

Supporting Employee Well-being in Remote and Hybrid Work: Considering Workplace Technologies and Policies with a Focus on Social Factors

JACK JAMIESON, NTT Social Informatics Laboratories, Japan

WATARU AKAHORI, NTT Social Informatics Laboratories, Japan

New remote and hybrid work styles introduce both benefits and challenges for well-being. Benefits are increases in workers' autonomy and flexibility, and many challenges relate to communication difficulties. We propose a grand challenge to design workplaces that retain the apparent benefits of remote work styles while addressing communication and social difficulties. We approach this with an emphasis on social well-being, meaning that we are concerned with individuals' relationships with other people and with balancing individual freedom with social harmony. We describe several factors that should be considered to pursue this challenge and reflect on our hopes for the workshop.

Additional Key Words and Phrases: Well-being, remote work, hybrid work

ACM Reference Format:

Jack Jamieson and Wataru Akahori. 2018. Supporting Employee Well-being in Remote and Hybrid Work: Considering Workplace Technologies and Policies with a Focus on Social Factors. In *Woodstock '18: ACM Symposium on Neural Gaze Detection, June 03–05, 2018, Woodstock, NY*. ACM, New York, NY, USA, 7 pages. <https://doi.org/XXXXXXX.XXXXXXX>

1 INTRODUCTION

The COVID-19 pandemic prompted a sea change in work styles, resulting in increases in both fully remote work and hybrid work, where employees work part of the time in the office and part of the time from somewhere else [9, 56, 66]. There are mixed results about the relationship between remote work and well-being [40, 46, 70]. Benefits for well-being include increased flexibility and autonomy over when and where employees work [5, 26, 36, 60, 67], which can improve workers' ability to maintain a healthy work-life balance [49]. On the other hand, remote work can also decrease opportunities for healthy workplace socialization, leading to isolation [5, 20, 60], a diminished sense of connection with one's colleagues [34, 49], and exacerbating mental health challenges [18, 44, 47]. Crucially, people who work remotely may experience decreased coworker support, which can negatively impact their productivity, sense of meaning, perceived stress, and health challenges [28]. Hybrid work styles have the potential to balance some of these issues, although there is still no consensus on the overall relationship between hybrid work and well-being. Hybrid work is generally viewed positively by employees [9, 56, 66] and has been positively associated with job satisfaction, collaboration, and communication [62]. On the other hand, there are still challenges related to socialization, emotional burnout, widening disparities among members of hybrid teams working in office-based versus remote formats, and gender inequality.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than the author(s) must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

© 2018 Copyright held by the owner/author(s). Publication rights licensed to ACM.

Manuscript submitted to ACM

1.1 Grand challenge

In sum, remote and hybrid work simultaneously pose profound benefits and challenges for workers' psychological and social well-being. This leads to our grand challenge: **Designing workplaces that preserve remote work's apparent benefits for individual autonomy and flexibility, while also supporting healthy worker relationships, support networks, and collective harmony.**

2 ADDRESSING THE GRAND CHALLENGE

Our approach to this problem is oriented around the concept of social well-being. There are various definitions of social well-being, which generally orient around the quality of one's relationships with other people [7, 35, 39, 54]. Our research group has adopted a slightly different framing of the concept of social well-being compared to prior research. Specifically, our definition is not limited to the quality of one's relationship with other people but also emphasizes a balance between individual autonomy and group harmony. This approach is derived from a concept called "self-as-we" [43], which is a holistic view of the self as a multi-agent system including both an individual and the agents that support that individual's actions. In short, an individual's social well-being is entwined with the well-being of group(s) to which they belong. This prompts us to consider workplace well-being in terms of reciprocal relationships among members of a workplace.

The HCI community is well-positioned to address this challenge, which requires a deep understanding of new and legacy communication technologies, workplace policies, and human relationships. We encourage a socio-technical approach that considers these factors as components of a complex system. In doing so, it is important to balance multiple concerns, several of which we describe below.

2.1 Fostering healthy communication

Remote work styles can contribute to social isolation [5, 27, 63], communication difficulties [32], and less feeling of connection to one's colleagues [34, 49]. A 2021 study of Microsoft employees [69] found that, after remote work, communication networks became more siloed, with less bridging communication between disparate teams. Such barriers to communication can result in distrust and negative perceptions of remote-working peers [3], particularly toward weak ties [68]. These challenges relate to the *distance matters* hypothesis [48], which states that communication effectiveness during remote work is affected by common ground, coupling of work, collaboration readiness, and collaboration technology readiness. In addition to moderating communication effectiveness, recent work [13] has suggested that several of these factors affect remote workers' well-being (common ground, collaboration readiness, and collaboration technology readiness).

One factor that seems particularly important is that remote work reduces changes for spontaneous communication [45]. To that end, way that the HCI community has attempted to address this challenge by proposing systems that foster informal communication, such as a robot system that triggers conversations [37], tools that indicate availability during work [55], or systems for informal communication during conferences [50, 57]. Another approach is to encourage rituals of communication in order to facilitate shared awareness and common ground [4, 15]. These are promising steps, but communication challenges remain, and thus, future work is needed.

2.2 Managing unhealthy communication

An important counterbalance to the above point is the fact that not all workplace communication is healthy. Workplace incivility, bullying, and harassment have significant negative effects on employee's well-being and job satisfaction [21, 38, 52, 52, 71, 71]. Some studies have asserted that increased online communication during work results in more of these harmful behaviours [23, 65]. However, other research has identified that remote work leads to less workplace bullying [12]. Thus, there is a need to better understand the relationships between technology, work style, and harmful communication behaviours. Such knowledge can guide efforts to protect against harmful communication.

There are opportunities for technology-based interventions, such as systems that identify and moderate “toxic” communications [6, 11, 14, 24, 31, 51] or design frictions to reduce impulsive incivility [1, 41]. While these approaches have merit, communication monitoring systems themselves can negatively impact workers' well-being [8]. Thus, technical interventions should be accompanied by supportive policies and the creation of healthy workplace communication norms. Perhaps most importantly, if and when harmful communication occurs, it is vital to create opportunities for peer support to alleviate its harms [2, 10].

2.3 Work-life boundaries and peer expectations

Although remote work is generally associated with increased autonomy and freedom, it can also result in a problematic blurring of lines between work and home. For example, a systematic review [64] reported that mandatory remote work during the pandemic had a complex effect on work-family conflict, which is negatively associated with well-being [19]. Women appeared to experience more work-family conflict than men and worse well-being impacts as a result [17, 59]. In addition to work-family conflict, remote workers may more generally struggle to redefine their home as a workspace, particularly if their home lacks a dedicated area for work [16]. Amid this blurring of boundaries, colleagues' expectations may contribute to further difficulties. The availability of tools for effectively working from home may increase expectations for constant availability [42]. Further, owing to communication barriers discussed in Section 2.1, it may be difficult for colleagues to tell whether remote workers are actually working, creating perceived demands to prove one's productivity [4].

To address this set of challenges, HCI has the potential to contribute to ways of working that enforce healthy work-home boundaries [15, 25], tools to coordinate family caregiving [58], and technologies and policies to manage colleagues' expectations [4].

2.4 Long-term orientation

The pandemic motivated a rapid increase in remote work, which in turn led to an explosion of related studies. These studies have been extremely fruitful, but it is also important to consider how the circumstances surrounding remote are rapidly changing, since our current understanding of the relationship between well-being and contemporary remote work is coloured by the particular circumstances of the pandemic. For example, concern about Coronavirus has been found to moderate the relationship between social isolation and remote work [61]. Further, owing to the suddenness of the pandemic, many workers were suddenly mandated to work remotely with insufficient preparation [33], which is likely to have exacerbated some stressful aspects of this work style. Even though there are calls to return to the office, it seems clear that remote and hybrid work are here to stay, in some form or another [29]. Consequently, it is important to update our knowledge as new work styles continue to shift and to plan ahead to address long-term impacts.

Another crucial challenge is to consider long-term effects on workers' well-being. While we are aware of several immediate benefits and challenges related to remote work, the large-scale transition to remote and hybrid work models will give rise to new challenges that are difficult to predict in the present. Prominent among these is the question of professional development. Although digital communications tools are excellent for sharing explicit knowledge, exchanging tacit knowledge and knowhow can be challenging in remote contexts [22, 53]. This kind of knowledge transfer affects successful career development, which is an essential part of long-term well-being.

Continued research can serve to update the HCI community's knowledge as new communication technologies and workplace norms emerge. In the course of this research, scholars should attend to shifting balances, since solving one set of technology-related problems may re-open previously "solved" problems or create new ones [30]. In sum, the best-practices for serving well-being in new work styles will be in constant flux, and so HCI approaches must support flexibility and adaptability.

3 CONCLUSION

We have proposed a grand challenge to address social-wellbeing in remote and hybrid work contexts. We have described several factors that we believe must be considered simultaneously in pursuit of this goal. Thus, our vision is of continually evolving HCI contributions to contemporary work, focused on technologies, policies, and norms to support individual autonomy and social harmony. At the workshop, we hope to discuss how to integrate our perspective of social well-being with various other approaches. In our view, well-being needs may vary across professional, individual, and cultural contexts, and thus there is no single set of best practices. Based on this motivation, we look forward to exchanging ideas to design healthy workplaces of the future, whilst balancing multiple, sometimes competing, challenges and goals.

REFERENCES

- [1] Dinislam Abdulgalimov, Reuben Kirkham, James Nicholson, Vasilis Vlachokyriakos, Pam Briggs, and Patrick Olivier. 2020. Designing for Employee Voice. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20)*. Association for Computing Machinery, New York, NY, USA, 1–13. <https://doi.org/10.1145/3313831.3376284>
- [2] Bhavya Agarwal, Samantha K. Brooks, and Neil Greenberg. 2020. The Role of Peer Support in Managing Occupational Stress: A Qualitative Study of the Sustaining Resilience at Work Intervention. *Workplace Health & Safety* 68, 2 (Feb. 2020), 57–64. <https://doi.org/10.1177/2165079919873934>
- [3] Wataru Akahori, Naomi Yamashita, Jack Jamieson, Momoko Nakatani, Ryo Hashimoto, and Masahiro Watanabe. 2023. Impacts of the Strength and Conformity of Social Norms on Well-Being: A Mixed-Method Study Among Hybrid Workers in Japan. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*. Association for Computing Machinery, New York, NY, USA, 1–17. <https://doi.org/10.1145/3544548.3581383>
- [4] Wataru Akahori, Naomi Yamashita, Jack Jamieson, Momoko Nakatani, Ryo Hashimoto, and Masahiro Watanabe. 2023. Impacts of the Strength and Conformity of Social Norms on Well-Being: A Mixed-Method Study Among Hybrid Workers in Japan. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (Hamburg, Germany) (CHI '23)*. Association for Computing Machinery, New York, NY, USA, Article 870, 17 pages. <https://doi.org/10.1145/3544548.3581383>
- [5] Tammy D. Allen, Timothy D. Golden, and Kristen M. Shockley. 2015. How Effective Is Telecommuting? Assessing the Status of Our Scientific Findings. *Psychological Science in the Public Interest* 16, 2 (2015), 40–68. <https://doi.org/10.1177/1529100615593273> arXiv:<https://doi.org/10.1177/1529100615593273> PMID: 26403188.
- [6] Hind Almerikhi, Haewoon Kwak, Bernard J. Jansen, and Joni Salminen. 2019. Detecting Toxicity Triggers in Online Discussions. In *Proceedings of the 30th ACM Conference on Hypertext and Social Media (HT '19)*. Association for Computing Machinery, New York, NY, USA, 291–292. <https://doi.org/10.1145/3342220.3344933>
- [7] Cathy Baldwin, Penny Vincent, Jamie Anderson, and Patrick Rawstorne. 2020. Measuring Well-Being: Trial of the Neighbourhood Thriving Scale for Social Well-Being Among Pro-Social Individuals. *International Journal of Community Well-Being* 3, 3 (Sept. 2020), 361–390. <https://doi.org/10.1007/s42413-020-00067-6>
- [8] Kirstie Ball. 2010. Workplace Surveillance: An Overview. *Labor History* 51, 1 (Feb. 2010), 87–106. <https://doi.org/10.1080/00236561003654776>
- [9] Jose Maria Barrero, Nicholas Bloom, and Steven J Davis. 2021. *Why Working from Home Will Stick*. Working Paper 28731. National Bureau of Economic Research. <https://doi.org/10.3386/w28731>

- [10] Larissa Beattie and Barbara Griffin. 2014. Day-Level Fluctuations in Stress and Engagement in Response to Workplace Incivility: A Diary Study. *Work & Stress* (April 2014), 1–19. <https://doi.org/10.1080/02678373.2014.898712>
- [11] Meghana Moorthy Bhat, Saghar Hosseini, Ahmed Hassan Awadallah, Paul Bennett, and Weisheng Li. 2021. Say 'YES' to Positivity: Detecting Toxic Language in Workplace Communications. In *Findings of the Association for Computational Linguistics: EMNLP 2021*. Association for Computational Linguistics, Punta Cana, Dominican Republic, 2017–2029. <https://doi.org/10.18653/v1/2021.findings-emnlp.173>
- [12] Veronica Bollestad, Jon-Sander Amland, and Espen Olsen. 2022. The Pros and Cons of Remote Work in Relation to Bullying, Loneliness and Work Engagement: A Representative Study among Norwegian Workers during COVID-19. *Frontiers in Psychology* 13 (Oct. 2022), 1016368. <https://doi.org/10.3389/fpsyg.2022.1016368>
- [13] Clara Caldeira, Leticia S. Machado, Marcelo G. Perin, and Cleidson R. B. De Souza. 2021. Remote Workers' Wellbeing in the Age of COVID-19. In *Anais Estendidos Do XVI Simpósio Brasileiro de Sistemas Colaborativos (SBSC Estendido 2021)*. Sociedade Brasileira de Computação - SBC, Brasil, 117–124. https://doi.org/10.5753/sbsc_estendido.2021.16044
- [14] Alessandro Canossa, Dmitry Salimov, Ahmad Azadvar, Casper Hartevel, and Georgios Yannakakis. 2021. For Honor, for Toxicity: Detecting Toxic Behavior through Gameplay. *Proceedings of the ACM on Human-Computer Interaction* 5, CHI PLAY (Oct. 2021), 253:1–253:29. <https://doi.org/10.1145/3474680>
- [15] Janghee Cho, Samuel Beck, and Stephen Volda. 2022. Topophilia, Placemaking, and Boundary Work: Exploring the Psycho-Social Impact of the COVID-19 Work-From-Home Experience. *Proc. ACM Hum.-Comput. Interact.* 6, GROUP, Article 24 (Jan 2022), 33 pages. <https://doi.org/10.1145/3492843>
- [16] Janghee Cho, Samuel Beck, and Stephen Volda. 2022. Topophilia, Placemaking, and Boundary Work: Exploring the Psycho-Social Impact of the COVID-19 Work-From-Home Experience. *Proceedings of the ACM on Human-Computer Interaction* 6, GROUP (Jan. 2022), 1–33. <https://doi.org/10.1145/3492843>
- [17] Jovana Ćikić and Ana Bilinović Rajačić. 2021. Work-Family Conflict During the Pandemic— Induced State of Emergency in Serbia: The Female Perspective. *Polish Sociological Review* 4 (Dec. 2021), 553–570. <https://doi.org/10.26412/psr216.07>
- [18] Ruta Clair, Maya Gordon, Matthew Kroon, and Carolyn Reilly. 2021. The effects of social isolation on well-being and life satisfaction during pandemic. *Humanities and Social Sciences Communications* 8, 1 (27 Jan 2021), 28. <https://doi.org/10.1057/s41599-021-00710-3>
- [19] Sevgi Çoban. 2022. Gender and Telework: Work and Family Experiences of Teleworking Professional, Middle-class, Married Women with Children during the Covid-19 Pandemic in Turkey. *Gender, Work, and Organization* 29, 1 (Jan. 2022), 241–255. <https://doi.org/10.1111/gwao.12684>
- [20] Cecily D. Cooper and Nancy B. Kurland. 2002. Telecommuting, professional isolation, and employee development in public and private organizations. *Journal of Organizational Behavior* 23, 4 (2002), 511–532. <https://doi.org/10.1002/job.145> arXiv:<https://onlinelibrary.wiley.com/doi/pdf/10.1002/job.145>
- [21] Lilia M. Cortina, Vicki J. Magley, Jill Hunter Williams, and Regina Day Langhout. 2001. Incivility in the Workplace: Incidence and Impact. *Journal of Occupational Health Psychology* 6, 1 (2001), 64–80. <https://doi.org/10.1037/1076-8998.6.1.64>
- [22] Joyce Jefferlyn Johnson Dolo. 2023. *Reimagining Tacit Knowledge Transfer in a Remote Work Era - ProQuest*. Ph.D. Dissertation. University of Maryland.
- [23] Maira E. Ezerins and Timothy D. Ludwig. 2021. A Behavioral Analysis of Incivility in the Virtual Workplace. *Journal of Organizational Behavior Management* 0, 0 (Sept. 2021), 1–24. <https://doi.org/10.1080/01608061.2021.1970079>
- [24] Isabella Ferreira, Ahlaam Rafiq, and Jinghui Cheng. 2022. Incivility Detection in Open Source Code Review and Issue Discussions. arXiv:[2206.13429](https://arxiv.org/abs/2206.13429) [cs]
- [25] Eureka Foong, Jack Jamieson, Hideaki Kuzuoka, Naomi Yamashita, and Tomoki Nishida. 2023. EaseOut: A Cross-Cultural Study of the Impact of a Conversation Agent on Leaving Video Meetings Early. In *Human-Computer Interaction – INTERACT 2023*, José Abdelnour Nocera, Marta Kristín Lárusdóttir, Helen Petrie, Antonio Piccinno, and Marco Winckler (Eds.). Vol. 14143. Springer Nature Switzerland, Cham, 297–318. https://doi.org/10.1007/978-3-031-42283-6_17
- [26] Ravi S. Gajendran and David A. Harrison. 2007. The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology* 92, 6 (2007), 1524–1541. <https://doi.org/10.1037/0021-9010.92.6.1524>
- [27] Teresa Galanti, Gloria Guidetti, Elisabetta Mazzei, Salvatore Zappalà, and Ferdinando Toscano. 2021. Work From Home During the COVID-19 Outbreak. *Journal of Occupational and Environmental Medicine* 63, 7 (July 2021), e426–e432. <https://doi.org/10.1097/JOM.0000000000002236>
- [28] Thomas J. George, Leanne E. Atwater, Dustin Maneethai, and Juan M. Madera. 2022. Supporting the Productivity and Wellbeing of Remote Workers: Lessons from COVID-19. *Organizational Dynamics* 51, 2 (April 2022), 100869. <https://doi.org/10.1016/j.orgdyn.2021.100869>
- [29] Caitlin Gilbert, Teddy Amenabar, Hanna Zakharenko, and Lindsey Bever. 2023. Remote Work Appears to Be Here to Stay, Especially for Women. *Washington Post* (June 2023).
- [30] Lee Humphreys. 2005. Reframing Social Groups, Closure, and Stabilization in the Social Construction of Technology. *Social Epistemology* 19, 2-3 (Jan. 2005), 231–253. <https://doi.org/10.1080/02691720500145449>
- [31] Netta Iivari, Leena Ventä-Olkkonen, Sumita Sharma, Tonja Molin-Juustila, and Essi Kinnunen. 2021. CHI Against Bullying: Taking Stock of the Past and Envisioning the Future. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. ACM, Yokohama Japan, 1–17. <https://doi.org/10.1145/3411764.3445282>
- [32] Kanwar Muhammad Javed Iqbal, Farooq Khalid, and Sergey Barykin. 2021. Hybrid Workplace: The Future of Work. In *Handbook of Research on Future Opportunities for Technology Management Education*. 28–48. <https://doi.org/10.4018/978-1-7998-8327-2.ch003>
- [33] Akanksha Jaiswal, Simran Gupta, and Sai Prasanna. 2022. Theorizing Employee Stress, Well-being, Resilience and Boundary Management in the Context of Forced Work from Home During COVID-19. *South Asian Journal of Business and Management Cases* 11, 2 (2022), 86–104. <https://doi.org/10.1177/22779779221100281> arXiv:[https://doi.org/10.1177/22779779221100281](https://arxiv.org/abs/https://doi.org/10.1177/22779779221100281)

- [34] Rasa Jämsen, Anu Sivunen, and Kirsimarja Blomqvist. 2022. Employees' Perceptions of Relational Communication in Full-Time Remote Work in the Public Sector. *Computers in Human Behavior* 132 (July 2022), 107240. <https://doi.org/10.1016/j.chb.2022.107240>
- [35] Corey Keyes. 2004. Social Well-Being in the United States: A Descriptive Epidemiology. 350–372.
- [36] Ellen Ernst Kossek, Brenda A. Lautsch, and Susan C. Eaton. 2006. Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work–family effectiveness. *Journal of Vocational Behavior* 68, 2 (2006), 347–367. <https://doi.org/10.1016/j.jvb.2005.07.002>
- [37] Hideaki Kuzuoka, Yuki Kodama, Jianfeng Xu, Emi Myodo, Etsuko Harada, and Hirotaka Osawa. 2018. Telepresence Robot's Salutations to Trigger Informal Conversation with Teleworkers. In *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '18 Companion)*. Association for Computing Machinery, New York, NY, USA, 233–236. <https://doi.org/10.1145/3272973.3274063>
- [38] Vivien K.G. Lim and Thompson S.H. Teo. 2009. Mind Your E-manners: Impact of Cyber Incivility on Employees' Work Attitude and Behavior. *Information & Management* 46, 8 (Dec. 2009), 419–425. <https://doi.org/10.1016/j.im.2009.06.006>
- [39] Myles-Jay Linton, Paul Dieppe, and Antonieta Medina-Lara. 2016. Review of 99 Self-Report Measures for Assessing Well-Being in Adults: Exploring Dimensions of Well-Being and Developments over Time. *BMJ Open* 6, 7 (July 2016), e010641. <https://doi.org/10.1136/bmjopen-2015-010641>
- [40] Lars-Kristian Lunde, Lise Fløvik, Jan Olav Christensen, Håkon A. Johannessen, Live Bakke Finne, Ingrid Løken Jørgensen, Benedicte Mohr, and Jolien Vleeshouwers. 2022. The relationship between telework from home and employee health: a systematic review. *BMC Public Health* 22, 1 (07 Jan 2022), 47. <https://doi.org/10.1186/s12889-021-12481-2>
- [41] Teale W. Masrani, Jack Jamieson, Naomi Yamashita, and Helen Ai He. 2023. Slowing It Down: Towards Facilitating Interpersonal Mindfulness in Online Polarizing Conversations Over Social Media. *Proceedings of the ACM on Human-Computer Interaction* 7, CSCW1 (April 2023), 90:1–90:27. <https://doi.org/10.1145/3579523>
- [42] Melissa A. Mazmanian, Wanda J. Orlikowski, and JoAnne Yates. 2005. CrackBerries: The Social Implications of Ubiquitous Wireless E-Mail Devices. In *Designing Ubiquitous Information Environments: Socio-Technical Issues and Challenges*, Carsten Sørensen, Youngjin Yoo, Kalle Lyytinen, and Janice I. DeGross (Eds.). Vol. 185. Springer-Verlag, New York, 337–343. https://doi.org/10.1007/0-387-28918-6_25
- [43] Aiko Murata, Junji Watanabe, Gen Nakao, and Yasuo Deguchi. 2022. Measuring Individual Differences of Self-as-We:. *Bulletin of the Philosophy Laboratory, Faculty of Letters, Kyoto University* 21 (2022), 17–29.
- [44] VH Murthy. 2023. Our epidemic of loneliness and isolation: The US surgeon general's advisory on the healing effects of social connection and community.
- [45] Adriano Neves de Souza, Sirius Thadeu Ferreira da Silva, Juliana Baptista dos Santos França, Angélica Fonseca da Silva Dias, Jonice Oliveira, and Adriana S. Vivacqua. 2022. Communication Channels and Their Challenges: An Analysis of Software Development Teams during the COVID-19 Pandemic. *Proceedings of the ACM on Human-Computer Interaction* 7, GROUP (Dec. 2022), 3:1–3:26. <https://doi.org/10.1145/3567553>
- [46] Jodi Oakman, Natasha Kinsman, Rwth Stuckey, Melissa Graham, and Victoria Weale. 2020. A rapid review of mental and physical health effects of working at home: how do we optimise health? *BMC Public Health* 20, 1 (Nov. 2020), 1825.
- [47] Office of the Surgeon General et al. 2022. The US Surgeon General's framework for workplace mental health & well-being. (2022).
- [48] Gary M. Olson and Judith S. Olson. 2000. Distance Matters. *Human-Computer Interaction* 15, 2-3 (Sept. 2000), 139–178. https://doi.org/10.1207/S15327051HCI1523_4
- [49] Kim Parker. 2023. About a Third of U.S. Workers Who Can Work from Home Now Do so All the Time. Retrieved {2023-08-27} from <https://www.pewresearch.org/short-reads/2023/03/30/about-a-third-of-us-workers-who-can-work-from-home-do-so-all-the-time/>
- [50] Lukasz Porwol, Sara S. Metcalf, J. Bradley Morrison, Soon Ae Chun, and Luis Felipe Luna-Reyes. 2022. Facilitating Virtual Conferences: Reflections and Lessons Learned in Two Global Communities. *Digital Government: Research and Practice* 3, 1 (March 2022), 1:1–1:12. <https://doi.org/10.1145/3494676>
- [51] Huilian Sophie Qiu, Bogdan Vasilescu, Christian Kastner, Carolyn Egelman, Ciera Jaspán, and Emerson Murphy-Hill. 2022. Detecting Interpersonal Conflict in Issues and Code Review: Cross Pollinating Open- and Closed-Source Approaches. In *2022 IEEE/ACM 44th International Conference on Software Engineering: Software Engineering in Society (ICSE-SEIS)*. IEEE, Pittsburgh, PA, USA, 41–55. <https://doi.org/10.1109/ICSE-SEIS5304.2022.9793879>
- [52] Thomas G. Reio. 2011. Supervisor and Coworker Incivility: Testing the Work Frustration-Aggression Model. *Advances in Developing Human Resources* 13, 1 (Feb. 2011), 54–68. <https://doi.org/10.1177/1523422311410648>
- [53] Joanne Roberts. 2000. From Know-how to Show-how? Questioning the Role of Information and Communication Technologies in Knowledge Transfer. *Technology Analysis & Strategic Management* 12, 4 (Dec. 2000), 429–443. <https://doi.org/10.1080/713698499>
- [54] R.D. Russell. 1973. Social Health: An Attempt to Clarify This Dimension of Well-Being. *International Journal of Health Education* 16 (1973), 74–82.
- [55] Yilu Shen and Ryan M. Kelly. 2020. CoasterMe: Supporting Informal Workplace Awareness Through the Everyday Behaviour of Drinking. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20)*. Association for Computing Machinery, New York, NY, USA, 1–8. <https://doi.org/10.1145/3334480.3382824>
- [56] Darja Smitte, Nils Brede Moe, Jarle Hildrum, Javier Gonzalez-Huerta, and Daniel Mendez. 2023. Work-from-home is here to stay: Call for flexibility in post-pandemic work policies. *Journal of Systems and Software* 195 (2023), 111552. <https://doi.org/10.1016/j.jss.2022.111552>
- [57] Jaeyoon Song, Christoph Riedl, and Thomas W. Malone. 2020. Online Mingling: Supporting Ad Hoc, Private Conversations at Virtual Conferences. <https://doi.org/10.2139/ssrn.3662620>
- [58] Seokwoo Song, Naomi Yamashita, and John Kim. 2020. Bodeum: Encouraging Working Parents to Provide Emotional Support for Stay-at-Home Parents in Korea. In *Proceedings of the 14th EAI International Conference on Pervasive Computing Technologies for Healthcare*. ACM, Atlanta GA USA, 38–49. <https://doi.org/10.1145/3421937.3421973>

- [59] Vasilena Stefanova, Lynn Farrell, and Ioana Latu. 2021. Gender and the Pandemic: Associations between Caregiving, Working from Home, Personal and Career Outcomes for Women and Men. *Current Psychology (New Brunswick, N.J.)* (Dec. 2021), 1–17. <https://doi.org/10.1007/s12144-021-02630-6>
- [60] Aida Isabel Tavares. 2017. Telework and health effects review. *International Journal of Healthcare* 3 (07 2017), 30. <https://doi.org/10.5430/ijh.v3n2p30>
- [61] Ferdinando Toscano and Salvatore Zappalà. 2020. Social Isolation and Stress as Predictors of Productivity Perception and Remote Work Satisfaction during the COVID-19 Pandemic: The Role of Concern about the Virus in a Moderated Double Mediation. *Sustainability* 12, 23 (Jan. 2020), 9804. <https://doi.org/10.3390/su12239804>
- [62] Lisa Tran. 2022. The Impact of Hybrid Work on Productivity: Understanding the Future of Work: A case study in agile software development teams.
- [63] Ward Van Zoonen and Anu E. Sivunen. 2022. The Impact of Remote Work and Mediated Communication Frequency on Isolation and Psychological Distress. *European Journal of Work and Organizational Psychology* 31, 4 (July 2022), 610–621. <https://doi.org/10.1080/1359432X.2021.2002299>
- [64] Beatriz de Araújo Vitória, Maria Teresa Ribeiro, and Vânia Sofia Carvalho. 2022. The Work-Family Interface and the COVID-19 Pandemic: A Systematic Review. *Frontiers in Psychology* 13 (Aug. 2022), 914474. <https://doi.org/10.3389/fpsyg.2022.914474>
- [65] Ivana Vranjes, Elfi Baillien, Heidi Vandebosch, Sara Erreygers, and Hans De Witte. 2017. The Dark Side of Working Online: Towards a Definition and an Emotion Reaction Model of Workplace Cyberbullying. *Computers in Human Behavior* 69 (April 2017), 324–334. <https://doi.org/10.1016/j.chb.2016.12.055>
- [66] B Wigert and S Agrawal. 2022. Returning to the office: The current, preferred and future state of remote work.
- [67] Burkhard Wörtler, Nico W. Van Yperen, and Dick P. H. Barelds. 2021. Do blended working arrangements enhance organizational attractiveness and organizational citizenship behaviour intentions? An individual difference perspective. *European Journal of Work and Organizational Psychology* 30, 4 (2021), 581–599. <https://doi.org/10.1080/1359432X.2020.1844663> arXiv:<https://doi.org/10.1080/1359432X.2020.1844663>
- [68] Chi-Lan Yang, Naomi Yamashita, Hideaki Kuzuoka, Hao-Chuan Wang, and Eureka Foong. 2022. Distance Matters to Weak Ties: Exploring How Workers Perceive Their Strongly- and Weakly-Connected Collaborators in Remote Workplaces. *Proceedings of the ACM on Human-Computer Interaction* 6, GROUP (Jan. 2022), 1–26. <https://doi.org/10.1145/3492863>
- [69] Longqi Yang, David Holtz, Sonia Jaffe, Siddharth Suri, Shilpi Sinha, Jeffrey Weston, Connor Joyce, Neha Shah, Kevin Sherman, Brent Hecht, and Jaime Teevan. 2022. The Effects of Remote Work on Collaboration among Information Workers. *Nature Human Behaviour* 6, 1 (Jan. 2022), 43–54. <https://doi.org/10.1038/s41562-021-01196-4>
- [70] Pan Zhang and Shanquan Chen. 2022. Association between workplace and mental health and its mechanisms during COVID-19 pandemic: A cross-sectional, population-based, multi-country study. *J Affect Disord* 310 (May 2022), 116–122.
- [71] Zhiqing E. Zhou, Shani Pindek, and Ethan J. Ray. 2022. Browsing Away from Rude Emails: Effects of Daily Active and Passive Email Incivility on Employee Cyberloafing. *Journal of Occupational Health Psychology* 27, 5 (Oct. 2022), 503–515. <https://doi.org/10.1037/ocp0000325>