote Lecture
10:40–11:40	Symposium 1 Cross-country Comparison of Loneliness and Social Isolation at Work
11:40-13:00	Lunch break
13:00–14:00	Symposium 2 Mechanisms and Impact of Loneliness and Social Isolation at Work
14:05–14:55	Symposium 3 Monitoring Loneliness and Social Isolation at Work
15:00-15:45	Coffee break and poster presentation
15:50–16:50	Symposium 4 Interventions to Loneliness and Social Isolation at Work
16:50-17:00	Closing

Keynote Lecture

Chair: Norito Kawakami, Department of Digital Mental Health, Graduate School of Medicine, The University of Tokyo, Japan

Understanding Work Loneliness: Reflections from 20 years of Research

Sarah Wright

Department of Management, Marketing & Tourism, UC Business School, University of Canterbury, Christchurch, New Zealand

Abstract

I have been studying work loneliness since 2021. For me, loneliness emerged as a research focus not from abstract theorising but from a series of observations and formative encounters. Early in my career, I noticed that colleagues could feel isolated despite being embedded in social organisations. A particularly striking moment occurred when a chief executive confided in me that their role felt particularly lonely when under pressure. Encounters like these heightened my curiosity about why people felt disconnected in social environments, and thus inspired a two-decade programme of research to unpack the mechanisms of work loneliness and identify ways to address it.

The keynote will begin by defining loneliness not as objective social isolation but as the psychological distress of perceived relational deficiencies. A key insight is that loneliness is subjective: individuals can feel lonely even when surrounded by others. Drawing on multi-disciplinary literature, I describe work loneliness as initially arising when a worker's desired relationships exceed the quality of actual connections. This cognitive appraisal can then trigger emotional distress and behavioural withdrawal. Importantly, work loneliness is context-specific; one may feel socially fulfilled at home yet lonely at work because the workplace has distinct norms, power structures and expectations for connection.

Loneliness is widespread and consequential; both personally and professionally. Loneliness correlates with depression, anxiety and reduced self-esteem and is linked to lower job performance and higher turnover. Qualitative studies show that young adult workers often feel invisible and disconnected, describing a thwarted sense of belonging and relational deficiencies exacerbated by automation and hyper-individualised work. These findings reinforce why work loneliness is both a public health and an organisational issue.

One of the biggest issues in work loneliness is lack of accurate measurement, which is essential for analysis and intervention. Many early scales, including my own, confounded the availability of social resources with distress and assumed co-located work. To address these shortcomings, my colleague Constance Hadley and I developed the Work Loneliness Scale (WLS), a brief measure that assesses the distressing gap between desired and experienced connection and can be used across in-person, hybrid and remote settings. Unlike earlier tools, the WLS directly asks whether respondents feel lonely, and its reliability and validity have been confirmed in a multi-wave study with 400 full-time employees.

Understanding the antecedents of workplace loneliness has been a particular focus of my research, as it requires attention to individual, relational and organisational factors. One of my first studies showed that organisational culture matters, more so than

individual factors, which has been validated in further studies: inclusive and caring cultures reduce loneliness, whereas transactional or hostile cultures exacerbate it. Social norms and network position can influence whether employees feel they belong, but remote work does not automatically cause loneliness; the key is whether virtual or hybrid work limits informal interaction and whether organisations intentionally foster connection.

Not surprisingly, managers and leaders play an important role in shaping loneliness experiences. Inclusive managers who solicit input and foster participation help reduce employee loneliness by building high-quality connections. Interestingly, predictors differ for managers and employees: lack of emotional connection predicts loneliness for employees, whereas managers' loneliness appears more tied to meaning in work. Leaders often experience loneliness as a state triggered by social distance and the burden of responsibility rather than by unmet needs for belonging. Leadership styles can exacerbate or mitigate loneliness; transactional, transformational and authentic behaviours may unintentionally accentuate social distance.

Because work loneliness is multifaceted, interventions must also operate at multiple levels. Organisations should acknowledge loneliness as a legitimate concern and measure it with targeted tools. Designing 'slack' into workflows and embedding socialising into the rhythm of work, such as starting meetings with informal check-ins or encouraging shared breaks, creates natural opportunities for connection. Interventions should prioritise simple, regular activities rather than occasional events. Social norms that persistently value reciprocity, trust and mutual support foster belonging and help reduce loneliness. But, solutions must accommodate individual differences; not all employees desire the same level of social contact, and autonomy, therefore, needs to be respected.

As I reflect on my research, and the field more broadly, good progress has been made in the past 20 years (particularly the last 5 years); however, the field remains in its infancy. Future research should explore interactions between work and non-work loneliness, examine the relational effects of remote and gig work, and consider cultural and generational differences. The distress of disconnection is both an individual and collective issue; recognising it, measuring it and fostering cultures of connection are essential steps toward healthier, more humane workplaces.

Symposium 1

Cross-country Comparison of Loneliness and Social Isolation at Work

Chair Joshua Breslau, RAND Corporation, USA

1-1 A Cross-Country Comparison of Loneliness at Work in Japan, South Korea, and Taiwan

Norito Kawakami¹, Chunhui Suh², Chen-Cheng Yang³

¹ Department of Digital Mental Health, Graduate School of Medicine, The University of Tokyo, Japan

² Inje University Busan Paik Hospital, Republic of Korea

³ Department of Occupational Medicine, Kaohsiung Municipal Siaogang Hospital, Kaohsiung Medical University, Taiwan

Background

Many epidemiological studies of loneliness at work have been conducted to date (e.g., Domènech-Abella et al., 2025; UK British Red Cross, 2023; Wright et al., 2006), but fewer have been conducted in Asian countries (e.g., Kawakami et al., 2025). No cross-country comparisons have been made using an established scale of loneliness at work. This presentation introduces a recent finding from a cross-country comparison study of loneliness at work among full-time employees in Japan, South Korea, and Taiwan.

Methods

Participants were recruited through internet survey companies in each country. They were asked to complete an online questionnaire in November 2024 for South Korea, in February 2025 for Japan, and in February–March 2025 for Taiwan. The following scales were used: (1) the 16-item Loneliness at Work Scale (LAWS) (Wright, 2005; Wright et al., 2006), which has two subscales: emotional deprivation and lack of social companionship; (2) the three-item Scale of Loneliness at Work (SLAW) (Ayase, Shimazu, et al., 2024), which was developed by modifying a three-item scale of general loneliness (Hughes et al., 2004); and (3) two single-item scales of loneliness feeling, which have a 5-point response option ranging from "none" to "often/always" for general (UK Office for National Statistics, 2018) and workplace loneliness (Ayase, Shimazu, et al., 2025). The LAWS was translated into Korean and Mandarin Chinese using a standard procedure, and the Japanese version was developed by a team led by Fujii (Nagano et al., 2024). The other scales were translated from English or Japanese to Korean or Mandarin Chinese. The questionnaire also measured sociodemographic characteristics and mental health outcomes. Average scores of LAWS and SLAW were compared among the three countries (one-way ANOVA) with calculating effect size (Cohen's d). Prevalence of general and workplace loneliness based on the single-item scales was also compared (Chi-square test).

Results

A total of 1,000 participants were recruited in Japan and Korea, and an additional 500 were recruited in Taiwan. All of them completed the questionnaire. The average total LAWS score was higher in Japan than in Korea and Taiwan ($p < 0.001$; Cohen's d, 0.464 and 0.307, respectively). Similar patterns were observed for the two LAWS subscales ($p < 0.001$; Cohen's d, 0.2–0.4). Conversely, the average total SLAW score was higher in Taiwan than in Korea and Japan ($p < 0.001$; Cohen's d, 0.273 and 0.429, respectively). For the single-item scales, the prevalences of general loneliness and workplace loneliness (those who reported experiencing it often or always) were higher in

Japan (9.6% and 8.1%) than in Korea (4.6% and 3.4%) and Taiwan (5.6% and 2.8%) (both, $p < 0.001$).

Discussion

The prevalence of workplace loneliness was twice as high in Japan as in the other two countries. The average scores on the LAWS also showed this pattern. While the three countries share an East Asian culture, this notable difference may be explained by the characteristics of the workplace culture, working conditions, work and non-work social network, and communication and coping styles of employees in each of country. The social desirability to report loneliness at work may be a factor.

However, the average SLAW score showed a different pattern, with Taiwan having the highest score. Scales such as LWAS and SLAW may capture different dimensions of loneliness at work. The LAWS asks respondents to indicate their levels of agreement on emotional reactions and lack of companionship, while the SLAW asks about the frequency of experiencing a lack of social connection at work. These differences in methodology for measuring loneliness at work may result in the observed differences. Multiple scales of loneliness at work should be used for cross-country comparisons. Future research should develop a standard questionnaire on loneliness at work for cross-country comparisons.

Acknowledgement

We are deeply grateful to Mr Chia-Pin Lin, Department of Occupational Medicine, Kaohsiung Municipal Siaogang Hospital, Kaohsiung, Taiwan, and other team members from each country for their valuable assistance. The study was supported by JST Grant Number JPMJRS22K1, Japan.

1-2 Workplace Loneliness in Korea: Prevalence and Psychological Outcomes

Chunhui Suh¹, Jung Wook Kim¹, Gang Uk Lee¹

¹ Department of Occupational and Environmental Medicine, Institute of Environmental and Occupational Medicine, Inje University Pusan Paik Hospital, Busan, Korea

Objective

Workplace loneliness has emerged as a contemporary psychosocial issue in the labor environment. This study investigated the prevalence of workplace loneliness and its association with psychological distress in Korean working populations.

Methods

A cross-sectional online survey recruited 1,000 full-time employees aged 18-59 in November 2024, proportionally distributed across gender, age, and occupation. Workplace loneliness was measured using the single-item workplace loneliness questionnaire, three-item Scale for Loneliness at Work (SLAW), and Loneliness at Work Scale (LAWS). Psychological distress was measured using the Kessler 6 scale, with logistic regression models applied to examine its association with workplace loneliness, adjusted for age, gender, and sociodemographic variables.

Results

The prevalence of workplace loneliness was 3.4% for chronic loneliness (always, often), 43.5% for acute loneliness (some of the time, occasionally), and 53.1% for non-loneliness (hardly ever, never), as measured by single-item questionnaire. Mean loneliness scores were 2.6 (SD 1.0) for the single-item questionnaire, 7.8 (SD 2.8) for the SLAW, and 49.5 (SD 17.0) for the LAWS. Workplace loneliness was significantly associated with psychological distress (OR=3.60, 95% CI=2.62 to 4.95) after adjusting for age, gender, marital status, residence, income, and occupational stressors.

Conclusion

Among Korean full-time employees, 3.4% experienced chronic workplace loneliness, which was associated with psychological distress. Workplace loneliness may serve as a risk factor for worker's mental health, warranting further investigation through longitudinal and intervention studies.

1-3 Workplace Loneliness and Job Strain: A Taiwan Report Based on the LAWS 16-Item Scale and the New BJSQ

Chen-Cheng Yang^{1,2}, Norito Kawakami³, Chia-Pin Lin¹, Guan-Cheng Lin¹

¹ Department of Occupational Medicine, Kaohsiung Municipal Siaogang Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

² Department of Public Health and Environmental Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

³ Department of Digital Mental Health, Graduate School of Medicine, The University of Tokyo, Japan

Background:

Workplace loneliness has emerged as a critical psychosocial issue linked to reduced well-being and productivity. However, empirical evidence from Asian work contexts remains limited. This study aimed to examine the associations between workplace loneliness, job strain, and social support among Taiwanese workers using the Loneliness in the Workplace Scale (LAWS-16) and the New Brief Job Stress Questionnaire (New BJSQ).

Methods:

A total of 500 workers (50% men; mean age 39.8 ± 11.2 years) participated in this cross-sectional survey. The LAWS-16, composed of two subscales, *Emotional Deprivation* and *Lack of Social Companionship*, was administered alongside the New BJSQ dimensions: job demand, reverse job control, supervisor support, and coworker support. Multiple linear regression analyses were conducted, adjusting for age, sex, education, salary, job category, as well as shift work.

Results:

In the multivariable-adjusted models, higher job demand was strongly associated with greater workplace loneliness ($\beta = 24.64$, $p < 0.001$), indicating that employees facing heavier work pressure tended to experience more loneliness. Similarly, poorer job control (higher reverse job control scores) was significantly linked to higher loneliness ($\beta = 15.13$, $p < 0.001$). Conversely, greater coworker support was consistently associated with lower loneliness ($\beta = -8.93$, $p < 0.001$). A significant interaction was also observed between job demand and reverse job control ($\beta = -5.54$, $p < 0.01$), suggesting that sufficient job control could buffer the negative impact of high job demand on loneliness. Stratified analyses of the subscales revealed comparable patterns for *Emotion Deprivation* and *Lack of Social Companionship*, reinforcing the critical role of psychosocial work factors in shaping employees' sense of workplace connectedness.

Conclusions:

This study highlights the central role of job control and coworker support in mitigating workplace loneliness among Taiwanese employees. The results suggest that improving organizational structures to enhance autonomy and peer interaction may reduce emotional deprivation and social disconnection in the workplace. Integrating loneliness assessment into psychosocial risk management could contribute to healthier, more connected work environments in East Asian contexts.

Keywords: workplace loneliness, job strain, social support, LAWS-16, New BJSQ, Taiwan

Acknowledgement

The study was supported by JST Grant Number JPMJRS22K1, Japan.

Symposium 2

Mechanisms and Impact of Loneliness and Social Isolation at Work

Chair Miho Takahashi, Department of Clinical Psychology, Graduate School of Education, The University of Tokyo, Tokyo, Japan

2-1 Workplace Loneliness and Its Impact on Mental Health, Job Performance, and Job Turnover

Natsu Sasaki¹

¹ Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Japan

This presentation explores the growing issue of workplace loneliness and its profound impact on employee mental health and job-related outcomes, drawing on both existing literature reviews and our original research in Japan. Recent comprehensive reviews have consistently shown associations between workplace loneliness and burnout, poor mental health, and diminished job performance. Although the pathways and mechanisms underlying these associations are not yet fully understood, factors such as lack of belonging and relatedness, feelings of deprivation, reduced organizational commitment, and decreased organizational citizenship behavior have been proposed as potential moderators or mediators. Significant gaps remain in the literature, including the need to distinguish between different types of loneliness and isolation, to clarify mechanisms linking workplace loneliness to outcomes, to examine long-term impacts on mental health through longitudinal studies, and to investigate effects on physical health.

To partially address these gaps, we conducted two exploratory studies among Japanese full-time workers. The first study (Sasaki et al., *Ind Health*, 2024), a cross-sectional analysis, examined the effects of loneliness without distress and solitude (i.e., chosen isolation) on mental health and job performance. Results showed that workers experiencing loneliness without distress had high psychological distress, low work engagement, and poor performance compared to non-lonely workers, while those with loneliness accompanied by distress showed the worst outcomes. Regarding social isolation, both solitude and unwanted isolation were associated with higher psychological distress compared to the non-lonely group. Notably, counterproductive work behaviors were significantly higher in the solitude group than in the unwanted isolation or non-lonely groups. These preliminary findings suggest that even loneliness without distress and solitude are linked to poorer mental health and performance, highlighting their relevance as targets for workplace mental health promotion.

The second study (Sasaki et al., *JOH*, 2025), a six-month prospective study, examined the relationship between workplace loneliness and job turnover. Workplace loneliness was measured using three scales: the Loneliness at Work Scale (LAWS), a single-item workplace loneliness measure, and a modified three-item version of the UCLA Loneliness Scale adapted for the workplace. Job turnover at follow-up was defined as leaving a job or moving to a different company within the preceding six months. All three scales showed significant and consistent associations with turnover at follow-up, providing longitudinal evidence that workplace loneliness is a predictor of actual job departure.

In this presentation, we will review the epidemiological evidence on workplace

loneliness and discuss future research directions necessary to guide the implementation of workplace interventions to address loneliness.

2-2 A Qualitative Study on the Process of Experiencing Isolation and Loneliness in the Workplace Among Those Who Have Left Their Jobs

Miho Takahashi¹, Yuko Sen¹, Yukari Mukasa¹, Wakana Hijikata^{1,2}, Junsuke Yamada¹

¹ Department of Clinical Psychology, Graduate School of Education, The University of Tokyo, Tokyo, Japan

² Shinagawa Ekimae Mental Clinic

【Purpose】

Recent studies have highlighted the association between workplace isolation and loneliness, deteriorating mental health, and organizational outcomes such as reduced work performance and employee turnover (Zhou, 2018). Furthermore, research has shown that employees who report higher levels of loneliness exhibit significantly higher turnover rates (Sasaki et al., 2025), suggesting that loneliness is a medium- to long-term risk factor. However, previous research has primarily focused on quantitative analyses, resulting in an insufficient qualitative understanding. Therefore, this study aims to clarify the processes of workplace isolation and loneliness experienced by individuals who have changed jobs.

【Method】

Participants: Eighteen individuals (11 men and 7 women, with a mean age of 48.7 years and a standard deviation of 12.9) aged 20–60 years, who had experienced workplace isolation and loneliness leading to resignation from companies with over 1,000 employees within the past decade.

Procedure and Content: Semi-structured interviews were conducted between October 2023 and March 2024.

Measures: Following an interview guide, participants were asked about the following: 1) An overview of the company they had left and its corporate culture; 2) their self-perceived personality traits; 3) the sequence of events from joining to leaving the company; 4) how isolation and loneliness hindered their work performance and affected their physical and mental health; 5) their coping strategies and the actions they took in response to isolation and loneliness; 6) factors that triggered their decision to leave; and 7) the changes they experienced after leaving.

Analysis: Narratives were analyzed using M-GTA.

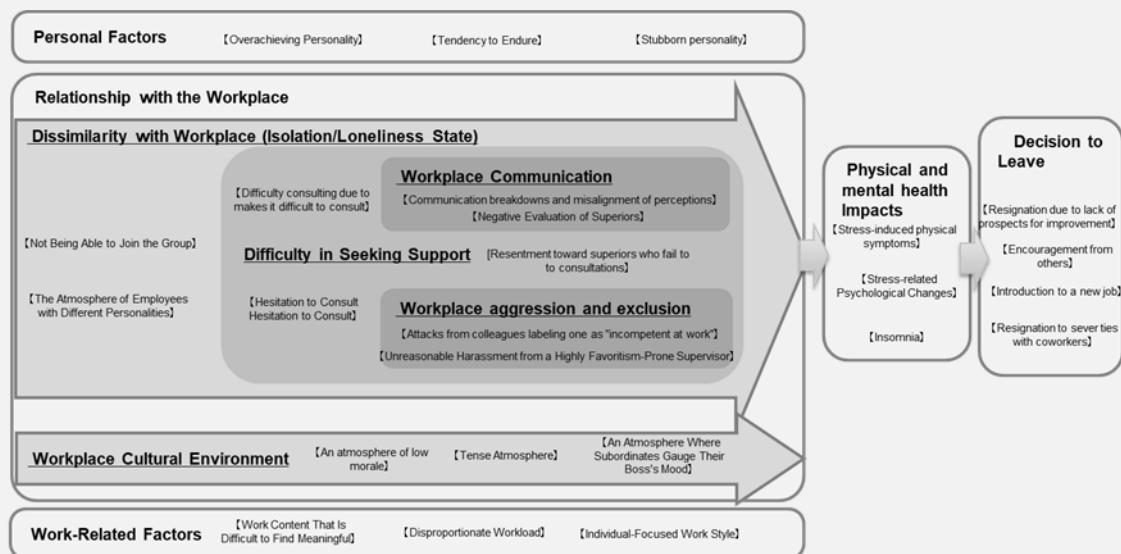
Ethical considerations: This study was approved by the University of Tokyo Research Ethics Review Committee (Approval No. 23-443).

【Results】

Five <Categories>, five <<Subcategories>>, and 26 constructed concepts were extracted, generating the hypothetical model diagram in Figure 1. The formation of workplace isolation and loneliness originated from a sense of <<Dissimilarity with the Workplace>> within the <Relationship with the Workplace>. Particularly within a <<Workplace Cultural Environment>> characterized by tension and low morale, <<Difficulty in Seeking Support>>—such as the absence of confidants or inadequate responses to confidences—intensified isolation and loneliness. Subsequently, two patterns emerged: one in which <<Workplace aggression and exclusion>> led to rapid escalation, and another in which <<Workplace Communication>> difficulties gradually worsened the situation, even without explicit aggression.

Underlying factors included <personal factors>, such as an overly diligent personality and <work-related factors>, such as excessive workload. As isolation and loneliness persisted, <physical and mental health impact> emerged, including [stress-induced physical symptoms] like [insomnia] and [stress-related psychological changes]. This culminated in the following decisions to leave: This culminated in resignation due to [Resignation due to lack of improvement prospects], [encouragement from others], [Introduction to a new job], and [Resignation to sever ties with coworkers]. These events became decisive factors that ultimately led to their resignations (Figure 1).

Figure 1: Hypothesis Model Diagram of the Workplace Isolation/Loneliness Experience Process for Those Who have Left their Jobs



【Discussion】

The state of workplace isolation and loneliness began with the realization that one was “diverging from the environment” during the initial employment period. This then worsened in three stages, exacerbated by factors such as the absence of confidants and workplace culture. In the first stage, differences in age, position, and employment status from peers made it difficult to build homogeneous relationships, and a mismatch between the organization’s cultural foundation and individual characteristics acted as the catalyst. Hesitation to consult others because of a cold attitude from a supervisor or the absence of others in the same situation led to problems remaining unaddressed, exacerbating the initial state. The inability to share or discuss this experience became a new form of isolation and loneliness, leading to the second stage. Furthermore, the situation can either rapidly deteriorate due to exclusionary remarks or attacks from colleagues or gradually worsen over time without any specific triggering event, as the state of isolation persists without improvement. Additionally, experiences in which attempts to engage supervisors or the organization resulted in inadequate responses further reinforced isolation and loneliness, leading to a third stage. Organizational prevention and intervention are required before the physical and mental impacts lead to resignation.

【Addendum】

This research was conducted as part of the 'Creating Lively and Connected Workplaces: Social Implementation of Inclusive Organizations that Prevent Isolation and Loneliness' research and development project (Grant Number JPMJRS22K1) of the Joint Research and Development Program for Achieving the SDGs (Prevention of Social Isolation and Loneliness and Building Diverse Social Networks) of the Research Institute of Science

and Technology for Society (RISTEX), Japan Science and Technology Agency (JST).

【Related Literature】

Miho Takahashi, Yuko Sen, Yukari Mukasa, Wakana Hijikata, & Junsuke Yamada (2025). A qualitative examination of the processes of isolation and loneliness among individuals with job separation experience. *Industrial Mental Health*, 33-3.

2-3 Workplace Loneliness in Japan: Scale Development and Longitudinal Links with Turnover Intention

Junko Nakamura¹, Ai Matsuo², Hiromi Ono³, Hiroko Momotani¹, Daiki Sekiya⁴, Yutaka Matsui¹

¹ R&D Center for Working Persons' Psychological Support, University of Tsukuba, Japan ² Faculty of Social Sciences, Hokuriku Gakuin University, Japan

³ Faculty of Human Sciences, University of Tsukuba, Japan

⁴ Faculty of Applied Psychology, Tokyo Seitoku University, Japan

Background and Purpose

Empirical research on workplace loneliness in Japan remains limited, and no validated measurement scale is currently available. In contrast, Wright et al. (2006) developed the Workplace Loneliness Scale, which has been widely applied in international studies, but it has not been translated into Japanese. To explore the phenomenon in the Japanese context, preliminary interviews with corporate human resource managers were conducted (Mori et al., 2022). Their findings indicated that workplace loneliness was characterized by insufficient communication and cooperation, a sense of not being relied upon, and feelings of discomfort or distress. Notably, the perception of “not being relied upon” was not included in Wright et al.’s scale. Therefore, the present study aims to develop a scale to measure workplace loneliness in Japan and to deepen understanding of its unique features.

Previous studies have consistently shown that loneliness has negative effects on both mental health and work-related outcomes (e.g., Peplau & Perlman, 1982; Chen et al., 2019). Belongingness theory (Baumeister & Leary, 1995) has emphasized that insufficient fulfillment of belonging needs leads to loneliness, highlighting the importance of meaningful social connections rather than mere social contact. However, little effort has been made to develop a measurement scale specifically tailored to workplace contexts in Japan, and the causal relationship between workplace loneliness and turnover intention has not been clearly examined. To address this gap, the present research conducted two studies. Study 1 focused on the development of a psychometrically sound scale to measure workplace loneliness. Study 2 examined the temporal causal relationships between workplace loneliness and turnover intention using a four-wave longitudinal design.

Study 1: Scale Development

From May 26 to June 1, 2022, a web survey was conducted with 648 employees (318 men, 330 women, aged 20–59). Fifty items were developed based on prior research, interviews with HR managers, and expert review. Validity was examined using the UCLA Loneliness Scale (short version), the WHO-5 Well-being Index, job satisfaction, turnover intention, and affective commitment. Test–retest reliability was also assessed.

Results of Study 1

Exploratory and confirmatory factor analyses indicated a four-factor structure:

1. Emotional connections in the workplace (22 items) – having colleagues who provide emotional support.
2. Sense of loneliness in the workplace (8 items) – feelings of isolation and discomfort.

3. Sense of usefulness in the workplace (5 items) – feeling relied upon and expected by others.

4. Sense of assistance in the workplace (4 items) – perceiving available support for work tasks.

A 16-item short form was developed, with Cronbach's α values of .91, .87, .89, and .88, respectively. Importantly, Factors 1, 3, and 4 represent workplace states, and lower scores indicate stronger loneliness, whereas Factor 2 reflects loneliness-related emotions, with higher scores indicating stronger loneliness.

Study 2: Longitudinal Analysis of Causal Relationships

A four-wave web panel survey was conducted with 1,372 employees who responded at all time points. A series of time-lagged regression analyses using multiple regression were conducted across adjacent time points for four variables: Emotional connections in the workplace, Sense of loneliness in the workplace, Sense of usefulness in the workplace, and turnover intention.

Results of Study 2

At all intervals, significant negative paths were found from turnover intention to Emotional connections, Sense of usefulness, and Sense of loneliness in the subsequent wave. With the exception of the paths from Time 1 to Time 2, no significant paths were found from the three subscales of workplace loneliness to turnover intention. These findings suggest that turnover intention precedes and exacerbates workplace loneliness, contrary to the direction assumed in previous studies.

General Discussion

This research makes two contributions. First, Study 1 developed and validated a psychometrically sound Japanese Workplace Loneliness Scale with a clear four-factor structure and a short form. Second, Study 2 revealed the temporal dynamics of workplace loneliness and turnover intention, showing that turnover intention may act as a precursor of loneliness rather than the other way around.

This interpretation suggests that when employees begin considering leaving their organization, they may psychologically distance themselves from colleagues, reduce cooperation, and consequently experience stronger loneliness. From an organizational perspective, employees with turnover intention may also receive fewer opportunities for support and recognition, further weakening emotional connections. Thus, workplace loneliness and turnover intention should be understood not as a one-way causal link but as a reciprocal process, with turnover intention serving as a key antecedent.

These findings imply that organizations aiming to reduce loneliness should not only foster belongingness but also identify and address turnover concerns at an early stage. By creating an environment where employees feel stable commitment to their organization, emotional connections can be strengthened, and loneliness can be mitigated. Future research should examine how cultural factors, organizational climate, and individual differences shape these processes.

2-4 Neural and Physiological Mechanisms Underlying Workplace Loneliness: Experimental Findings from Social Neuroscience

Hideki Ohira¹

¹ Graduate School of Informatics, Nagoya University, Aichi, Japan

Abstract:

Loneliness—defined as the subjective discrepancy between desired and actual social connectedness—is increasingly recognized as a pervasive factor influencing well-being. Yet its underlying neural mechanisms remain only partially understood. Structural and functional neuroimaging studies consistently highlight a distributed network involving the

medial prefrontal cortex (mPFC), posterior cingulate cortex (PCC), temporoparietal junction (TPJ), and anterior insula—regions central to self-referential thought, mentalizing, and the appraisal of socially salient cues. Lonely individuals often exhibit altered mPFC activation during social judgment tasks, reduced gray matter volume in the posterior superior temporal sulcus, and disrupted functional connectivity within the TPJ, which may contribute to impaired inference of others' intentions. The anterior insula and amygdala display enhanced responsivity to social threat cues and blunted responses to social reward, findings that support the notion of a negativity-biased interpretive style in interpersonal contexts.

Recently, the theory of predictive processing has conceptualized the brain as a hierarchical generative model that continuously minimizes prediction error by inferring the causes of sensory and social inputs. This framework has been increasingly applied to social cognition and affective experience. Although direct empirical studies examining loneliness through predictive processing remain limited, loneliness is thought as a condition in which maladaptive social priors dominate processing of social cues. Shamay-Tsoory and colleagues (2024) describe loneliness as a dysfunction within social-affiliation systems, emphasizing disrupted integration between threat-sensitive salience networks and higher-order self–other models. When the brain persistently expects social threat or exclusion, prediction errors related to positive or ambiguous social signals may be down-weighted, leading to a self-reinforcing cycle of hypervigilance and withdrawal. The anterior insula functions as a hub for integrating prediction errors in interoception (sense of inner body) with affective and social information. Ainley et al. (2016) demonstrated that individual differences in interoceptive accuracy can be understood within a predictive-coding framework of “bodily precision,” in which the reliability of internal bodily predictions shapes emotional and social experience. Arnold and colleagues (2019) underscored that interoceptive cues contribute to feelings of social connection, suggesting that chronic loneliness may involve elevated interoceptive uncertainty or weakened predictions of bodily states associated with affiliation. Haihambo et al. (2025) framed loneliness and social conformity within a predictive-processing account, arguing that expectations about social acceptance and group belonging shape the precision-weighting of social feedback. This work illustrates how predictive processing can organize disparate findings on loneliness, threat sensitivity, and social withdrawal within a single computational framework.

Taken together, these studies converge on a model in which loneliness emerges from the interplay between social-cognitive networks and predictive hierarchies that regulate the weighting of social priors and prediction errors. This framework helps explain why loneliness persists even when objective social opportunities are available: maladaptive priors are not easily updated by positive interactions because prediction-error signals are processed in a way that reinforces threat-based expectations. If loneliness reflects distortions in predictive precision and belief-updating, then interventions should aim to modify maladaptive priors through structured social exposures, cognitive reframing, and modalities that enhance interoceptive accuracy—such as mindfulness or breath-based interventions. Conceptualizing loneliness through predictive processing thus provides a unified account linking neural circuits, bodily states, and subjective experience, and offers promising pathways for mechanistically grounded intervention strategies.

Symposium 3

Monitoring Loneliness and Social Isolation at Work

Chair Akihito Shimazu, Faculty of Policy Management, Keio University, Kanagawa, Japan

3-1 Development and Validation of the SLAW-3 and SLAW-1: Short Psychometric Scales for Measuring Workplace Loneliness

Izumi Ayase^{1,2}, Akihito Shimazu³, Masahito Tokita⁴, Kentaro Sakamaki⁵, Norito Kawakami⁶

¹ Graduate School of Media and Governance, Keio University, Kanagawa, Japan

² Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

³ Faculty of Policy Management, Keio University, Kanagawa, Japan

⁴ Keio Research Institute at SFC, Keio University, Kanagawa, Japan

⁵ Faculty of Health Data Science, Juntendo University, Tokyo, Japan

⁶ Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

Introduction

Loneliness is a subjective negative emotional state arising from a gap between desired and actual social relationships, and it is strongly associated with poor health and well-being. Workplace loneliness is a domain-specific form that occurs in organizational contexts where interactions are shaped by culture, roles, and hierarchies. Its prevalence is notable, reported at 10% in the UK and 8% in Japan. Prior studies have linked workplace loneliness to psychological distress, burnout, reduced engagement, lower job satisfaction, impaired collaboration, and higher turnover. Existing measures, such as the 16-item Loneliness at Work Scale (LAWS), demonstrate psychometric validity but are often too lengthy for large-scale surveys or organizational interventions. For general loneliness, short scales derived from longer validated instruments, such as the Revised UCLA Loneliness Scale, have proven useful. Following this tradition, the present study developed and validated two short scales for workplace loneliness: the three-item Scale for Loneliness at Work (SLAW-3) and the single-item Scale for Loneliness at Work (SLAW-1).

Methods

Data were drawn from the twelfth wave of a longitudinal online survey of Japanese employees, conducted in December 2024. Participants were full-time workers aged 22–63 years, recruited through Rakuten Insight, with stratification by age and gender. The analytic sample included 1,228 regular employees and civil servants.

The SLAW-3 was adapted from the Three-Item Loneliness Scale by Hughes et al. and its Japanese version, with items modified by adding “at work” to capture context-specific experiences of lack of companionship, alienation, and isolation. The SLAW-1 was adapted from the Japanese Cabinet Secretariat’s single-item loneliness question, contextualized with “at work.” Both scales employed a five-point Likert response format. To assess construct validity, participants also completed established measures: the LAWS, the Workplace Isolation Scale (WIS), a general loneliness item, the Kessler 6 scale (K6) for psychological distress, the WHO-5 for well-being, self-rated health, subjective happiness, and workplace social support from the Brief Job Stress Questionnaire (BJSQ). Reliability was examined with Cronbach’s α , and structural validity

was with principal component analysis (PCA), and construct validity was with polychoric correlations.

Results

A total of 1,228 participants were included in the final analysis (670 men, 558 women; mean age = 44.8 years). Most participants worked fixed daytime schedules, with 40% working 40–44 hours per week and 8% working over 60 hours.

The SLAW-3 demonstrated high reliability (Cronbach's $\alpha = 0.91$). PCA confirmed single-factor structure, with the first principal component explaining 85.2% of variance. Factor loadings were 0.78 (companionship), 0.94 (alienation), and 0.94 (isolation). Construct validity was supported by significant positive correlations with the LAWS ($r = 0.64$ for Social Companionship, $r = 0.46$ for Emotional Deprivation) and the WIS ($r = 0.50$ for Coworker Isolation, $r = 0.51$ for Company Isolation). It also correlated strongly with general loneliness ($r = 0.75$). In terms of psychological and health outcomes, SLAW-3 was positively associated with psychological distress (K6, $r = 0.57$) and negatively associated with well-being (WHO-5, $r = -0.34$), self-rated health ($r = -0.27$), and subjective happiness ($r = -0.33$). Moreover, it correlated negatively with supervisor support ($r = -0.35$) and colleague support ($r = -0.40$).

The SLAW-1 correlated strongly with the SLAW-3 ($r = 0.73$) and showed associations with the LAWS ($r = 0.58$ for Social Companionship, $r = 0.46$ for Emotional Deprivation) and the WIS ($r = 0.50$ for Coworker Isolation, $r = 0.49$ for Company Isolation). It also correlated strongly with general loneliness ($r = 0.75$). Similar to the SLAW-3, it was positively associated with psychological distress ($r = 0.51$) and negatively with well-being (WHO-5, $r = -0.38$), self-rated health ($r = -0.40$), subjective happiness ($r = -0.40$), supervisor support ($r = -0.34$), and colleague support ($r = -0.39$).

Discussion

The findings support the SLAW-3 as a psychometrically robust short scale with strong reliability and validity. Its associations with distress, well-being, and workplace support confirm its utility for both research and practice. The SLAW-1, while limited by its single-item format, is a practical and valid screening tool that enables large-scale assessments and repeated longitudinal measurements. Although it cannot replace the comprehensive coverage of the SLAW-3, it serves as an efficient complementary measure for organizational surveys.

Together, the two scales provide complementary tools: the SLAW-3 offers rigorous assessment suitable for in-depth research and psychological evaluations, while the SLAW-1 facilitates quick screenings in time-limited contexts. Their combined use can enhance organizational assessments by balancing precision with efficiency.

Limitations and Future Directions

This study is limited by its cross-sectional design, which precludes causal inference. Longitudinal studies are needed to examine predictive validity and the long-term impact of workplace loneliness. In addition, the sample comprised only Japanese full-time employees, which may limit generalizability. Future research should validate the scales across different employment types, industries, and cultural contexts.

Conclusion

This study developed and validated two short scales for workplace loneliness. Both the SLAW-3 and SLAW-1 demonstrated strong reliability and validity. The SLAW-3 provides a comprehensive, unidimensional measure appropriate for detailed analysis, while the SLAW-1 offers a concise and practical alternative for rapid assessments. Together, these scales provide valuable tools for research, organizational practice, and policy efforts to address workplace loneliness and promote employee well-being.

3-2 Development of the Workplace Loneliness Risk Chart

Akihito Shimazu¹, Izumi Ayase^{2,3}, Kentaro Sakamaki⁴, Masahito Tokita⁵, Norito Kawakami^{6,7}

¹ Faculty of Policy Management, Keio University, Kanagawa, Japan

² Graduate School of Media and Governance, Keio University, Kanagawa, Japan

³ Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

⁴ Graduate School of Health Data Science, Juntendo University, Tokyo, Japan

⁵ Keio Research Institute at SFC, Keio University, Kanagawa, Japan

⁶ Department of Digital Mental Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

⁷ The Junpukai Foundation, Okayama, Japan

1. Introduction

Workplace loneliness is a subjective emotional state arising from a gap between desired and actual social relationships. In Japan, a substantial portion of the workforce, approximately 8% (or 1 in 12 employees), reports experiencing workplace loneliness (Kawakami et al., 2025). This phenomenon is a critical concern for occupational mental health, as it has been linked to adverse mental health outcomes such as depression, anxiety, and burnout, as well as lower work engagement, job satisfaction, and job performance (Bryan, 2023). Furthermore, it is also associated with a heightened risk of turnover, making it a significant organizational challenge (Sasaki et al., 2025).

Psychosocial factors at work are a key determinant of workplace loneliness. Therefore, to address loneliness in the workplace, it is useful to identify which factors contribute to this risk, provide feedback to the organization, and use that information to implement improvements. Our research team is now developing a chart that predicts the risk of loneliness in the workplace based on psychosocial factors at work. This presentation introduces the process of developing this chart.

2. Psychosocial factors at work and workplace loneliness

To investigate the psychosocial factors related to the risk of workplace loneliness, we conducted an online survey that included the Brief Job Stress Questionnaire (BJSQ) and a scale measuring workplace loneliness. The data were collected as part of the 12th wave of the Keio University “COVID-19 and Worker Well-being Study” (<https://hp3.jp/project/study-oncovid-19-and-worker-well-being>) in June 2024. The data from 1,244 individuals were analyzed.

We conducted a series of logistic regression analyses with workplace loneliness as the outcome variable. The explanatory variables were the nine subscales from the BJSQ related to job stressors, as well as Supervisor support and Coworker support, for a total of 11 subscales. The models were adjusted for gender and age. Workplace loneliness was assessed using a single-item scale for loneliness at work (SLAW-1) on a 5-point Likert scale, with individuals who answered “often” or “always” categorized as experiencing “loneliness.”

The results of the analysis revealed that all explanatory variables except for Skill utilization had a statistically significant or marginally significant odds ratio with workplace loneliness. Specifically, job demands scales—Quantitative job overload, Qualitative job overload, Physical demands, and Poor physical environment—were associated with higher risks of workplace loneliness. In contrast, job resources scales—Job control, Skill utilization, Suitable jobs, Meaningfulness of work, Interpersonal relationships, Supervisor support, and Coworker support—were associated with lower risks of workplace loneliness.

3. Development of the Workplace Loneliness Risk Chart

Based on the findings from the logistic regression analyses, we are developing a preliminary version of a “Workplace Loneliness Risk Chart”. Drawing inspiration from the “Job Stress Judgment Chart” used in the stress check-up system in Japan, this tool visually represents the risk of loneliness in the workplace based on the combination of two primary factors: Job factors and Interpersonal relationship factors. The Job factors component is comprised of eight BJSQ subscales: Quantitative job overload, Qualitative job overload, Physical demands, and Poor physical environment, Job control, Skill utilization, Suitable jobs, and Meaningfulness of work. The Interpersonal relationship factors component is composed of three subscales: Interpersonal relationships, Supervisor support, and Coworker support.

The chart also calculates a “Loneliness Risk Score.” This score is derived by multiplying each subscale score by its weight obtained through logistic analyses and then summing these products. The score is adjusted such that the national average is set to 100.

We are currently developing an Excel macro to automatically generate a “Workplace Loneliness Risk Chart.” We plan to test a prototype version of the chart at several companies (approximately 30,000 employees) and conduct a proof of concept (PoC) to improve the risk chart.

3-3 Early Detection of Isolation and Loneliness from Digital Footprints in the Era of Diverse Work Styles

Yutaka Arakawa¹

¹ Department of Information Science and Technology, Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan

The widespread adoption of hybrid work has established collaboration platforms like Slack as primary organizational communication channels. However, this digital shift obscures non-verbal cues, making it challenging to assess indicators of workplace loneliness and psychological well-being previously observable in person. This research introduces a privacy-preserving approach to detect workplace isolation and infer personality traits from digital communication patterns.

Our methodology analyzes behavioral patterns using only Slack metadata and emoji reactions, ensuring user privacy by excluding all message content. We introduce two novel metrics, Contribution Level and Adjacency Level, to quantify communication engagement and interpersonal connection strength, respectively. By applying the Louvain clustering algorithm to social graphs constructed from these metrics, we identify users potentially at risk of isolation. Furthermore, we developed a method to infer Big Five personality traits from emoji usage patterns.

A validation study involving 48 laboratory members revealed that, contrary to common assumptions, reduced online communication volume did not directly correlate with self-reported loneliness (UCLA Loneliness Scale). However, participants reporting the lowest levels of loneliness (bottom 20%) exhibited significantly higher Adjacency Levels, suggesting that stronger digital interpersonal connections are associated with greater social well-being. Our personality trait analysis revealed that higher conscientiousness correlated with faster response times, and higher agreeableness with more frequent emoji reactions. Moreover, a greater diversity of reactions was associated with higher openness and extraversion.

This system enables privacy-preserving, early detection of isolation risk at an

organizational level and facilitates communication strategies tailored to individual communication styles. Crucially, our work is underpinned by an ethical governance framework that prohibits its use for performance evaluation, mandating its application solely for team-level support and coaching interventions. Ultimately, this research offers a practical, data-driven solution to enhance psychological well-being and communication effectiveness in modern, digital-first workplaces.

Poster presentations

(in an alphabetical order by speaker's surname)

P-1 Internal and External Predictors of Procrastination: The Roles of Psychological Flexibility, Leadership, and Workplace Support among Japanese Workers

Miho Arai ¹, Yuka Kobayashi ²

¹ Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

² Department of Clinical Psychology, Faculty of Social Policy and Administration, Hosei University, Tokyo, Japan

【Introduction】 Procrastination is defined as the voluntary delay of an intended action despite expecting to be worse off for the delay (Steel, 2007). It poses risks not only to individual employees but also to organizations (D'Abate & Eddy, 2007). Although previous studies have primarily focused on cognitive and motivational aspects of procrastination, few have examined internal psychological factors and external workplace factors simultaneously. Furthermore, although differences in procrastination between white- and blue-collar employees have been suggested (van Eerde, 2016), the underlying factors have not been sufficiently empirically examined. This study aimed to clarify the relationships between employees' procrastination and internal factors—specifically psychological flexibility, a core construct of Acceptance and Commitment Therapy (ACT)—as well as external factors such as supervisor leadership and workplace support, examined separately white- and blue-collar employees.

【Methods】 An online survey was conducted among Japanese workers between April and August 2023. A total of 543 valid responses were analyzed. Measures included demographic variables and the Japanese version of Pure Procrastination Scale (PPS-J), consisting of three subscales: delay in execution, delay in decision-making, and timeliness. Internal variables were assessed using the Acceptance and Action Questionnaire-II (AAQ-II; 7-item version) for experiential avoidance, the Values Clarification Questionnaire (VCQ) for valued commitment and continuing behavior, the Cognitive Fusion Questionnaire (CFQ), and the Mindful Attention Awareness Scale (MAAS). External variables included the Servant Leadership Survey (SLS-J-short) and measures of supervisor and coworker support from the Brief Job Stress Questionnaire (BJSQ). Hierarchical multiple regression analyses were conducted separately for white-collar and blue-collar employees, with each PPS-J subscale as the dependent variable. This study was approved by the Ethics Committee of Hosei University (Approval No. 220301_2).

【Results】 Hierarchical multiple regression analyses were conducted separately for white- and blue-collar employees, using each PPS-J subscale (delay in execution, delay in decision-making, and timeliness) as the dependent variable. Among white-collar employees, the final adjusted R^2 values were .29 ($p < .05$), .33 ($p < .05$), and .32 ($p < .05$), respectively. The results indicated that the MAAS and AAQ-II consistently showed significant effects across the three subscales, while the standing back subscale of the SLS-J and continuing behavior were significant predictors of delay in execution, and the continuing behavior subscale of the VCQ and CFQ were significant predictors of delay in decision-making. For timeliness, significant predictors were the MAAS, AAQ-II, and continuing behavior. Among blue-collar employees, the final adjusted R^2 values were .28 ($p < .01$), .50 ($p < .001$), and .55 ($p < .01$), respectively. The results indicated that the MAAS and AAQ-II had significant effects on delay in execution and delay in decision-making.

Additionally, continuing behavior significantly predicted delay in decision-making, and supervisor support showed a significant negative effect on timeliness.

【Discussion】 This study examined internal and external factors related to employees' procrastination among Japanese workers, comparing white-collar and blue-collar groups. The results revealed that mindfulness (MAAS), experiential avoidance (AAQ-II), continuing behavior, and cognitive fusion (CFQ) influenced procrastination, indicating the importance of psychological flexibility. These findings suggest that Acceptance and Commitment Therapy (ACT)–based interventions, which enhance mindfulness and value-based action, may help reduce procrastination in occupational settings. Additionally, the Standing Back dimension of servant leadership and supervisor support were significant external factors, implying that supervisors' leadership styles and workplace support can influence employees' procrastinatory behavior among blue-collar employees. However, the negative association between supervisor support and timeliness suggests that excessive or poorly timed support from supervisors may inadvertently promote procrastination. Leaders who balance autonomy with appropriately timed support may better help employees regulate their behavior and act in a timely manner. Overall, both internal psychological flexibility and external workplace contexts appear to play crucial roles in procrastination among workers. Future research should further explore the effects of ACT and leadership development programs on reducing workplace procrastination.

P-2 Association between the Number of Close Family Members and Friends and Loneliness in Japan

Yuki Arakawa ¹, Kosuke Inoue ², Daisuke Nishioka ³, Midori Matsushima ⁴, Takahiro Tabuchi ⁵, Naoki Kondo ³

¹ Department of Public Health, School of Medicine, Yokohama City University, Kanagawa, Japan

² Department of Health Promotion and Human Behavior, School of Public Health, Kyoto University, Kyoto, Japan

³ Department of Social Epidemiology, School of Public Health, Kyoto University, Kyoto, Japan

⁴ Graduate School of Humanities and Social Sciences, University of Tsukuba, Ibaraki, Japan

⁵ Division of Epidemiology, School of Public Health, Tohoku University Graduate School of Medicine, Miyagi, Japan

Background: Loneliness is defined as “the discrepancy between desired and actual social relationships,” and is associated with cardiovascular disease, depression, and premature death. Recently, workplace loneliness has been receiving growing attention as studies suggest that it is associated with poor occupational functioning and well-being. Therefore, effective measures to alleviate loneliness are warranted not only in community setting but also in the workplace. Several attempt to reduce loneliness by increasing social contact have been implemented in general settings, but their effects remain unclear. Evidence suggests that the closeness of relationship (e.g., those who can consult with) may be more important than simply increasing social contact. However, the number of close relationships needed to reduce loneliness has not been investigated. We aimed to examine the association between the number of close family members or friends and loneliness.

Methods: We used the data from the Japan COVID-19 and Society Internet Survey (JACSIS) study, an internet-based, self-reported questionnaire survey administered by a

research agency with 2.2 million qualified panelists in Japan (Rakuten Insight). We analyzed 19,482 participants who completed both the 2021 and 2022 surveys. Based on the abbreviated version of the Lubben Social Network Scale, we assessed the number of close family members and friends using the following questions: “How many relatives/friends do you feel close to such that you could call on them for help?” and “How many relatives/friends do you feel at ease with that you can talk about private matters?” Participants were classified into seven categories according to the number of close family members and friends in 2021: (1) no close family/no close friend, (2) one close family/no close friend, (3) no close family/one close friend, (4) ≥ 2 close family/no close friend, (5) no close family/ ≥ 2 close friends, (6) one close family/one close friend, and (7) ≥ 1 close family member and ≥ 1 close friend (≥ 3 in total). Loneliness in 2022 was assessed using the three-item UCLA loneliness scale, with a cut-off score of ≥ 6 indicating loneliness. Using a modified Poisson regression model adjusted for sociodemographic factors, frequency of social contact, and baseline loneliness score in 2021, we examined the association between the number of close family members/friends and loneliness. We also explored potential differences by sex.

Findings: The prevalence of loneliness was highest in category 1 (40.0%, $n=1,743$), followed by category 3 (39.1%, $n=1,342$). Compared with participants who had no close family members or friends (category 1), those with only one close family member did not differ in loneliness status (category 2; risk ratio [RR] = 0.96; 95% CI: 0.90-1.06). In contrast, those with only one close friend had a lower risk of loneliness (category 3; RR = 0.86; 95% CI: 0.75-0.99), as did those with two close family members (category 4; RR = 0.89; 95% CI: 0.82-0.97). As the number of close family members or friends increased, the risk of loneliness tended to decrease. Women were more likely to experience loneliness than men in our study sample; however, the strength of the associations did not differ by sex.

Conclusions: Having more than one close friend or more than two close family members was associated with a lower risk of loneliness. Building close relationship with colleagues or friends, rather than merely increasing the number of social contacts, may help alleviate loneliness.

P-3 The Relationship Between Social Media Communication and Psychological Distress among University Students: The Moderating Effects of Rumination

Emiko Ban ¹, Masahito Tokita ², Akihito Shimazu ³

¹ Graduate School of Media and Governance, Keio University, Kanagawa, Japan

² SFC Research Institute, Keio University, Kanagawa, Japan

³ Faculty of Policy Management, Keio University, Kanagawa, Japan

Social media (SM) has become an indispensable means of communication and interaction with others. While the use of SM can provide psychological benefits, it also has negative effects for users such as psychological distress. It has been shown that the relationship between SM use and psychological distress is moderated by various factors. One such factor is rumination, which refers to the tendency to repeatedly think about negative experiences, and is considered a predisposing factor for depression. Recently, many university students have become frequent users of SM, and those with a high tendency for rumination may experience heightened psychological distress in response to SM communication.

This study examined the moderating effect of rumination on the relationship between SM communication and psychological distress among university students. Within SM

communication, both positive (e.g., empathic and supportive) and negative (e.g., aggressive and hurtful) communication may have different effects on psychological distress. Therefore, this study distinguishes between positive and negative SM communication.

A web-based survey was conducted with 200 university students stratified by gender and year of study (25 students per group). Of these, 174 agreed to participate. The survey was conducted from November 29 to December 3, 2021.

Survey items included SM communication (positive communication, negative communication), rumination (Japanese version of the Rumination-Reflection Questionnaire (RRQ-J)), psychological distress (Kessler Psychological Distress Scale (K6)), and demographic variables (gender, year of study).

Hierarchical multiple regression analysis was performed using psychological distress as the outcome variable and SM communication, rumination, and their interaction terms as explanatory variables. Analyses were conducted for each type of communication: (1) positive communication, (2) negative communication, and (3) total communication, calculated by adding the number of positive and negative communications together, and (4) proportion of negative communication. A total of 174 valid responses (86 males, 88 females) were included in the analysis.

For positive communication, the interaction term between SM communication and rumination was significant ($\beta=.14$, $p=.049$). In the high rumination group, a marginally significant positive association between SM communication and psychological distress was shown ($\beta=.19$, $p=.082$). For negative communication, the interaction term between SM communication and rumination was marginally significant ($\beta=.12$, $p=.068$). In the high rumination group, a significant positive association between SM communication and psychological distress was shown ($\beta=.30$, $p<.001$). For total communication, the interaction term between total communication and rumination was significant ($\beta=.17$, $p=.011$). In the high rumination group, a significant positive association between SM communication and psychological distress was shown ($\beta=.30$, $p=.002$). Finally, for proportion of negative communication, the interaction term between SM communication and rumination was not significant.

Taken together, these findings suggest that rumination moderates relationship between SM communication and psychological distress: in the high-rumination group, greater communication—whether positive or negative—may be associated with higher psychological distress. Accordingly, individuals prone to rumination may benefit from avoiding excessive SM use and maintaining psychological distance.

Several study limitations should be considered. First, the cross-sectional design precludes causal inference. Second, retrospective reports of SM use may have introduced recall bias. Third, communication quality was subjectively assessed. Future research should employ longitudinal designs, incorporate real-time (e.g., Experience Sampling Method (ESM)) measures of SM use, and include objective indicators of communication quality (e.g., behavioral logs or third-party ratings).

P-4 How does managerial support affect loneliness at work?: Development of a preliminary agent-based simulation model

Norito Kawakami ¹, Yasuhiro Kitakami ², Asuka Sakuraya ¹

¹ Department of Digital Mental Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

² Kozo Keikaku Engineering, Inc., Tokyo, Japan

Aim. Loneliness at work of members in a team is considered as a dynamic process being developed and recovered in a short-term basis, influenced by support from a manager, among other factors. An agent-based simulation (ABS) model, i.e., a

computational model for simulating the actions and interactions of autonomous agents, may be useful to understand the influence of manager support on the dynamics of loneliness at work among team members in various settings. This study reported the development of a preliminary ABS model of loneliness at work.

Methods.

Development of ABS model of loneliness at work.

Agents: agents were autonomous individuals (team members). Each agent had one of two distinctive states: presence or absence of loneliness at work. The initial state is being not lonely for every agent. The agent also had the following two parameters: an expected level of support from a manager (0-10; default, 5) that represents social support the agent need and a distance from a manager (1-25; default, 20) that represented a social or physical distance from the manager.

Environment: The space is a social structure, a team consisting of one manager and a given number of team members (agents), that was consistent over time. The manager provided a fixed level of social support (0-10; default, 5) to every agent. For simplicity, no feedback from an agent to the manager or no interaction among agents was set.

Rules: Briefly, an agent developed or recovered from the loneliness at work at the next time step, as a function of received managerial support and the agent's expected level of managerial support at a given time step. The received managerial support for each agent was defined as a ratio of support from the manager divided by the distance between the manager and the agent. An agent may develop loneliness at work if the agent was not lonely or recover from loneliness at work if the agent was lonely at the next time step, with a certain probability. The base probabilities of developing and recovering from loneliness at work per week were 0.05 and 0.30, respectively, based on a preliminary survey (Kawakami et al., unpublished). The probability to develop loneliness at work was set double, and that to recover from loneliness at work was set half, when the received managerial support was smaller than the expected managerial support, following a theoretical framework (Wright & Silard, 2020), where these relative risks were set arbitrarily. Finally, when an agent became or remained lonely, the distance from the manager was increased by 1, considering the nature of loneliness leading to a hindered perception of social support (Cacioppo et al., 2014). The unit timescale was considered as week.

Validation of the ABS model

A validation of the ABS model was made by observing (1) if the proportion of loneliness at work converges to a certain range over the initial 20 steps, which is reasonable from previous studies; (2) if patterns of the proportion under various conditions with different parameters are reasonable as expected. We tested the following conditions: high and low managerial support, close and long distance, random distance that represents diverse social and physical (remote work, for instance) positions of the agents; and random expected support that represents diverse characteristics of the agents. For the estimation of the proportion of loneliness at work, we conducted 100 trials for each case.

Results

In the ABS model, the proportion of loneliness at work increased at the initial steps (from the first to the 5th), then converged to a stable range (from 0.15 to 0.17) from the 6th to 20th step. Low or diverse managerial support, long distance, and diverse expectation resulted in increased proportions of loneliness at work.

Discussion

The ABS model of loneliness at work represented a dynamic process of development and recovery of loneliness at work. The validity was partly supported by the convergence of the loneliness proportion to a certain range as expected; and by expected patterns of the proportions under several conditions. This basic model may be used as a basis of developing a further complex ABS model, incorporating interactions between a manager

and a team member and among team members, as well as psychosocial factors at work that could be related to loneliness at work, in the model.

P-5 The Structure of Social Isolation and Loneliness in the Return-to-Work Process: A Practice Report of Open Dialogue with Participants in a Depression Rework Program

Satoshi Kondo ¹

¹ Faculty of Health Sciences, Mejiro University, Tokyo, Japan

【Introduction】

In recent years, social isolation and loneliness in the workplace have gained increasing attention as critical psychosocial factors contributing to mental health difficulties, including depression (Holt-Lunstad et al., 2015; Cacioppo & Patrick, 2008). Social isolation refers to an objective lack of social interaction, whereas loneliness denotes a subjective sense of distress arising from a perceived absence of meaningful connection with others (Perlman & Peplau, 1981).

In Japan, workplace conflicts and feelings of alienation have frequently been identified as underlying factors leading to long-term sickness absence due to mental illness (Ministry of Health, Labour and Welfare, 2023). Individuals on leave from work often experience multiple forms of disconnection: physical separation from the workplace, existential anxiety stemming from the loss of occupational roles, fear of re-entry into professional communities, and a diminished sense of mutual understanding with colleagues (Murakami, 2020).

Open Dialogue (OD), originally developed in Western Lapland, Finland (Seikkula & Arnkil, 2017), is a dialogical approach that emphasizes transparency, polyphony, and shared understanding among all participants involved in a mental health crisis. In recent years, OD has been adapted beyond acute psychiatric contexts to community-based and occupational rehabilitation settings. However, few studies have examined how OD may alleviate social isolation and loneliness among individuals navigating the return-to-work (RTW) process.

This study reports on the structure, process, and qualitative outcomes of OD-based sessions conducted with participants attending or having completed a depression rework program at a psychiatric clinic in Japan. It aims to explore how dialogical practices can foster self-reflection, mutual understanding, and reconnection among individuals experiencing loneliness and isolation during occupational recovery.

【Subjects and Methods】

Participants included individuals currently enrolled in, or who had completed, a psychiatric clinic's rework program for depression recovery. Recruitment was conducted via clinic bulletin board announcements, and participation was entirely voluntary. Each OD session was facilitated by a team of two to three healthcare professionals who had completed a certified reflective practice training course. The intervention was guided by the Seven Principles and Twelve Key Elements of Open Dialogue, emphasizing responsiveness, reflection, and the co-creation of meaning through conversation. Each session followed a structured five-phase format designed to balance openness with dialogical containment. The session began with an initial talk in which the participant spoke freely for approximately ten minutes about their current experiences, challenges, and emotions. Next, the facilitators engaged in a reflecting dialogue for about ten minutes in the participant's presence, sharing impressions and tentative thoughts without interpretation or judgment. The participant then responded for around ten minutes, expanding upon what resonated from the facilitators' reflections. This was followed by a brief re-reflection by the facilitators (within ten minutes), integrating new meanings and

emotional nuances that had emerged. Finally, the session concluded with the participant's closing remarks (approximately ten minutes), in which they summarized insights and organized thoughts and feelings about the dialogue.

All sessions were audio-recorded and summarized with participants' consent. A qualitative thematic analysis was conducted to identify expressions of social isolation, loneliness, and evolving relational understanding, with particular attention to dialogical shifts indicating movement toward reconnection and empowerment.

【Results】

Between January and May 2024, an average of 2.8 OD sessions were held per week. The primary themes discussed by participants included:

- Feelings of unfulfillment and lack of meaning in the workplace
- Ambivalence regarding resignation or job change
- Difficulties in interpersonal communication and role negotiation

Participants frequently reported that the OD sessions helped them “organize their thoughts,” “gain new perspectives,” and “restore self-trust.” Many emphasized that being listened to in a non-judgmental, non-evaluative atmosphere allowed them to “feel seen as a person rather than as a patient.”

Through dialogical exchange, several participants described a renewed sense of agency and self-awareness, expressing that they could “revisit their own narratives” and “view work-related struggles as shared human experiences rather than personal failures.”

Nevertheless, several operational challenges were identified, including overlapping participation requests, the need for urgent clinical responses outside session times, and institutional constraints within Japan's medical reimbursement system, which does not yet formally recognize dialogical interventions as reimbursable practices.

【Discussion】

The loneliness experienced by individuals on mental health leave is often intensified by (1) physical disconnection from the workplace, (2) existential anxiety arising from role loss, (3) fear of reintegration into the workplace community, and (4) lack of mutual understanding with others (Cacioppo & Hawkley, 2009; Haslam et al., 2018).

While conventional return-to-work programs primarily emphasize assessment, skill restoration, and symptom management, the present OD-based practice instead prioritized reconstructing personal narratives and rebuilding relational meaning. The dialogical process facilitated a shift from self-evaluation to shared exploration, allowing participants to perceive their experiences not as individual deficits but as relational and social phenomena.

OD provides a distinctive therapeutic environment in which participants and facilitators co-create meaning through polyphonic dialogue. This fosters both self-reflection and the restoration of relationships—outcomes often difficult to achieve through traditional individual or group psychotherapy. In this context, OD demonstrated a unique capacity to cultivate “relational recovery,” enabling participants to rediscover their voices and regain a coherent sense of self through connection with others.

Importantly, OD does not seek to “eliminate” isolation but rather to share and hold it together—transforming loneliness into a collectively held experience through compassionate and transparent dialogue. This relational stance distinguishes OD from conventional supportive counseling by emphasizing co-presence, openness, and mutual accountability in meaning-making.

Future research should include qualitative analyses of participants' lived experiences of loneliness, identification of dialogical moments that foster reconnection, and the development of sustainable OD-based models applicable to occupational rehabilitation and workplace reintegration contexts.

【Conclusion】

The application of Open Dialogue (OD) for participants in a depression rework program appears to contribute not only to symptom improvement but also to the alleviation of

social isolation and loneliness, as well as the reconstruction of interpersonal relationships.

OD may serve as an effective dialogical approach that enables participants to rediscover their voices, feel genuinely understood, and regain a sense of belonging in their workplaces and broader social environments. Through dialogical co-creation, participants are empowered to rebuild their identities within relational frameworks, suggesting that OD holds significant promise as a viable model for fostering relational recovery in the context of occupational mental health rehabilitation.

P-6 Effects of Proactive Personality and Traditional Organizational Climate on Loneliness

Mika Takada ¹, Kaito Kamachi ¹, Ryoma Kin ¹, Wakana Hijikata ^{1,2}, Miho Takahashi ¹

¹ Department of Clinical Psychology, Graduate School of Education, The University of Tokyo, Tokyo, Japan

² Shinagawa Ekimae Mental Clinic

Background and Purpose

Loneliness has been considered to affect employees' mental health and is also linked to a decline in work productivity (Yan et al., 2024). Moreover, the growing prevalence of telework may further increase the risk of experiencing workplace loneliness (Fostervold et al., 2024). Furthermore, a recent integrative review suggests that loneliness emerges from the interaction between personal and environmental factors, which influences mental health and work outcomes through emotional and cognitive processes (McCarthy et al., 2025).

As one example of personal factors, Proactive Personality (PP), a dispositional tendency to actively bring about changes in one's environment, can be considered. PP has generally been recognized as a trait which enhances job performance (Spitzmuller et al., 2015) and may also mitigate the negative effects of loneliness (Ahsan & Haq, 2021). However, in traditional organizational environments commonly observed in Japan, which are characterized by collectivism and a large power distance (Sato, 2021 etc.), a high level of PP may lead to isolation from others, potentially exacerbating loneliness. Nevertheless, few studies have examined the effect of PP on loneliness within such traditional organizational contexts. Therefore, the present study aimed to investigate the effects of the interaction between PP and traditional organizational climate on Japanese employees' loneliness.

Method

Participants

The online survey was conducted between October 3rd and 5th, 2023, through a survey company, with 1,100 respondents aged between 20s-60s. For the present study, 510 employees (362 men, 148 women; $M = 50.3$ years, $SD = 9.49$) employed in companies with over 1,000 employees were included in the analysis. The present study was approved by the Research Ethics Committee of the University of Tokyo (Approval No. 23-385).

Measures

The independent variables were PP and traditional organizational climate, and the dependent variable was loneliness.

PP: PP was measured using the Japanese version of Proactive Personality Scale

(Nishiyama & Nakano, 2002).

Traditional organizational climate: Traditional organizational climate was assessed with the “Tradition” subscale of the 12-item Organizational Climate Scale (OCS-12) (Fukui et al., 2004).

Loneliness: Loneliness was assessed with the Japanese version of the UCLA Loneliness Scale (Version 3; 3-item) (Arimoto & Tadaka, 2019).

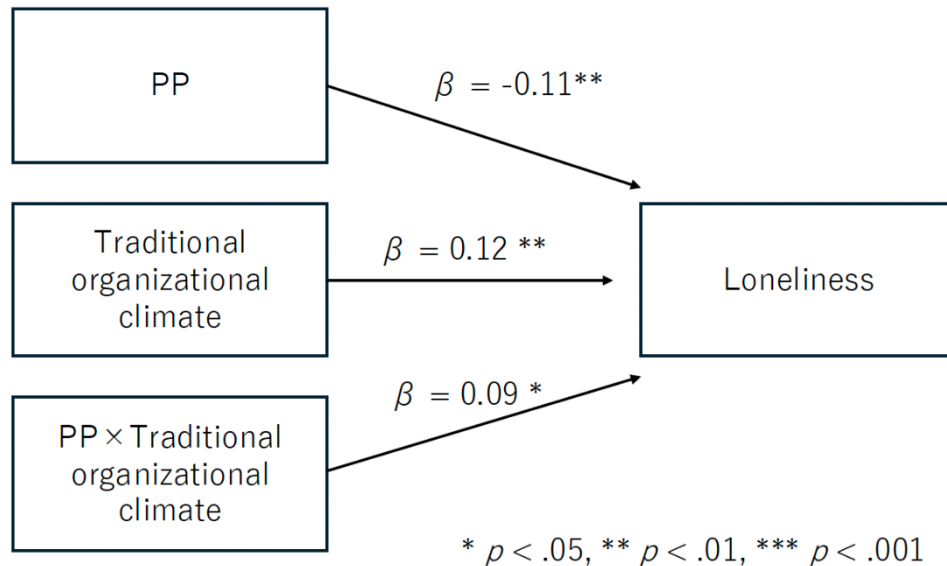
Analysis

Using R (ver.4.4.1), following correlation analyses, Ordinary Least Squares (OLS) regression analyses were conducted controlling for age, gender, telework status, living arrangement (living alone or with others), social support (from supervisors, colleagues, and family), and Organizational Environment subscale of OCS-12. When significant interaction effects were observed, simple slope analyses were subsequently conducted.

Results

The results of the OLS regression analyses are presented in Figure 1. It showed a significant main effect of PP, indicating that higher PP significantly reduced loneliness ($\beta = -.011, p = .008$), while traditional organizational climate significantly increased loneliness ($\beta = .12, p = .007$). Moreover, the interaction between PP and traditional organizational climate was significant ($\beta = .09, p = .017$). Therefore, simple slope analyses were conducted, and it revealed that under low (-1SD) and average levels of traditional organizational climate, higher PP significantly reduced loneliness ($\beta = -.03, p < .001$; $\beta = -.02, p = .01$, respectively). In contrast, under a high level of traditional organizational climate, PP did not show a significant effect on loneliness (n.s.). Among the covariates, both social support and organizational environmental climate were significantly related to loneliness ($\beta = -.35, p < .001$; $\beta = -.14, p = .004$, respectively).

Figure 1. Standardized Effects (β) from OLS, Main Variables Only



Discussion

Consistent with previous international studies (e.g., Ahsan & Haq, 2021), high PP was associated with reduced loneliness, whereas traditional organizational climate significantly increased loneliness. However, the loneliness-reducing effect of PP appeared to be weakened in traditional organizational settings. Although the result of the

present study did not fully support the hypothesis that PP would increase loneliness in highly traditional environments, the present study provides new insights into the interactive effects of PP and organizational climate on loneliness in Japan.

These findings suggest that PP does not universally reduce loneliness. Its beneficial effect likely emerges when proactivity is valued within organizational culture. High-PP individuals may build interpersonal relationships by actively engaging with their environment, thereby increasing social connections and reducing loneliness. However, in environments with strict hierarchies and strong adherence to norms and traditions, such proactive behaviors may not be welcomed, potentially limiting PP's effectiveness as a valuable resource. This, in turn, may weaken its loneliness-reducing effect. Future research should further examine the emotional and cognitive processes mediating the effects of PP and organizational climate on loneliness, as well as cultural differences.

【Addendum】

This research was conducted as part of the 'Creating Lively and Connected Workplaces: Social Implementation of Inclusive Organizations that Prevent Isolation and Loneliness' research and development project (Grant Number JPMJRS22K1) of the Joint Research and Development Program for Achieving the SDGs (Prevention of Social Isolation and Loneliness and Building Diverse Social Networks) of the Research Institute of Science and Technology for Society (RISTEX), Japan Science and Technology Agency (JST).

P-7 Toward Predicting Personality Traits and Loneliness from Workplace Chat Logs

Ryosuke Takizawa ¹, Arakawa Yutaka ²

¹ Department of Information Science and Technology, Graduate School of Information Science and Electrical Engineering, Kyushu University

² Department of Advanced Information Technology, Faculty of Information Science and Electrical Engineering, Kyushu University

With the rapid increase in telework due to the COVID-19 pandemic, the use of online business chat tools such as Slack has become widespread. However, online communication often lacks the contextual cues present in face-to-face interactions, making it difficult to understand employees' social connections, personality traits, and potential feelings of loneliness.

This study aims to bridge this gap by analyzing Slack communication data from a university laboratory to infer personality traits and identify potentially lonely users. We introduce two indices, contribution and adjacency, to visualize communication networks and detect isolated individuals through clustering. In addition, we combine these behavioral indicators with questionnaire data based on the Big Five Personality and the UCLA Loneliness Scale.

The results revealed significant associations between chat behaviors and personality traits: individuals with higher conscientiousness tended to respond faster, those with higher agreeableness used more reactions, and users with greater diversity in reaction types scored higher in openness and extraversion. Moreover, while users who communicate less do not necessarily feel lonely, individuals with low proximity scores exhibited notable differences in loneliness levels.

These findings suggest that analyzing workplace chat logs can contribute to predicting personality traits and identifying potential risks of loneliness, offering valuable insights for promoting well-being and effective communication in remote work environments.

P-8 Loneliness at Work: A Longitudinal Analyses Using Latent Growth

Curve and Group-Based Trajectory Modeling

Masahito Tokita ¹, Keiko Sakakibara ², Fuad Hamsyah ³, Michiko Kawada ⁴, Daisuke Miyanaka ^{5,6}, Akihito Shimazu ⁷

¹ Keio Research Institute at SFC, Fujisawa, Japan

² Faculty of Sociology, Toyo University, Tokyo, Japan

³ Faculty of Psychology, Universitas Gadjah Mada, Yogyakarta, Indonesia

⁴ Faculty of Commerce and Economics, Chiba University of Commerce, Chiba, Japan

⁵ Graduate School of Media and Governance, Keio University, Fujisawa, Japan

⁶ Better Options, Inc., Tokyo, Japan

⁷ Faculty of Policy Management, Keio University, Fujisawa, Japan

Objective: Loneliness at work is a psychosocial factor associated with health, job satisfaction, and productivity. Loneliness at work can change as a state of experience while also reflecting a static individual trait. Clarifying its temporal stability and variability can help develop effective interventions. However, only a few studies have longitudinally examined loneliness at work. This study examined longitudinal changes in loneliness at work and explored individual differences and heterogeneity in its trajectories.

Methods: Participants were 878 regular employees (496 men and 382 women; mean age=45.3 years, SD=9.94) registered with an online survey company. They completed an online questionnaire assessing loneliness at work at three time points (T1: December 2023; T2: June 2024; T3: June 2025) using the single-item Loneliness at Work Scale (SLAW-1; “At work, how often do you feel lonely?”; five-point Likert scale; 1 = never to 5 = often/almost always). First, a latent growth curve model (LGCM) was used to assess longitudinal changes in loneliness at work. Next, intraclass correlation coefficients (ICC) were calculated to estimate the proportion of variance attributable to between-person differences. Finally, a group-based trajectory model (GBTM) was employed to identify heterogeneous latent trajectories, and the average posterior probabilities (AvePP) were computed to evaluate the classification accuracy.

Results: The LGCM revealed a significant intercept (2.67, $p < .001$), whereas the slope was non-significant ($-.003$, $p = .116$), indicating no overall longitudinal trend at the three time points. However, significant variances in both the intercept (.615, $p < .001$) and slope (.002, $p < .001$) indicated significant individual differences in the baseline levels and trajectories, respectively. The ICC was .59, suggesting that approximately 60% of the total variance could be attributed to between-person differences. The GBTM indicated that a three-group model best fit the data based on the Bayesian Information Criterion (BIC) and entropy indices among models ranging from one to four classifications. The identified groups were as follows: (1) low decreasing (group 1; $b = -.24$, $p = .003$; 11%), (2) moderate stable (group 2; $b = -.002$, $p = .52$; 78%), and (3) high increasing (group 3; $b = .03$, $p = .023$; 11%). AvePP values were satisfactory across all groups (.96, SD=.08 for Group 1; .97, SD=.06 for Group 2; .87, SD=.16 for Group 3; all $> .70$).

Discussion: Loneliness at work showed stable individual differences, with the most participants maintaining moderate and stable levels across the three time points. The LGCM showed no significant overall trend; however, the GBTM revealed distinct subgroups, with some showing significant decreases or increases in loneliness at work across the three time points. These findings show the importance of considering interindividual variability and trajectory heterogeneity when examining loneliness at work. Early identification of groups at risk for loneliness at work may facilitate the development

of targeted interventions and preventive strategies to decrease loneliness in organizational contexts.

Conclusion: Loneliness at work tends to remain moderately stable for most employees. However, subgroups experience dynamic changes over time, with either improvement or deterioration. Future research should identify the factors underlying different trajectories of loneliness at work.

Keywords: loneliness at work, longitudinal study, latent growth curve model, group-based trajectory modeling, individual differences

Project poster presentations (no abstract available)

P-9 Matsui Project: Development of a Tool to Measure the State of Workplace Isolation and Loneliness

Matsui, Y.^{1,2}, Nakamura, J.¹, Hara, K.³, Otsuka, Y.², Fuji, K.², Okada, M.¹

¹ R&D Center for Working Persons' Psychological Support, University of Tsukuba, Tsukuba, Japan

² Faculty of Human Sciences, University of Tsukuba, Tsukuba, Japan

³ Faculty of Human Sciences, Saitama Gakuen University, Saitama, Japan

P-10 Kawakami Project: The Connected Workplace for Worker Well-being - an overview of a JST-RISTEX-funded project toward social Implementation of inclusive organizations to prevent social isolation and loneliness

Norito Kawakami¹, Akihito Shimazu², Hisashi Eguchi³, on behalf of the JST-RISTEX Connected Workplace for Worker Well-being Project

¹ Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

² Keio University, Fujisawa, Japan

³ University of Occupational and Environmental Health, Kitakyushu, Japan

Symposium 4

Interventions to Loneliness and Social Isolation at Work

Chair Hisashi Eguchi, Department of Mental Health, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan

4-1 Exploring the Potential of Organizational Interventions for Loneliness Prevention

Hisashi Eguchi ¹, Akira Kitai ²

¹ Department of Mental Health, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan

² Konan University School of Management

Loneliness and social isolation at work have become major psychosocial concerns that affect not only workers' mental health but also their motivation, engagement, and productivity. While individual-level approaches such as counseling and employee assistance programs have been widely introduced, organizational-level interventions that address the social and cultural roots of disconnection remain limited. This presentation explores the potential of organizational interventions for loneliness prevention, based on the application of Appreciative Inquiry (AI) in Japanese workplaces and the ongoing consideration of integrating a worker participatory organizational intervention on the reduction of job stressors.

Background and Rationale

Appreciative Inquiry (AI) is a strengths-based, dialogue-oriented approach to organizational development. Rather than diagnosing problems, AI emphasizes identifying and amplifying existing strengths, discovering what gives life to an organization when it is most effective, and envisioning a desirable future. Through its 4-D Cycle—Discovery, Dream, Design, and Destiny—AI encourages participants to share stories of success and moments of connection, helping them co-create a positive and hopeful vision for their workplace.

In occupational health contexts, AI has been used to improve communication, trust, and collective engagement. However, our practical experiences have revealed a limitation of this approach: the strong emphasis on positivity can unintentionally discourage individuals who are currently feeling lonely, distressed, or disconnected from participating. When interventions focus primarily on optimism, those who do not share that emotional state may feel alienated or reluctant to join. Recognizing this challenge, our team began exploring how AI-based organizational interventions could be made more inclusive and psychologically safe for all employees, regardless of their emotional condition.

Implementation and Observations

Between 2023 and 2024, pilot AI-based workshops were conducted in two workplaces in Japan, with 10–20 participants each. The workshops were co-facilitated by occupational health professionals and organizational psychologists. They focused on rediscovering moments of vitality and connection at work, and on co-creating practical ideas to strengthen trust and communication within teams.

To avoid stigmatization or discomfort, the workshops intentionally avoided direct references to “loneliness” or “isolation.” Instead, themes such as “building a workplace

where everyone can work with vitality” or “rediscovering what connects us” were used to lower psychological barriers to participation and to foster open, constructive dialogue. Although quantitative data did not show immediate improvement in loneliness or isolation scores, participants’ qualitative feedback indicated meaningful changes. Many reported improved workplace atmosphere, more open communication, and an increased sense of empathy and care. Several participants expressed that sharing stories and listening to colleagues in a non-judgmental setting helped them feel “acknowledged” and “connected,” even without directly discussing loneliness. These findings suggest that dialogue itself can function as a mechanism of care and connection in organizational settings.

Reflections and Future Directions

While the AI-based approach showed promise in promoting dialogue and mutual understanding, the experiences also highlighted a critical issue: the balance between positivity and inclusivity. The optimistic tone of AI, though effective in energizing participants, may create an emotional distance from those who are struggling or feeling isolated. To overcome this limitation, we are currently examining ways to incorporate elements of a worker participatory organizational intervention on the reduction of job stressors into the AI framework.

The intention is not to replace AI with a problem-solving model, but to complement it by bringing in more neutral, participatory, and inclusive processes. In doing so, we aim to consciously emphasize dialogue, connection, and care—elements that are essential for loneliness prevention but often overlooked in conventional organizational interventions. By integrating these human-centered elements, we hope to create a more balanced and psychologically safe environment where both engaged and isolated employees can participate meaningfully.

At this stage, the incorporation of participatory elements remains under consideration and has not yet been implemented. The next phase of this research will focus on developing and pilot-testing this integrated model, ensuring that it remains both inclusive and practically applicable across various workplace contexts.

Implications for Practice

The experience of applying AI in workplace settings, along with the consideration of participatory approaches, points toward a new paradigm in occupational mental health: one that combines appreciation, dialogue, and care.

For occupational health professionals and managers, this perspective emphasizes that loneliness prevention is not merely about offering individual support but about reshaping everyday organizational interactions. The integration of AI’s appreciative dialogue with participatory, inclusive elements may help create a sustainable culture of connection—aligning with emerging concepts such as well-being management and human capital development in Japan.

Moreover, these approaches can bridge the gap between psychosocial risk management and relational well-being, providing a framework for cultivating workplaces where all employees—regardless of emotional state or position—feel safe, valued, and supported.

Conclusion

This study explored the potential of organizational interventions for loneliness prevention by examining the strengths and limitations of Appreciative Inquiry and considering future integration with a worker participatory organizational intervention on the reduction of job stressors. While AI successfully promoted positive dialogue and mutual recognition, its strong focus on optimism may inadvertently exclude those experiencing loneliness. As a response, we are seeking to design a more balanced, inclusive, and care-oriented approach that emphasizes dialogue and connection as central components of workplace well-being.

Although the participatory elements are still under development and not yet implemented, this exploration represents an important step toward creating workplaces that value both appreciation and authenticity. Future research will aim to refine this hybrid model and evaluate its effectiveness in fostering inclusion, connection, and sustainable well-being at work.

4-2 Manager-Focused Approaches to Reducing Loneliness in the Workplace

Tomoya Mukai¹, Yasuko Okada²

¹ Department of Psychology, Faculty of Human Culture and Sciences, Fukuyama University, Hiroshima, Japan

² Cuore C³ Co., Ltd., Tokyo, Japan

Loneliness has increasingly been recognized as a crucial issue in contemporary workplaces, not only because of its negative consequences for the well-being of employees but also because of its impact on organizational productivity and social cohesion within teams. In order to tackle or at least reduce this problem, it is essential to pay close attention to the role of supervisors and managers. These individuals are in a unique position: through simple day-to-day actions—such as initiating a casual conversation with subordinates, showing attentiveness, or deliberately engaging with employees on a personal level—they may succeed in alleviating their subordinates' loneliness and isolation. At the same time, however, if such interactions are conducted in an inappropriate manner, they can also unintentionally exacerbate employees' feelings of loneliness and detachment. Thus, managers can act as both protective and risk factors with respect to loneliness in the workplace.

Recent legal reforms in Japan have further heightened the importance of this matter. Employers are now placed under explicit legal obligations to safeguard the mental health of their employees, particularly by preventing various forms of harassment. While these reforms represent a step forward in terms of employee protection, they also generate additional burdens for managers, who are now expected not only to meet their performance goals but also to act as guardians of the psychological climate within their teams. Reducing loneliness, however, is not a simple matter that can be accomplished solely through goodwill or a change in mindset. The reality in Japan is that many managers have never received systematic training in how to deal with loneliness in the workplace, and as a result, they often remain uncertain about what concrete actions would be effective.

Against this backdrop, the present authors have been engaged in the development of intervention programs specifically targeting managers in Japan, with the aim of reducing loneliness among employees. This presentation will focus on several intervention programs that have been developed and tested to date. The first program was conducted in the sales division of a private company, where we introduced a training program centered on role-playing exercises. In this context, we emphasized that even a simple phrase such as "What's wrong?" can convey vastly different impressions depending on the tone of voice or the volume with which it is spoken. Participants were encouraged to practice these subtleties in actual role-play scenarios, thereby gaining a more nuanced understanding of how their communication style affects subordinates.

The second program, also conducted in the sales division of another company, involved the development and implementation of a program directly focused on the theme of loneliness. Here, we provided participants with accessible explanations about the detrimental effects of loneliness on mental health and job performance, as well as the

key factors that tend to produce or reinforce feelings of isolation in organizational settings. By deepening managers' conceptual understanding of the phenomenon, we sought to enhance their capacity to recognize and address loneliness among their subordinates.

In both programs, we employed a pre–post design in which we surveyed both managers and their subordinates on a range of indicators, including loneliness, work engagement, and trust in supervisors and colleagues. Analyses revealed improvements in several of these indicators, suggesting that the programs exerted at least some positive impact.

At the same time, however, important limitations were also identified. The observed effects were relatively modest in scope, and the small number of participants made statistical verification difficult. Moreover, because the ultimate targets of change were not only the managers themselves but also their subordinates, there was often a time lag before the program effects became observable, which complicated efforts to evaluate program effectiveness. These findings underscore both the promise and the challenges of developing loneliness-reduction programs for managers. In the concluding part of the presentation, we will reflect on these limitations and outline future directions for research and practice in this field.

4-3 Development and Pre-Post Comparative Trial of a Cognitive Behavioral Therapy-Based Intervention Program for Loneliness and Isolation of Workers

Yuki Sekiya¹, Hideki Ohira²

¹ Department of Digital Mental Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

² Graduate School of Informatics, Nagoya University, Aichi, Japan

【Objective】 In recent years, changes in the workplace environment, such as the digitization of work and the spread of remote work, have increased the risk of workers experiencing isolation and loneliness. This state of isolation and loneliness can lead to worker turnover and decreased productivity, posing significant challenges for companies and organizations. Various approaches have shown effectiveness in improving worker loneliness and isolation, including cognitive behavioral therapy, mindfulness, gratitude practices, reminiscence therapy, social skills training, and the social identity approach (Nisha Hickin et al., 2021). According to the self-reinforcing loop theory (Cacioppo and Hawkley, 2009), which explains the formation and maintenance of chronic loneliness, loneliness increases excessive vigilance and cognitive biases toward perceived social threats, making individuals more prone to hostile or pessimistic behaviors. These behaviors can elicit unfavorable reactions from others that confirm their negative expectations, thereby perpetuating loneliness. Consequently, approaches based on cognitive behavioral therapy (CBT) that improve cognitive biases and promote behavioral change may offer potential for alleviating loneliness and isolation. This study developed a cognitive behavioral therapy-based individual program for workers and conducted two pre-post comparative trials to examine changes in loneliness.

【Methods】 Eligibility criteria for participants were: ① Full-time employment, ② Not primarily working from home. The program was self-directed learning, involving viewing PowerPoint presentations with videos and completing fill-in-the-blank worksheets. It consisted of four sessions (30–60 minutes each), with participants typically completing one session per week. Each session covered: ① psychoeducation on loneliness and isolation, understanding the cognitive-behavioral model; ② cognitive restructuring; ③

behavioral activation; and ④ value clarification and exploration of social resources. Each session included a video demonstrating 10-second periodic pacing breathing aimed at vagus nerve stimulation. The primary outcome was the 20-item UCLA Loneliness Scale. Secondary outcome included psychological stress(K6), work engagement (U-WES), social capital (6-item Workplace Social Capital Scale), support from supervisors and colleagues (3 items each from the Job Stress Questionnaire), and job performance (1 item from the WHP-HPQ). Responses were collected before and after the intervention. Paired t-tests were performed, and effect sizes (Cohen's d) were calculated for the changes in variables.

【Results】

Trial 1

A total of 44 participants took part: 35 recruited via Crowd Works and 9 who directly responded to the research invitation. The group comprised 25 males, 18 females, and 1 participant who did not specify gender, with a mean age of 39.73 years (SD = 9.10). Paired t-tests revealed significant reductions in loneliness between pre-intervention (M = 2.18, SD = 0.70) and post-intervention (M = 2.02, SD = 0.62) ($t = 3.17$, $p = 0.003$, Cohen's $d = -0.24$), and mental health also significantly improved from pre-intervention (M = 0.87, SD = 0.99) to post-intervention (M = 0.70, SD = 0.87) ($t = 2.42$, $p = 0.02$, Cohen's $d = -0.18$). Additionally, changes were observed in work engagement ($d=0.17$), social capital ($d=0.04$), and performance ($d=0.25$), though these were not statistically significant. No significant differences were found in supervisor support or peer support before and after the intervention.

Trial 2

In Trial 2, based on Trial 1 results, the program was repositioned as one that not only improves loneliness and isolation but also encourages participants to rethink their connections. To boost participant motivation, audio narration was added, transforming it into a video-based program. Initial goal setting and a final reflection session were added. Furthermore, considering the lower intervention effect among men, some case examples were replaced.

53 participants were recruited via Crowd Works. The group comprised 25 men and 28 women, with a mean age of 42.45 years (SD = 12.56). Results of a paired t-test showed no improvement in loneliness between pre-intervention (M = 2.29, SD = 0.62) and post-intervention (M = 2.27, SD = 0.53) ($t = 0.44$, $p = 0.67$, Cohen's $d = -0.03$). Mental health showed a significant improvement from pre-intervention (M = 1.01, SD = 0.83) to post-intervention (M = 0.83, SD = 0.79) ($t = 2.84$, $p = 0.006$, Cohen's $d = -0.22$). Additionally, a significant improvement effect was observed for peer support ($d=0.28$). Analysis of the 26 participants who scored high on loneliness at baseline showed significant improvement in loneliness between pre-intervention (M = 2.80, SD = 0.37) and post-intervention (M = 2.66, SD = 0.36) ($t = 2.82$, $p = 0.009$, Cohen's $d = -0.38$), and mental health significantly improved from pre-intervention (M = 1.38, SD = 0.88) to post-intervention (M = 1.18, SD = 0.94) ($t = 2.14$, $p = 0.042$, Cohen's $d = -0.22$).

【Discussion】 The self-directed online program based on cognitive behavioral therapy developed in this study showed the possibility to improve workers' loneliness and mental health. As this was a pre-post comparative study, a future challenge is to examine intervention effects using a study design with a control group.

4-4 Prevention of Loneliness through Physical Activity Intervention and Evaluation of Its Effectiveness Among Teleworkers

Asuka Sakuraya¹

¹ Department of Digital Mental Health, Graduate School of Medicine, The University of Tokyo, Japan

This presentation will discuss the association between physical activity interventions and loneliness, first summarizing evidence from previous literature and then reporting the results of our original research conducted among teleworkers in Japan.

Systematic reviews have shown that group exercises, such as walking and strength training, can reduce loneliness. These reviews suggest that social interactions with other participants and instructors generated during exercise play a key role in alleviating loneliness. However, most intervention studies have focused on older adults or university students, and evidence among workers remains scarce. Therefore, it is necessary to accumulate further evidence on the effectiveness of such interventions in working populations.

Focusing on the issue of loneliness among teleworkers, we developed a new online physical activity program and conducted four preliminary intervention studies under varying conditions, using a pretest–posttest study design to examine its effectiveness in reducing loneliness.

In Study 1, the program consisted of eight 20-minute online group exercise sessions delivered via a web conferencing system, during which an instructor taught *Awa Odori*, a traditional Japanese dance. The program was provided to 25 teleworkers, and loneliness, measured by the Three-Item Loneliness Scale, decreased significantly [Cohen's $d = -0.47$ immediately after the intervention (T2); -0.49 at one-month follow-up (T3)].

In Study 2, the format was modified so that a prerecorded video of the instructor teaching the dance was played during the online sessions ($n = 31$). In Study 3, using the same format as Study 2, participants were additionally given the opportunity to share their impressions of the exercise with each other ($n = 11$). In Study 2, no significant effects were observed on loneliness measured by the UCLA Loneliness Scale (Cohen's $d = 0.21$ at T2; -0.06 at T3), whereas in Study 3 loneliness decreased significantly (Cohen's $d = -0.10$ at T2; -0.68 at T3).

In Study 4, the lecture video was shortened to five minutes and delivered in an on-demand format, in which participants received the URL via email and were asked to perform the exercise individually. Contrary to our hypothesis, loneliness measured by the UCLA Loneliness Scale worsened (Cohen's $d = 0.37$ at T2; 0.44 at T3; $n = 37$).

Taken together, Studies 1 and 3 showed a reduction in loneliness among teleworkers, suggesting that real-time interaction with instructors (Study 1) or opportunities for participants to share impressions after exercise (Study 3) may be essential to reduce loneliness. These findings are consistent with previous studies conducted among older adults. In contrast, Study 4, which relied solely on an on-demand format, resulted in increased loneliness. This finding suggests that the on-demand program failed to foster social interaction and may have exacerbated loneliness, underscoring the importance of incorporating interactive or social components into workplace physical activity interventions.

In this presentation, I will discuss the effectiveness of workplace physical activity programs and future research directions to address loneliness, drawing on this preliminary evidence.

