

Remote working and team motivation: considerations for the LMX model

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1. Introduction. 2. Theoretical background. 3. Methodology. 4. Results. 5. Discussion. 6. Conclusion.

Abstract

This study investigates the Leader Member Exchange (LMX) model and job satisfaction for employees working remotely during the COVID-19 pandemic. The research is based on 22 semi-structured interviews conducted with consultants on different career levels within a multinational corporation (MNC) in 2022. The results indicate that the shift to remote work, during the COVID-19 pandemic, has brought new considerations to the LMX model and job satisfaction. In addition, it also positively impacted economic, environmental, and social sustainability goals. The qualitative study identifies three aggregated key factors, conducted from the interview data, that contribute to job satisfaction in a remote work setting: (1) methods of collaboration, (2) performing through collaboration, and (3) identification with work and employer. These findings offer valuable insight on remote working during the COVID-19 pandemic. They also provide a foundation for further research on remote and hybrid work and collaboration models, whilst providing understanding on their alignment to economic, environmental, and social sustainability goals.

Keywords: Remote Working; COVID-19; LMX; Job Satisfaction; Sustainability Goals.

1. Introduction.

Remote working means carrying out employee duties from a location other than a central office operated by the employer. To communicate with the employer and colleagues, the employee must telecommunicate virtually. It was initiated as a working option to provide the employee more flexibility.¹ In previous studies, the concept of remote work has been referred

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¹ Hill E., Ferris M., Martinson V., *Does it matter where you work? A comparison of how three work venues (traditional office, virtual office, and home office) influence aspects of work and personal/family life*, in *Journal of Vocational Behavior*, 63, 2, 2003, 220-241.

to as ‘working from home’, ‘work at home’, ‘work from anywhere’, ‘telecommuting’, ‘virtual work’, ‘mobile work’, or ‘flexible work’.² In this study, we will use the terms interchangeably.

Di Martino and Wirth define remote working as “a flexible work arrangement whereby workers work in locations, remote from their central offices or production facilities, the worker has no personal contact with co-workers there, but is able to communicate with them using technology”.³ According to Leemann *et al.*,⁴ new forms of work, such as remote work, are important for the digital transformation of companies as it enables greater flexibility, innovation, and cost savings. Remote work is not a new concept; however, its implementation is not an instantaneous process.

Remote working, especially from home, has a positive impact on aspects of work and personal life.⁵ The research conducted by Al-Habaibeh *et al.*⁶ reveals a positive perspective from the respondents towards the environmental benefits such as the elimination of the daily commute. Trapp and Kanbach argue that sustainable business models are becoming increasingly important due to the global focus on climate change.⁷ Additionally, remote work has the potential to benefit companies in terms of reduced costs for office space.⁸

Remote working has been widely accepted as having a positive impact on sustainability. Moreover, recent shifts toward remote working demonstrates substantial potential to benefit all pillars of sustainability: economic, environmental, and social.⁹ From an economic standpoint, companies embracing remote working arrangements can garner significant cost savings by reducing physical infrastructure needs,¹⁰ thereby contributing to the economic sustainability pillar. Additionally, the increased flexibility can enhance employee productivity,

² Allen T.D., Golden T.D., Shockley K.M., *How Effective Is Telecommuting? Assessing the Status of Our Scientific Findings*, in *Psychological Science in the Public Interest*, 16, 2, 2015, 40–68; Popovici V., Popovici A.L., *Remote work revolution: Current opportunities and challenges for organizations*, in “Ovidius” *University Annals – Economic Sciences Series*, 20, 1, 2020, 468-472; ILO, *Defining and measuring remote work, telework, work at home and home-based*, 05 June 2020, available at:

https://www.ilo.org/global/statistics-and-databases/publications/WCMS_747075/lang-en/index.htm; Soga L.R., Bolade-Ogunfodun Y., Mariani M., Nasr R., Laker B., *Unmasking the other face of flexible working practices: A systematic literature review*, in *Journal of Business Research*, 142, 2022, 648-662.

³ Di Martino V., Wirth L., *Telework: A new way of working and living*, in *International Labour Review*, 129, 5, 1990, 529–554.

⁴ Leemann N., Kanbach D., Stubner S., *Breaking the Paradigm of Sensing, Seizing, and Transforming - Evidence from Axel Springer*, in *Journal of Business Strategies*, 38, 2, 2021, 95-124.

⁵ Hill E., Ferris M., Mårtinson V., nt. (1); Kelliher C., Anderson D., *For better or for worse? An analysis of how flexible working practices influence employees' perceptions of job quality*, in *The International Journal of Human Resource Management*, 19, 3, 2008, 419–431.

⁶ Al-Habaibeh A., Watkins M., Waried K., Javareshk M.B., *Challenges and Opportunities of Remotely Working from Home during Covid-19 Pandemic*, in *Global Transitions*, 3, 2021, 99-108.

⁷ Trapp C.T., Kanbach D.K., *Green entrepreneurship and business models: Deriving green technology business model archetypes*, in *Journal of cleaner production*, 297, 126694, 2021.

⁸ Gelfand M., *Rule makers, rule breakers: Tight and loose cultures and the secret signals that direct our lives*, Scribner Book Company, New York, 2019; Sytch M., Greer L.L., *Is your organization ready for permanent WFH*, in *Harvard Business Review*, 18, 2020.

⁹ Bolisani E., Scarso E., Ipsen C., Kirchner K., Hansen J. P., *Working from home during COVID-19 pandemic: lessons learned and issues*, in *Management & Marketing*, 15, s1, 2020, 458-476; Roberto R., Zini A., Felici B., Rao M., Noussan M., *Potential Benefits of Remote Working on Urban Mobility and Related Environmental Impacts: Results from a Case Study in Italy*, in *Applied Sciences*, 13, 1, 607, 2023.

¹⁰ Bloom N., Liang J., Roberts J., Ying Z.J., *Does working from home work? Evidence from a Chinese experiment*, in *The Quarterly Journal of Economics*, 130, 1, 2015, 165-218.

further contributing to economic sustainability.¹¹ In terms of environmental sustainability, remote working contributes to a reduction in commuting-associated greenhouse gas emissions, thereby mitigating environmental impact.¹² Numerous investigations have demonstrated that telework can have substantial positive effects on air quality.¹³ A study conducted by Hook *et al.*¹⁴ estimates that, with a broad adoption of remote work, the annual reduction in CO₂ emissions can be significant. Social sustainability is also bolstered through remote work arrangements by improving work-life balance and providing equal opportunities for those in geographically disadvantaged areas.¹⁵ The increased flexibility promotes a more inclusive work environment, serving those who may face difficulties commuting due to disability or other constraints, while also catering to employees' varied life needs.¹⁶

When the COVID 19 pandemic hit, remote working was no longer an option but a necessity.¹⁷ Due to the crisis, employers and employees have learned that including virtual working as a hybrid working model brings more flexibility. However, it has changed how employees relate to their jobs, and there is still a lack of guidelines and policies in most corporations.¹⁸ Employees feel more empowered to change employment than before the crisis and so it is getting more necessary to maintain employee satisfaction.¹⁹ According to Fonner and Roloff's,²⁰ empirical investigation, teleworking is linked to greater job satisfaction, owing to its ability to mitigate organisational politics, work-life conflict, and work-related stress. These can arise from prolonged meetings, interruptions, and distractions in traditional office settings. Additionally, the authors contend that, despite the prevalent perception that teleworking induces social isolation, it instead facilitates enhanced information exchange between teleworkers and their colleagues, due to sustained

¹¹ Choudhury P., *Our Work-from-Anywhere Future*, in *Harvard Business Review*, November-December, 2020, available at <https://hbr.org/2020/11/our-work-from-anywhere-future>.

¹² Hook A., Sovacool B.K., Sorrell S., *A systematic review of the energy and climate impacts of teleworking*, in *Environmental Research Letters*, 15, 9, 093003, 2020.

¹³ Brown L., Barnes J., Hayes E., *Traffic-related air pollution reduction at UK schools during the Covid-19 lockdown*, in *Science of the Total Environment*, 780, 146651, 2021; Eregowda T., Chatterjee P., Pawar D.S., *Impact of lockdown associated with COVID19 on air quality and emissions from transportation sector: case study in selected Indian metropolitan cities*, in *Environment Systems and Decisions*, 41, 2021, 401-412; Giovanis E., *The relationship between teleworking, traffic and air pollution*, in *Atmospheric Pollution Research*, 9, 1, 2018, 1-14.

¹⁴ Hook A., Sovacool B.K., Sorrell S., nt. (12).

¹⁵ Golden T.D., Gajendran R. S., *Unpacking the role of a telecommuter's job in their performance: Examining job complexity, problem solving, interdependence, and social support*, in *Journal of Business and Psychology*, 34, 1, 2019, 55-69.

¹⁶ Lautsch B.A., Kossek E.E., & Eaton S.C., *Supervisory approaches and paradoxes in managing telecommuting implementation*, in *Human Relations*, 62, 6, 2009, 795-827.

¹⁷ Bouziri H., Smith D., Descatha A., Dab W., Jean K., *Working from home in the time of COVID-19: How to best preserve occupational health?*, in *Occupational and Environmental Medicine*, 77, 7, 2020, 509-510; Prin M., Bartels K., *Social distancing: Implications for the operating room in the face of COVID-19*, in *Canadian Journal of Anaesthesia*, 67, 7, 2020, 789-797.

¹⁸ Fealy L., Feinsod R., *How can a rebalance of power help re-energize your workforce?*, September 12th, 2023, available at https://www.ey.com/en_ph/workforce/work-reimagined-survey

¹⁹ Fealy L., Feinsod R., *ibidem*.

²⁰ Fonner K.L., Roloff M.E., *Why teleworkers are more satisfied with their jobs than are office-based workers: When less contact is beneficial*, in *Journal of Applied Communication Research*, 38, 4, 2010, 336-361.

connectivity. According to Korherr *et al.*,²¹ management has a key role in implementing new ways of working, particularly those related to analytics-based decision making. Leadership can do this by creating a supportive organisational culture, providing resources, and training, and leading by example.

Moving forwards, the remote working conditions during the crisis constitute a promising basis to study employee satisfaction factors. These can be used as guidance for motivating a team.

The results from Slavković's study indicated that distractions from the home environment and loneliness were significant predictors of outcomes such as job performance and work engagement. According to Salmony *et al.*,²² the COVID-19 crisis and the resulting shift to remote working has increased the risk of psychological distress and decreased psychological well-being for entrepreneurs. The results also revealed that the use of ICT (information and communication technology)²³ solutions for establishing social support can provide benefits. However, it is not a perfect substitute for social support received through face-to-face interactions.²⁴

Some studies have found that remote workers exhibit a more supportive approach to work requirements, as evidenced by their reduced perception of time pressure;²⁵ enhanced quality of work-related relationships, and greater prospects for professional growth.²⁶

To gain an understanding of job satisfaction while remote working over an extended period of time, semi-structured expert interviews were conducted in a multinational cooperation (MNC) within the consulting industry. The communication and relationship model LMX is a framework to examine the quality of relationships in a work environment and has been developed at a time were working together in an office for most professions was the predominant way of interaction.²⁷ LMX and job satisfaction interact also in a remote working setup.²⁸ To learn more about the relationship between LMX and job satisfaction in

²¹ Korherr P., Kanbach D.K., Kraus S., Jones P., *The role of management in fostering analytics: the shift from intuition to analytics-based decision-making*, in *Journal of Decision Systems*, 2022, 1-17.

²² Salmony F., Kanbach D., Stubner S., *Entrepreneurs in times of crisis: Effects of personality on business outcomes and psychological well-being*, in *Traumatology*, 28, 3, 336, 2021.

²³ Eurostat, *Glossary: Information and communication technology (ICT)*, available at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_\(ICT\)#:~:text=Information%20and%20communication%20technology%2C%20abbreviated,handle%20information%20and%20aid%20communication](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_(ICT)#:~:text=Information%20and%20communication%20technology%2C%20abbreviated,handle%20information%20and%20aid%20communication).

²⁴ Slavković M., Sretenović S., Bugarčić M., *Remote working for sustainability of organization during the covid-19 pandemic: The mediator-moderator role of social support*, in *Sustainability*, 14, 1, 2022.

²⁵ Darouei M., Pluut H., *Work from home today for a better tomorrow! How working from home influences work-family conflict and employees' start of the next workday*, in *Stress and Health*, 37, 5, 2021, 986-999.

²⁶ Davidescu A.A., Apostu S.A., Paul A., Casuneanu I., *Work flexibility, job satisfaction, and job performance among Romanian employees—Implications for sustainable human resource management*, in *Sustainability*, 12, 15, 6086, 2020.

²⁷ Liden R., Sparrowe R., Wayne S., *Leader-member exchange theory: The past and potential for the future*, in *Research in Personnel and Human Resources Management*, 15, 1997, 47-119.

²⁸ Ariani D., *Leader-Member Exchanges as a Mediator of the Effect of Job Satisfaction on Affective Organizational Commitment: An Empirical Test*, in *International Journal of Management*, 29, 2012, 46-56; Golden T.D., Veiga J., *The impact of superior-subordinate relationships on the commitment, job satisfaction, and performance of virtual workers*, in *The Leadership Quarterly*, 19, 1, 2008, 77-88.

a remote working setup, we needed to gain a better understanding about which satisfaction factors dependent on the LMX will motivate a team in a remote working setup.

2. Theoretical background.

Building on the outlined discussion and relevance of the topic, the following section provides the theoretical background of the LMX model and job satisfaction. It describes the development of both factors in a remote working environment to create a basis for the empirical study.

LMX Model and Job Satisfaction

The LMX framework illustrates the quality of relationships between leaders and group members. It has evolved from a hypothesis in the 1970s to become a mature theory for leadership.²⁹ It focuses on leaders building strong and trustful relationships with a portion of the team members.³⁰ While other leadership theories, e.g. transformational leadership, focus on the effect of leadership behavior on their followers, the LMX model analyzes its two-sided relationship to understand the impact of leadership behaviour on members, teams, and organisations.³¹ A strong manager-employee relationship strengthens managerial trust, which boosts employee empowerment.³²

The relationship between leaders and their subordinates can be formal (out group), informal or extended (in group).³³ Out group relationships focus solely on work related topics. Due to factors such as trust, a relationship develops with the subordinate, and they can become part of the 'in group'.³⁴ An 'in group' relationship can strengthen formal relationships and vice versa. In group relationships tend to have higher quality and last longer.³⁵

Leaders influence followers' attitudes and behaviors towards work.³⁶ Job satisfaction describes the well-being of an employee at work.³⁷ The intersection of LMX and job satisfaction is broadly discussed in the literature.³⁸ LMX can be positively related to job

²⁹ Bauer T.N., Erdogan B., *The Oxford Handbook of Leader-Member Exchange*, Oxford University Press, Oxford, 2015.

³⁰ Bauer T.N., Erdogan B., *ibidem*. See also Ansari M., Hung D., Aafaqi R., *Leader-Member Exchange and Attitudinal Outcomes: Role of Procedural Justice Climate*, in *Leadership & Organization Development Journal*, 28, 2007, 690–709.

³¹ Bauer T.N., Erdogan B., nt. (29).

³² Gomez C., Rosen B., *The leader-member exchange as a link between managerial trust and employee empowerment*, in *Group and Organization Management*, 26, 1, 2001, 53–69.

³³ Malik M., Wan D., Ahmad M., Naseem M., *The role of LMX in employees job motivation, satisfaction, empowerment, stress and turnover: Cross country analysis*, in *Journal of Applied Business Research (JABR)*, 5, 2015, 1897-2000.

³⁴ Malik M., Wan D., Ahmad M., Naseem M., *ibidem*.

³⁵ Malik M., Wan D., Ahmad M., Naseem M., *ibidem*.

³⁶ Fisk G.M., Friesen J.P., *Perceptions of leader emotion regulation and LMX as predictors of followers' job satisfaction and organizational citizenship behaviors*, in *The Leadership Quarterly*, 23, 1, 2012, 1-12.

³⁷ Ariani D., nt. (28).

³⁸ Ariani D., *ibidem*. See also Loi R., Chan K.W., Lam L., *Leader-member exchange, organizational identification, and job satisfaction: A social identity perspective*, in *Journal of Occupational and Organizational Psychology*, 87, 1, 2014, 42–61; Michael D., *Supportive supervisor communication as an intervening influence in the relationship between LMX and employee job*

satisfaction and negatively related to turnover intentions.³⁹ During the last two decades research shows that employees' mindsets have changed; they have lost trust in organisations.⁴⁰ Fewer direct interactions in a modern workplace can enhance the effect.⁴¹ In an ever-changing work environment, leadership influence on team motivation is essential.⁴² To avoid turnover, it is important to keep employees satisfied. High quality in group relationships is positively correlated with job satisfaction.⁴³ The reverse effect is also true. For example, low quality, out group relationships go hand in hand with low levels of job satisfaction.⁴⁴

Remote Working, LMX and Job Satisfaction

Formal and informal team interaction is affected by the medium of communication.⁴⁵ A remote work environment, makes a team reliant on technological solutions to communicate effectively with their colleagues.⁴⁶

For the sake of this analysis, virtual communication means communication solely through a technological medium and hybrid communication can include a variety of face-to face contact.⁴⁷ During the COVID-19 pandemic, informal meetings between colleagues mainly took place virtually. Remote formal and informal communication requires a variety of Computer Mediated Communication (CMC) forms. Collaboration tools are not limited to

satisfaction, turnover intentions, and performance, in *Journal of Behavioral Studies in Business*, 4, 2011, 1-28; Nikolić M., Vukonjanski J., Nedeljković M., Hadžić O., Terek E., *The impact of internal communication satisfaction dimensions on job satisfaction dimensions and the moderating role of LMX*, in *Public Relations Review*, 39, 5, 2013, 563-565; Pellegrini E., Scandura T., *Leader-member exchange (LMX), paternalism, and delegation in the Turkish business culture: An empirical investigation*, in *Journal of international business studies*, 37, 2, 2006, 264-279; Volmer J., Niessen C., Spurk D., Linz A., Abele A., *Reciprocal relationships between leader-member exchange (LMX) and job satisfaction: A cross-lagged analysis*, in *Applied Psychology*, 60, 4, 2011, 522-545.

³⁹ Bhatti G.A., Islam T., Mirza H.H., Ali F.H., *The relationships between LMX, job satisfaction and turnover intention*, in *Science International*, 27, 2, 2015, 118-127 ; Michael D., nt. (38).

⁴⁰ Malik M., Wan D., Ahmad M., Naseem M., nt. (33).

⁴¹ Chernyak-Hai L., Rabenu E., *The New Era Workplace Relationships: Is Social Exchange Theory Still Relevant?*, in *Industrial and Organizational Psychology*, 11, 3, 2018, 456-481.

⁴² Barbuto J., Gifford G., *Motivation and Leader-Member Exchange: Evidence Counter to Similarity Attraction Theory*, in *International Journal of Leadership Studies*, 7, 1, 2012, 18-28; Humphreys H., Walter O., *Leadership and Temperament Congruence: Extending the Expectancy Model of Work Motivation*, in *Journal of Leadership & Organizational Studies*, 10, 4, 2004, 58-79.

⁴³ Scandura T., Graen G., *Moderating effects of initial leader-member exchange status on the effects of a leadership intervention*, in *Journal of Applied Psychology*, 69, 3, 1984, 428-436; Sparrowe R., *Empowerment in the hospitality industry: An exploration of antecedents and outcomes*, in *Hospitality Research Journal*, 17, 3, 1994, 51-73; Volmer J., Niessen C., Spurk D., Linz A., Abele A., nt. (38).

⁴⁴ Cogliser C., Schriesheim T., Scandura A., Gardner W., *Balance in leader and follower perceptions of leader-member exchange: Relationships with performance and work attitudes*, in *The Leadership Quarterly*, 20, 3, 2009, 452-465; Le Blanc P., González-Roma V., *A team level investigation of the relationship between Leader-Member Exchange (LMX) differentiation, and commitment and performance*, in *The Leadership Quarterly*, 23, 3, 2012, 534-544; Schyns B., Wolfram H., *The relationship between leader-member exchange and outcomes as rated by leaders and followers*, in *Leadership & Organization Development Journal*, 29, 7, 2008, 631-646.

⁴⁵ Balthazard P., Waldman D., Warren J., *Predictors of the Emergence of Transformational Leadership in Virtual Decision Teams*, in *The Leadership Quarterly*, 20, 5, 2009, 651-663.

⁴⁶ Jarvempaa S., Tanriverdi H., *Leading virtual Knowledge Networks*, in *Organizational Dynamics*, 31, 4, 2003, 403-412.

⁴⁷ Hambley L., O'Neill T., Kline T., *Virtual team leadership: The effects of leadership style and communication medium on team interaction style and outcomes*, in *Organizational Behavior and Human Decision Process*, 103, 1, 2007, 1-20.

one form of communication, meaning one tool can entail different forms and provide a richness of communication that is simultaneous, or time shifted.⁴⁸ A variety of CMC forms exist and are constantly evolving. They can be categorized and distinguished by the richness of communication. For example, videoconferencing, or teleconferencing, is a richer form of communication than chat-based interaction.⁴⁹ According to Kraus *et al.*,⁵⁰ the metaverse offers a richer and more immersive communication tool compared to videoconferencing. The need for easy-to-use communication tools and the development of digital technologies, e.g., videoconferencing, facilitate the development of better collaboration tools. For example, these can be highly interactive video conferencing technology, networking platforms and social media.⁵¹ Therefore, collaboration tools can enable a range of communication forms and are constantly developing towards further possibilities for interaction in a remote world. However, they still need to be clearly distinguished from face-to-face contact.

LMX, remote working and job satisfaction interact.⁵² In their recent study, Greimel *et al.* claim that a virtual workspace is central to envisioning a sustainable future.⁵³ In addition they state that the application of transformational leadership attributes and skills has consistently been recognised as an effective strategy for team motivation. The sharing of virtual communication is a decisive factor for a team and has an impact on all aspects of work and LMX relationships.⁵⁴ In an extensively virtual mode, levels of job satisfaction increase with the quality of relationships.⁵⁵ The importance of building and maintaining high quality in group relationships that build trust is more challenging due to the physical distance in a remote working environment.⁵⁶ It is important to identify satisfaction factors that help to sustain relationships by motivating a team.

We must take into account that any research carried out during the pandemic brings more variables into the discussion. Virtual working alone has an impact on relationships, but variables, like satisfaction with remote working and ability to cope with the situation, need to be considered.⁵⁷ To answer the research question ‘what satisfaction factors dependent on the LMX motivate a team in a remote working setup’ this train of thought is crucial to delimit satisfaction factors that can also be transferred into the post-COVID-19 situation. The unprecedented number of remote workers during the COVID-19 pandemic provides a new

⁴⁸ Hambley L., O’Neill T., Kline T., *ibidem*.

⁴⁹ Hambley L., O’Neill T., Kline T., *ibidem*. See also Cascio W., Shurygailo S., *E-Leadership and Virtual Teams*, in *Organizational Dynamics*, 31, 4, 2003, 362–376.

⁵⁰ Kraus S., Kanbach D.K., Krysta P.M., Steinhoff M.M., Tomini N., *Facebook and the creation of the metaverse: radical business model innovation or incremental transformation?*, in *International Journal of Entrepreneurial Behavior & Research*, 28, 9, 2022, 52-77.

⁵¹ Byrnes K., Kiely P., Dunne C., McDermott K., Coffey J., *Communication, collaboration and contagion: "Virtualisation" of anatomy during COVID-19*, in *Clinical Anatomy*, 34, 1, 2021, 82-89.

⁵² Golden T.D., Veiga J., nt. (28); Mouriño-Ruiz E., *Leader-Member Exchange (LMX) The Impact of Leader-Employee Relationships in the 21st Century Workplace*, in *Business Journal of Hispanic Research*, 4, 1, 2010.

⁵³ Greimel N.S., Kanbach D.K., Chelaru M., *Virtual teams and transformational leadership: An integrative literature review and avenues for further research*, in *Journal of Innovation & Knowledge*, 8, 2, 100351, 2023.

⁵⁴ Golden T.D., Veiga J., nt. (28); Mouriño-Ruiz E., nt.(52).

⁵⁵ Golden T.D., Veiga J., nt. (28).

⁵⁶ Malik M., Wan D., Ahmad M., Naseem M., nt. (33).

⁵⁷ Toscano F., Zappalà S., Galanti T., *Is a good boss always a plus? LMX, family-work conflict, and remote working satisfaction during the Covid-19 pandemic*, in *Social Sciences*, 11, 6, 2022, 248.

research field for virtual communication, relationships, and satisfaction factors. Since most of the research measures the quantitative relationship between the variables, this study sheds light on factors that satisfy employees in the context of LMX and remote working.

3. Methodology.

The subsequent methodological section provides the research context for a qualitative study as well as a description of the data collection and analysis process.

Research Context

A lot of existing research on LMX and job satisfaction⁵⁸ and remote working is based on quantitative studies to measure the impact of the variables with each other.⁵⁹ Since working remotely for a long period is a new phenomenon, a qualitative approach helps to create a more detailed picture of the research field. Being in an initial, exploratory phase of a solely virtual working environment, the research approach was set up inductively.

Data Collection

Based on an inductive, qualitative research approach, the following section provides an overview about the data collection process. With the first draft of the semi-structured interview questionnaire, asking about the working experience during the indispensable virtual working setup, we conducted two interview dry runs in the consulting industry. We learned that having thematic fields in the interview guide provided the flexibility to react to the interviewee's answers. Also, the customized interview setup helped the interviewee to underpin their personal experience with examples.

After formulating thematic fields about the phenomenon of interest, 22 expert interviews with consultants on different career levels in a MNC in the consulting industry were conducted (see Table 1). We had a 70% response rate on our interview requests. The 22 interviews had an average interview duration of between 30-45 minutes and took place between January and March 2022.

To gain a broad view on a leader-member relationship from different perspectives and hierarchy levels, consultants with different positions of consulting experience (see Table 1) were interviewed. Having different years of consulting experience (see Table 1), more than 70% of our interviewees had experience with consulting work before the pandemic and therefore working in geographically dispersed and diverse teams.

⁵⁸ Ariani D., nt. (28); Loi R., Chan K.W., Lam L., nt. (38); Michael D., nt. (38); Nikolić M., Vukonjanski J., Nedeljković M., Hadžić O., Terek E., nt. (38); Pellegrini E., Scandura T., nt. (38); Volmer J., Niessen C., Spurk D., Linz A., Abele A., nt. (38).

⁵⁹ Golden T.D., Veiga J., nt. (28); Mouriño-Ruiz E., nt. (52).

TABLE 1
Hierarchy Level Conversion Table and Conducted Interviews

<i>Level</i>	<i>Average Years of Experience</i>	<i>Example of Main Responsibilities</i>	<i>Absolute Number of Interviews</i>	<i>Relative Number of Interviews</i>
Analyst	~ 2	Collaboration in the project teams	3	~ 14 %
Consultant	~ 3 - 5	Specialisation in one field of expertise	7	~ 32 %
Manager	~ 5 - 8	Project management responsibility	3	~ 14 %
Senior Manager / Principal	~ 8 - 12	Sales responsibility	8	~ 36 %
Director / Managing Director	~ 12	Leadership, business development & sales	1	~ 4%

To conduct the research on virtual communication, 22 “personal communication” virtual interviews took place in the English language using the collaboration tool Microsoft Teams. The interviews were recorded and simultaneously using the video function to be able to see and interpret the gestures and facial expressions of the interviewee.

Data Analysis

Afterwards, the interviews were transcribed utilising a transcribing software. With the help of the qualitative data evaluation software, MAXQDA, the interviews were evaluated with the grounded theory method of Gioia *et al.*⁶⁰ Gioia *et al.* is a valuable inductive approach to concept theory from data using the labeling methods of “1st-order categories”, “2nd-order themes” and “aggregate dimensions”.⁶¹

Starting with the first step of the evaluation approach, we identified 112 “1st- order categories” that describe satisfaction with the remote working situation. In a next step, we decided to cluster all levels of intensity of satisfaction with the remote situation to 9 “2nd- order themes” (*see* Figure 1). This natural evaluation provided us with the possibility of different intensities of satisfaction in one framework. Afterwards, the 9 “2nd- order themes were clustered into 3 aggregated dimensions (*see* Figure 1). Having a closer look at the “2nd-

⁶⁰ Gioia D., Corley K., Hamilton A., *Seeking qualitative rigor in inductive research*, in *Organizational Research Methods*, 16, 1, 2013, 15-31.

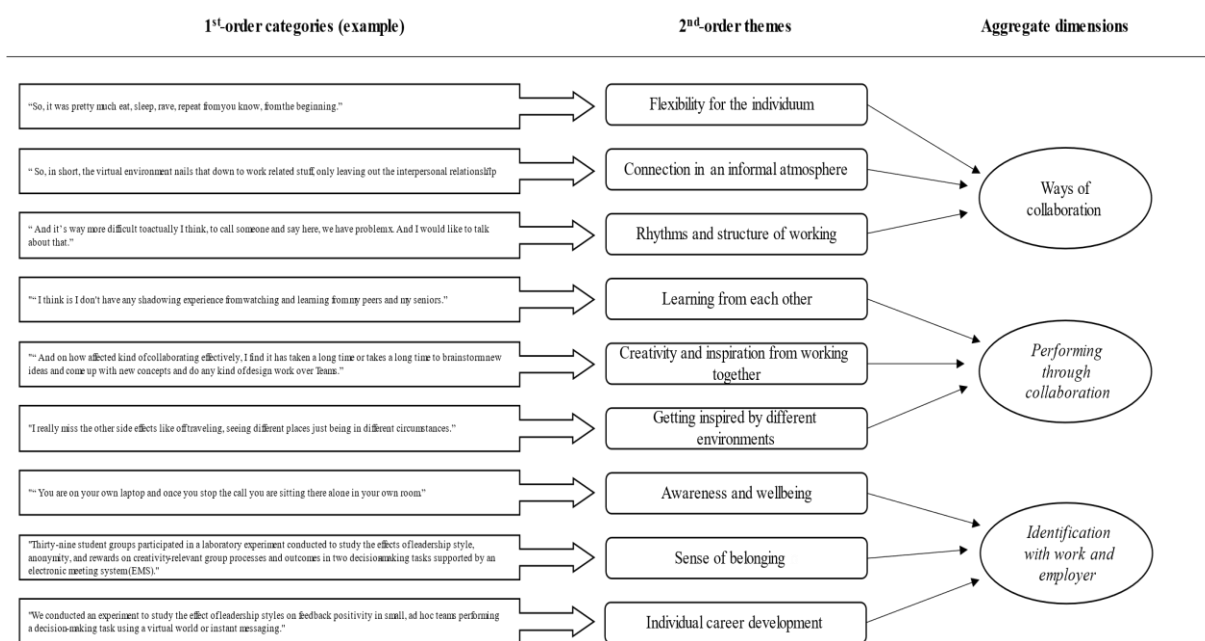
⁶¹ Gioia D., Corley K., Hamilton A., *ibidem*.

order themes”, we identified that the satisfaction factors could motivate a team in a virtual or hybrid work setup. To evaluate our findings from the consulting perspective, and ensure generalisability and trustworthiness, we evaluated our findings with two industry experts from the Healthcare and Financial Services industry.

4. Results.

The following section provides the “2nd-order themes” within the “aggregated dimensions” as satisfaction factors of the collected and analysed data. Within each “2nd-order theme” we provide examples of different intensity of satisfaction based on the “1st - order categories” (see Figure 1 below).

FIGURE 1
Satisfaction Factors after Gioia et al. 2013



Ways of Collaboration

An indispensable virtual working atmosphere can infuse work and relationship patterns that in turn influence the ways of collaboration. The aggregated dimension ways of collaboration focus on different intensities with satisfaction of collaboration in a virtual work environment.

Flexibility for the Individuum

The remote working setup led to more time in meetings and an increase in working hours for many consultants: “Each day, it’s pretty crowded with meetings...in the past two years.” (Consultant, personal communication, February 2, 2022). “Your day starts two hours earlier

on a Monday morning and lasts longer at nighttime.” (Senior Manager, personal communication, February 17, 2022).

Having more working hours and working virtually from home resulted in less clear separation between work and private life: “It appears that sometimes I continue working in the evenings after dinner, and on the weekend...” (Consultant, personal communication, January 26, 2022).

To react to a 24h availability culture teams need to find new and changing working routines. The routines can offer flexibility for the individual while ensuring there is enough collaboration time working with the team. Therefore, the work routines should be flexible so that they can be adjusted to new circumstances and team setups: “I would like to keep the situation where I can combine home office and client side.” (Managing Director, personal communication, February 25, 2022). Moreover, each employee should have more flexibility to create their own rhythms and combinations of collaboration: “When it makes sense to come together for team building, that will be plannable, and would give me a majority of freedom.” (Senior Manager, personal communication, February 17, 2022).

Connection in an Informal Atmosphere

Having scheduled virtual meetings with work related agenda in a 24h culture leads to less non-work-related conversations: “...virtual environment nails that down to work related stuff, only leaving out the interpersonal relationship.” (Senior Manager, personal communication, February 17, 2022).

Moreover, working remotely offers less accidental or spontaneous interactions between colleagues in an informal atmosphere. There are fewer conversations about private circumstances of an employee. Knowing less about colleagues’ private lives contributes to missing interpersonal relationships.

To counteract the lack of performance through collaboration in a virtual setup, there should be room and space for informal collaboration time. Informal collaboration time could be in a remote or onsite place. For example, this could be meeting onsite as a team on a regular basis “A project team should meet, because that intensifies the collaboration, and people get to know each other better.” (Managing Director, personal communication, February 25, 2022). Besides professional collaboration, an employer should provide space and time for informal conversations. An office space, where everyone feels comfortable, can offer more time for coffee chats during the day, which makes it easier to reach out to colleagues: “...going for dinners after work having not only work-related topics, but also connecting on a personal level.” (Manager, personal communication, January 25, 2022). Furthermore, we could learn from the working arrangements before COVID-19, but with more space for individual flexibility. “I had more time to get to know people on an individual basis. We had informal conversations without planning them. When you're on a project together, you can go for lunch, and for a coffee break.” (Managing Director, personal communication, February 25, 2022).

Rhythms and Structure of Working

Due to a high meeting culture and less connection in an informal atmosphere, it seems more complicated to reach out and address important topics. For example, an employee needs to overcome the hurdle to just call a colleague or block a meeting in an already full calendar of a superior. This makes it sometimes more difficult to address problems: “It's way more difficult to call someone and say here, we have problem x.” (Consultant, personal communication, February 2, 2022). It seems easier to address complicated topics personally than reaching out in person. This is because there seems to be a higher burden to reach out to people virtually.

Moreover, it appears to be more time consuming to reach out remotely to the team: “We wanted to make sure that due to the complexity and the criticality of the project, we as a team are sitting in one room and having the ability to collaborate closer than in a virtual setup where you need to have a call for every task.” (Senior Manager, personal communication, February 17, 2022).

To incorporate hybrid working formats, new rhythms of working are needed for teams and individuals. There should be time set aside for collaboration and times for thinking and brainstorming. Within a team, there should be slots for conversations about the project, but where informal topics can be discussed: “I would like to keep the cadence in the office, and certain freedom to work from home...” (Managing Director, personal communication, February 25, 2022).

New rhythms of working can also mean dividing the virtual and onsite time tasks. For example, the preparation for onsite workshops could be virtual: “I love to make the pre work virtual but when it's about defining the vision statement of a program, that's where I would like to be onsite.” (Manager, personal communication, January 27, 2022).

Performing through Collaboration

Since it is not only important how we cooperate, the second aggregated dimension describes the performance through collaboration in a virtual setup. A positive remote working atmosphere can stimulate work and relationship patterns that influence performance through collaboration.

Learning from Each Other

In a virtual work setup, there is less opportunity to watch another person working or leading a meeting. This means there are fewer opportunities to learn from observation. “Work shadowing” naturally happens when you are sitting in one room as a natural bystander and it is hard to replicate this in a remote working environment: “I would sit with people in one room, and I would have difficult client conversations, because the client dropped by, and everyone would have had the chance to listen in. If my client calls me now, no way I can say, well hold on a second, let me pull in my 40 members via Teams...” (Principal, personal communication, January 31, 2022).

To counter the lack of learning from each other, there could be new kinds of meeting rules to help in a virtual work setup to learn from your peers and seniors. Furthermore, the learning and support from peers and a natural mentoring structure can evolve in a work setting. Employees, who have more experience or have spent longer on a project, can explain

a task to more junior colleagues: “I got very good inspirations for my peers...there were like, naturally mentors evolving...” (Manager, personal communication, January 25, 2022).

Creativity and Inspiration from Working Together

Working virtually can lead to less time to be creative. It requires time windows that are blocked out especially for creative activities. Additionally, it needs to be ensured that everyone on a creative remote call is focused on participating and not be distracted by anything else: “I find it...takes a long time to brainstorm ideas and come up with new concepts over Teams.” (Senior Manager, personal communication, January 25, 2022).

While there are many tools to ensure the collaboration in a virtual setup, there is a different atmosphere and energy than compared to an onsite workshop: “...every time I'm in the larger workshop with the client, I feel more ideas evolving more creativity onsite...” (Manager, personal communication, January 25, 2022).

Workshops should be planned when everyone is focused on the creative process and there are no distractions from other meetings. This can be easily ensured when you work together in one room. Moreover, the visualisation of new ideas and content creation is sometimes easier in an onsite collaboration. Nevertheless, the setup of an onsite workshop can also be initiated with new rhythms and rules from a virtual or hybrid environment: “It's more helpful to have...consolidated time together, where you have workshops, where you actually work on something from a content perspective.” (Consultant, personal communication, February 2, 2022).

Nevertheless, for a client relationship it is important to create a setup utilising workshop formats to help, build and sustain relationships: “...I would love to be once a month really present with the client side designing those programs but then doing the workshops on site.” (Manager, personal communication, January 27, 2022).

Getting Inspired by Different Environments

Since virtual working requires less traveling and being in different places, coming out of your familiar environment and getting inspired is often missing. During remote working, employees often stay in their well-known environment. Getting new ideas and being creative can be inspired by changing environments.

It would be inspirational to find new locations to meet and places that motivate the team and the individual. The place to meet doesn't need to be the regular office space, but it could also involve working from a different location. It could also open the door to cooperation with other organizations: “...I would love to have different locations where we meet not only in the office, but sometimes outside and then having things like excursions...” (Manager, personal communication, January 25, 2022).

Identification with Work and Employer

In addition to collaborating and performing in a working setup, the third aggregated dimension focuses on the identification between work and the employer. A positive remote working atmosphere can create work and relationship patterns that influence the identification between work and the employer.

Awareness and Wellbeing

Virtual work influences our ways of communicating. There is a higher likelihood of misinterpreting the behaviour of colleagues if you only see them on an electronic device: “I noticed within my team that people felt misunderstood, like the way one of my team members behaved, was enforced via camera and took a while until the others started to understand what does it mean...” (Senior Manager, personal communication, February 17, 2022).

Feeling misunderstood and isolated can be reinforced in a remote working setup. If there are factors that lead an employee to higher levels of stress, in a remote setting, it can lead to sickness: “I think as a culmination of lots of things, but including being isolated in a home office, I actually experienced a burnout last year.” (Senior Manager, personal communication, January 21, 2022).

Moreover, there should be a sense of awareness of wellbeing for the individual in a company. This can include different kinds of activities for the employee to feel more balanced: “...I feel a much more balanced person...as a consequence of introducing hybrid working into my life.” (Consultant, personal communication, January 20, 2022). This could be physical activities like doing yoga. It could also be mental activities like reflection.

Sense of Belonging

Working remotely in front of an electrical device can create a feeling of isolation: “You are on your own laptop and once you stop the call you are sitting there alone in your own room.” (Consultant, personal communication, January 18, 2022).

The emotional state can have an impact on feeling connected to colleagues and superiors. Less physical connection can lead to feeling more distant and detached from your work. To counteract the effect, a trustful environment should be created where everyone can speak up: “I think if teams can really choose the way they work more flexibly, then their team dynamics should evolve quicker...and they should build trust more easily because they feel comfortable...that should increase team collaboration.” (Managing Director, personal communication, February 25, 2022).

In a hybrid setup an atmosphere should be established where everyone feels included even when some colleagues are working from home and others collaborate onsite together. In an onsite working environment for example when a meeting is over the team goes together to the coffee corner. In a virtual setup the work breaks are shaped alone. In an informal break atmosphere less work-related topics but also debriefs of the meeting can be discussed. This short reflection can help content wise but also to feel integrated and be part of a team and feel not alone with work-related topics: “In a hybrid working model you have to have an eye on those who are at home that they don't feel excluded from the team.” (Consultant, personal communication, February 2, 2022).

Individual Career Development

Working more isolated and communicating more distant, can shift thinking from a collective one to a more self-centered mindset. Meaning, less figuring out your team needs and more focusing on topics that are related to your personal needs. Also, the fact that you

cannot see your team and their needs physically can lead to a more fade out of their concerns and towards a more self-centered thinking and behavior: “I think it is for me the case that I’m thinking more: “What do I need to do?”...the thinking pattern shifts from thinking about all the people that are around you to just yourself.” (Consultant, personal communication, January 18, 2022).

Besides the team spirit that could be improved by informal meetings and team building events in a remote and or onsite work setup, there should be also more focus on the employee and the individual career development: “If you have people who are willing to meet other people, I think for those people, it's much easier to get the team spirit and to be included in a team.” (Manager, personal communication, February 15, 2022).

To countervail the effect, there should also be more focus and trust in an individual's career development. Which could include new ways of working from different places: “I think once the leadership has the trust in you that it doesn't matter if you work from your home, or if you work from Spain, where you deliver your work.” (Consultant, personal communication, January 21, 2022).

5. Discussion.

After having outlined our findings in detail, we will reflect them in the light of existing literature and discuss similarities and differences.

First, research during the pandemic brings into play additional variables e.g., satisfaction with remote working and ability to cope.⁶² We discover similarities within our findings e.g., the satisfaction with remote working and the 24h culture. In addition, the ability to cope with the pandemic is a factor to consider, for example, many struggled with feelings of loneliness in the remote home office setup.

The existing literature focuses on the correlation and intensity of variables. From our results we concluded that we should challenge the variables. The variables describing job satisfaction cover more aspects than the employees' well-being at work. Moreover, the context of remote working also needs to be challenged. Onsite collaboration is often an argumentation within all three aggregated dimensions of our results, simply going back to the same ways of working onsite do not seem to be the correct solution. However, there are elements of a virtual working setup and an onsite working setup that can provide more flexibility for collaboration between individuals. More flexibility also has an impact on sustainability. Studies indicate that the COVID-19 pandemic has resulted in noteworthy progress in sustainability outcomes, specifically in the reduction of greenhouse gas emissions⁶³ and the improvement of air quality.⁶⁴

⁶² Toscano F., Zappalà S., Galanti T., nt. (57).

⁶³ Liu Z., Ciais P., Deng Z., Lei R., Davis S.J., Feng S., *et al.*, *Near-real-time monitoring of global CO2 emissions reveals the effects of the COVID-19 pandemic*, in *Nature Communications*, 11, 1, 5172, 2020.

⁶⁴ Brown L., Barnes J., Hayes E., nt. (13).

Various institutions, including the OECD, have emphasised the need to integrate telework and hybrid work practices into business operations and governmental planning.⁶⁵ This presents an opportunity to contribute to the accomplishment of Sustainable Development Goals (SDGs).⁶⁶ From an environmental perspective, remote working reduces the need to commute, resulting in decreased carbon emissions and pollution. As a result, fewer cars on the road translate to cleaner air and a smaller ecological footprint. Additionally, reduced energy consumption in office spaces leads to lower greenhouse gas emissions, contributing to mitigating against climate change.

The study of Lodovici *et al.*⁶⁷ demonstrates that a reduction in carbon footprint could be achieved by minimising office space, curtailing energy, and water consumption, limiting road renovation, and reducing paper consumption and heating, among other measures. Furthermore, the report highlights the potential of remote work in diminishing the emissions of harmful substances and alleviating environmental pollution, thereby aligning with the trajectory of sustainable development in the field of environmental health.⁶⁸ From a social sustainability standpoint, remote work promotes work-life balance and inclusivity. Furthermore, the flexibility of remote work allows employees to spend more time with their families. Thus, improving overall well-being and mental health.

In summary, the integration of telework and hybrid working practices presents a valuable opportunity to address environmental, ecological, and social sustainability goals. By embracing remote working, businesses and governments can contribute to the achievement of SDGs, reduce carbon emissions, promote ecological sustainability through digitalisation, and foster social inclusivity and work-life balance. It is imperative that organisations recognise the long-term benefits of these practices and actively incorporate them into their strategies, working collectively towards a sustainable and resilient future.

6. Conclusion.

This study contributes to the existing body of research because it focuses on an emerging field in the area of LMX; remote working and job satisfaction. Moreover, the qualitative study helped to identify and get a deep understanding of satisfaction factors. This can provide a basis for further research in this field. The defined satisfaction factors can help quantitative research to measure the correlation and impact with other variables.

⁶⁵ OECD, *Productivity gains from teleworking in the post COVID-19 era: how can public policies make it happen?*, OECD Publishing, Washington D.C., 2020.

⁶⁶ Beck M.J., Hensher D.A., Wei E., *Slowly coming out of COVID-19 restrictions in Australia: Implications for working from home and commuting trips by car and public transport*, in *Journal of Transport Geography*, 88, 102846, 2020; Moglia M., Hopkins J., Bardeel A., *Telework, hybrid work and the United Nation's Sustainable Development Goals: towards policy coherence*, in *Sustainability*, 13, 16, 9222, 2021.

⁶⁷ Lodovici M.S., Ferrari E., Paladino E., Pesce F., Frecassetti P., Aram E., *The impact of teleworking and digital work on workers and society – Special focus on surveillance and monitoring, as well as on mental health of workers*, Study Requested by the European Parliament's committee on Employment and Social Affairs, 2021, available at https://www.aceb.cat/images/The_impact_of_teleworking.pdf.

⁶⁸ Lodovici M.S., Ferrari E., Paladino E., Pesce F., Frecassetti P., Aram E., *ibidem*.

The study highlights managerial implications. Since the pre-COVID-19 labour market provides empowered employees with new opportunities,⁶⁹ it will be a great challenge for companies to keep employees satisfied to prevent a high turnover. A managerial implication is to learn from motivational drivers to maintain and draw new talent to the company. It has emerged that remote working can bring several advantages. These include a reduced impact on climate change, enhanced air quality and minimized associated health risks, improved work-life balance and flexibility, and alleviated road congestion and reduced public expenditure on the roads.

Despite the contributions of this study to the current literature, there are also limitations. We have identified the satisfaction factors but have not quantified the impact of the driving satisfaction factors on the LMX. We have also not measured the intensity of remote working. Since the data relates solely to the period of the COVID-19 pandemic, other factors like worrying about the family, being in a lock-down, suffering from the virus could also have had an impact on the overall mood and satisfaction with work. Collaboration tools are continually evolving, and we can only measure the effects with the technical status quo.

Therefore, a promising avenue for further research is to verify the satisfaction factors with a larger sample size and data after the COVID-19 pandemic. This study motivates one to focus on multiple satisfaction factors and measure their impact with a quantitative study. Furthermore, satisfaction factors could also be distinguished depending on the form of remote communication.

Through the COVID-19 pandemic, employees experienced the positive and negative aspects of working remotely. The option of more flexibility in a work setup will empower employees to demand new ways of working. The war for talent within the labour market will motivate companies to keep existing and new employees satisfied. By enabling employees to work from home or other remote locations, remote work can decrease the carbon footprint associated with daily commuting, lower air pollution levels, and mitigate greenhouse gas emissions.

Additionally, remote work can reduce office space requirements, thereby decreasing energy consumption and minimising supply needs such as water. Remote work also offers opportunities to adopt eco-friendly practices. For example, utilising digital communication tools, cloud-based document sharing and storage, and virtual meetings, reduces the need for physical travel and minimises carbon emissions. Overall, remote work is an important and effective means of promoting environmental sustainability, and its continued adoption can contribute significantly to the achievement of the United Nations SDGs.

⁶⁹ Fealy L., Feinsod R., nt. (18).

Bibliography

- Al-Habaibeh A., Watkins M., Waried K., Javareshk M.B., *Challenges and Opportunities of Remotely Working from Home during Covid-19 Pandemic*, in *Global Transitions*, 3, 2021, 99-108. <https://doi.org/10.1016/j.glt.2021.11.001>
- Allen T.D., Golden T.D., Shockley K.M., *How Effective Is Telecommuting? Assessing the Status of Our Scientific Findings*, in *Psychological Science in the Public Interest*, 16, 2, 2015, 40–68. <https://doi.org/10.1177/1529100615593273>
- Ansari M., Hung D., Aafaqi R., *Leader-Member Exchange and Attitudinal Outcomes: Role of Procedural Justice Climate*, in *Leadership & Organization Development Journal*, 28, 2007, 690–709. <https://doi.org/10.1108/01437730710835443>
- Ariani D., *Leader-Member Exchanges as a Mediator of the Effect of Job Satisfaction on Affective Organizational Commitment: An Empirical Test*, in *International Journal of Management*, 29, 2012, 46-56.
- Balthazard P., Waldman D., Warren J., *Predictors of the Emergence of Transformational Leadership in Virtual Decision Teams*, in *The Leadership Quarterly*, 20, 5, 2009, 651-663. <https://doi.org/10.1016/j.leaqua.2009.06.008>
- Barbuto J., Gifford G., *Motivation and Leader-Member Exchange: Evidence Counter to Similarity Attraction Theory*, in *International Journal of Leadership Studies*, 7, 1, 2012, 18-28.
- Bauer T.N., Erdogan B., *The Oxford Handbook of Leader-Member Exchange*, Oxford University Press, Oxford, 2015. <https://doi.org/10.1093/oxfordhb/9780199326174.013.23>
- Beck M.J., Hensher D.A., Wei E., *Slowly coming out of COVID-19 restrictions in Australia: Implications for working from home and commuting trips by car and public transport*, in *Journal of Transport Geography*, 88, 102846, 2020. <https://doi.org/10.1016/j.jtrangeo.2020.102846>
- Bloom N., Liang J., Roberts J., Ying Z.J., *Does working from home work? Evidence from a Chinese experiment*, in *The Quarterly Journal of Economics*, 130, 1, 2015, 165-218. <https://doi.org/10.1093/qje/qju032>
- Bolisani E., Scarso E., Ipsen C., Kirchner K., Hansen J. P., *Working from home during COVID-19 pandemic: lessons learned and issues*, in *Management & Marketing*, 15, s1, 2020, 458-476. <https://doi.org/10.2478/mmcks-2020-0027>
- Bouziri H., Smith D., Descatha A., Dab W., Jean K., *Working from home in the time of COVID-19: How to best preserve occupational health?*, in *Occupational and Environmental Medicine*, 77, 7, 2020, 509-510. <https://doi.org/10.1136/oemed-2020-106599>
- Brown L., Barnes J., Hayes E., *Traffic-related air pollution reduction at UK schools during the Covid-19 lockdown*, in *Science of the Total Environment*, 780, 146651, 2021. <https://doi.org/10.1016/j.scitotenv.2021.146651>
- Byrnes K., Kiely P., Dunne C., McDermott K., Coffey J., *Communication, collaboration and contagion: "Virtualisation" of anatomy during COVID-19*, in *Clinical Anatomy*, 34, 1, 2021, 82-89.
- Cascio W., Shurygailo S., *E-Leadership and Virtual Teams*, in *Organizational Dynamics*, 31, 4, 2003, 362–376. <https://doi.org/10.1109/EMR.2008.4490142>
- Chernyak-Hai L., Rabenu E., *The New Era Workplace Relationships: Is Social Exchange Theory Still Relevant?*, in *Industrial and Organizational Psychology*, 11, 3, 2018, 456-481.

- Choudhury P., *Our Work-from-Anywhere Future*, in *Harvard Business Review*, November-December, 2020, available at <https://hbr.org/2020/11/our-work-from-anywhere-future>.
- Cogliser C., Schriesheim T., Scandura A., Gardner W., *Balance in leader and follower perceptions of leader-member exchange: Relationships with performance and work attitudes*, in *The Leadership Quarterly*, 20, 3, 2009, 452–465. <https://doi.org/10.1016/j.leaqua.2009.03.010>
- Darouei M., Pluut H., *Work from home today for a better tomorrow! How working from home influences work-family conflict and employees' start of the next workday*, in *Stress and Health*, 37, 5, 2021, 986–999. <https://doi.org/10.1002/smi.3053>
- Davidescu A.A., Apostu S.A., Paul A., Casuneanu I., *Work flexibility, job satisfaction, and job performance among Romanian employees—Implications for sustainable human resource management*, in *Sustainability*, 12, 15, 6086, 2020. <https://doi.org/10.3390/su12156086>
- Di Martino V., Wirth L., *Telework: A new way of working and living*, in *International Labour Review*, 129, 5, 1990, 529–554.
- Eregowda T., Chatterjee P., Pawar D.S., *Impact of lockdown associated with COVID19 on air quality and emissions from transportation sector: case study in selected Indian metropolitan cities*, in *Environment Systems and Decisions*, 41, 2021, 401–412.
- Eurostat, *Glossary:Information and communication technology (ICT)*, available at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_\(ICT\)#::~:~:text=Information%20and%20communication%20technology%2C%20abbreviated,handle%20information%20and%20aid%20communication](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_(ICT)#::~:~:text=Information%20and%20communication%20technology%2C%20abbreviated,handle%20information%20and%20aid%20communication).
- Fealy L., Feinsod R., *How can a rebalance of power help re-energize your workforce?*, September 12th, 2023, available at https://www.ey.com/en_ph/workforce/work-reimagined-survey.
- Fonner K.L., Roloff M.E., *Why teleworkers are more satisfied with their jobs than are office-based workers: When less contact is beneficial*, in *Journal of Applied Communication Research*, 38, 4, 2010, 336–361. <https://doi.org/10.1080/00909882.2010.513998>
- Gelfand M., *Rule makers, rule breakers: Tight and loose cultures and the secret signals that direct our lives*, Scribner Book Company, New York, 2019.
- Gioia D., Corley K., Hamilton A., *Seeking qualitative rigor in inductive research*, in *Organizational Research Methods*, 16, 1, 2013, 15–31. <https://doi.org/10.1177/1094428112452151>
- Giovanis E., *The relationship between teleworking, traffic and air pollution*, in *Atmospheric Pollution Research*, 9, 1, 2018, 1–14. <https://doi.org/10.1016/j.apr.2017.06.004>
- Golden T.D., Veiga J., *The impact of superior-subordinate relationships on the commitment, job satisfaction, and performance of virtual workers*, in *The Leadership Quarterly*, 19, 1, 2008, 77–88. <https://doi.org/10.1016/j.leaqua.2007.12.009>
- Golden T.D., Gajendran R. S., *Unpacking the role of a telecommuter's job in their performance: Examining job complexity, problem solving, interdependence, and social support*, in *Journal of Business and Psychology*, 34, 1, 2019, 55–69. <https://doi.org/10.1007/s10869-018-9530-4>
- Gomez C., Rosen B., *The leader-member exchange as a link between managerial trust and employee empowerment*, in *Group and Organization Management*, 26, 1, 2001, 53–69. <https://doi.org/10.1177/1059601101261004>

- Graen G., Uhl-Bien M., *Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multilevel multi-domain perspective*, in *The Leadership Quarterly*, 6, 1995, 219–247. [https://doi.org/10.1016/1048-9843\(95\)90036-5](https://doi.org/10.1016/1048-9843(95)90036-5)
- Greimel N.S., Kanbach D.K., Chelaru M., *Virtual teams and transformational leadership: An integrative literature review and avenues for further research*, in *Journal of Innovation & Knowledge*, 8, 2, 100351, 2023. <https://doi.org/10.1016/j.jik.2023.100351>
- Hambley L., O’Neill T., Kline T., *Virtual team leadership: The effects of leadership style and communication medium on team interaction style and outcomes*, in *Organizational Behavior and Human Decision Process*, 103, 1, 2007, 1-20. <https://doi.org/10.1016/j.obhdp.2006.09.004>
- Hill E., Ferris M., Martinson V., *Does it matter where you work? A comparison of how three work venues (traditional office, virtual office, and home office) influence aspects of work and personal/family life*, in *Journal of Vocational Behavior*, 63, 2, 2003, 220-241. [https://doi.org/10.1016/S0001-8791\(03\)00042-3](https://doi.org/10.1016/S0001-8791(03)00042-3)
- Hook A., Sovacool B.K., Sorrell S., *A systematic review of the energy and climate impacts of teleworking*, in *Environmental Research Letters*, 15, 9, 093003, 2020. <https://doi.org/10.1088/1748-9326/ab8a84>
- Humphreys H., Walter O., *Leadership and Temperament Congruence: Extending the Expectancy Model of Work Motivation*, in *Journal of Leadership & Organizational Studies*, 10, 4, 2004, 58-79. <https://doi.org/10.1177/107179190401000405>
- ILO, *Defining and measuring remote work, telework, work at home and home-based*, 05 June 2020, available at https://www.ilo.org/global/statistics-and-databases/publications/WCMS_747075/lang-en/index.htm .
- Jarvempaa S., Tanriverdi H., *Leading virtual Knowledge Networks*, in *Organizational Dynamics*, 31, 4, 2003, 403-412. [http://dx.doi.org/10.1016/S0090-2616\(02\)00127-4](http://dx.doi.org/10.1016/S0090-2616(02)00127-4)
- Kelliher C., Anderson D., *For better or for worse? An analysis of how flexible working practices influence employees' perceptions of job quality*, in *The International Journal of Human Resource Management*, 19, 3, 2008, 419–431.
- Korherr P., Kanbach D.K., Kraus S., Jones P., *The role of management in fostering analytics: the shift from intuition to analytics-based decision-making*, in *Journal of Decision Systems*, 2022, 1-17. <https://doi.org/10.1080/12460125.2022.2062848>
- Kraus S., Kanbach D.K., Krysta P.M., Steinhoff M.M., Tomini N., *Facebook and the creation of the metaverse: radical business model innovation or incremental transformation?*, in *International Journal of Entrepreneurial Behavior & Research*, 28, 9, 2022, 52-77.
- Le Blanc P., González-Roma V., *A team level investigation of the relationship between Leader–Member Exchange (LMX) differentiation, and commitment and performance*, in *The Leadership Quarterly*, 23, 3, 2012, 534–544.
- Lautsch B.A., Kossek E.E., & Eaton S.C., *Supervisory approaches and paradoxes in managing telecommuting implementation*, in *Human Relations*, 62, 6, 2009, 795-827. <https://doi.org/10.1177/0018726709104543>
- Leemann N., Kanbach D., Stubner S., *Breaking the Paradigm of Sensing, Seizing, and Transforming - Evidence from Axel Springer*, in *Journal of Business Strategies*, 38, 2, 2021, 95-124. <https://doi.org/10.54155/jbs.38.2.95-124>

- Liden R., Sparrowe R., Wayne S., *Leader-member exchange theory: The past and potential for the future*, in *Research in Personnel and Human Resources Management*, 15, 1997, 47–119.
- Liu Z., Ciais P., Deng Z., Lei R., Davis S.J., Feng S., *et al.*, *Near-real-time monitoring of global CO2 emissions reveals the effects of the COVID-19 pandemic*, in *Nature Communications*, 11, 1, 5172, 2020. <https://doi.org/10.1038/s41467-020-18922-7>
- Lodovici M.S., Ferrari E., Paladino E., Pesce F., Frecassetti P., Aram E., *The impact of teleworking and digital work on workers and society – Special focus on surveillance and monitoring, as well as on mental health of workers*, Study Requested by the European Parliament's committee on Employment and Social Affairs, 2021, available at https://www.aceb.cat/images/The_impact_of_teleworking.pdf.
- Loi R., Chan K.W., Lam L., *Leader–member exchange, organizational identification, and job satisfaction: A social identity perspective*, in *Journal of Occupational and Organizational Psychology*, 87, 1, 2014, 42–61.
- Malik M., Wan D., Ahmad M., Naseem M., *The role of LMX in employees job motivation, satisfaction, empowerment, stress and turnover: Cross country analysis*, in *Journal of Applied Business Research (JABR)*, 5, 2015, 1897-2000.
- Merriam S., *Introduction to qualitative research*, in *Qualitative research in practice: Examples for discussion and analysis*, 1, 1, 2002, 1-17.
- Michael D., *Supportive supervisor communication as an intervening influence in the relationship between LMX and employee job satisfaction, turnover intentions, and performance*, in *Journal of Behavioral Studies in Business*, 4, 2011, 1-28.
- Moglia M., Hopkins J., Bardoel A., *Telework, hybrid work and the United Nation's Sustainable Development Goals: towards policy coherence*, in *Sustainability*, 13, 16, 9222, 2021. <https://doi.org/10.3390/su13169222>
- Mouriño-Ruiz E., *Leader-Member Exchange (LMX) The Impact of Leader-Employee Relationships in the 21st Century Workplace*, in *Business Journal of Hispanic Research*, 4, 1, 2010.
- Nikolić M., Vukonjanski J., Nedeljković M., Hadžić O., Terek E., *The impact of internal communication satisfaction dimensions on job satisfaction dimensions and the moderating role of LMX*, in *Public Relations Review*, 39, 5, 2013, 563-565. <https://doi.org/10.1016/j.pubrev.2013.09.002>
- OECD, *Productivity gains from teleworking in the post COVID-19 era: how can public policies make it happen?*, OECD Publishing, Washington D.C., 2020. <https://doi.org/10.1787/a5d52e99-en>
- Pellegrini E., Scandura T., *Leader–member exchange (LMX), paternalism, and delegation in the Turkish business culture: An empirical investigation*, in *Journal of international business studies*, 37, 2, 2006, 264-279. <https://doi.org/10.1057/palgrave.jibs.8400185>
- Popovici V., Popovici A.L., *Remote work revolution: Current opportunities and challenges for organizations*, in *“Ovidius” University Annals – Economic Sciences Series*, 20, 1, 2020, 468-472.
- Prin M., Bartels K., *Social distancing: Implications for the operating room in the face of COVID-19*, in *Canadian Journal of Anaesthesia*, 67, 7, 2020, 789-797. <https://doi.org/10.1007/s12630-020-01651-2>
- Roberto R., Zini A., Felici B., Rao M., Noussan M., *Potential Benefits of Remote Working on Urban Mobility and Related Environmental Impacts: Results from a Case Study in Italy*, in *Applied Sciences*, 13, 1, 607, 2023. <https://doi.org/10.3390/app13010607>

- Salmony F., Kanbach D., Stubner S., *Entrepreneurs in times of crisis: Effects of personality on business outcomes and psychological well-being*, in *Traumatology*, 28, 3, 336, 2021. <https://psycnet.apa.org/doi/10.1037/trm0000359>
- Scandura T., Graen G., *Moderating effects of initial leader–member exchange status on the effects of a leadership intervention*, in *Journal of Applied Psychology*, 69, 3, 1984, 428-436 <https://doi.org/10.1037/0021-9010.69.3.428>
- Schyns B., Wolfram H., *The relationship between leader-member exchange and outcomes as rated by leaders and followers*, in *Leadership & Organization Development Journal*, 29, 7, 2008, 631-646.
- Slavković M., Sretenović S., Bugarčić M., *Remote working for sustainability of organization during the covid-19 pandemic: The mediator-moderator role of social support*, in *Sustainability*, 14, 1, 2022. <https://doi.org/10.3390/su14010070>
- Soga L.R., Bolade-Ogunfodun Y., Mariani M., Nasr R., Laker B., *Unmasking the other face of flexible working practices: A systematic literature review*, in *Journal of Business Research*, 142, 2022, 648-662. <https://doi.org/10.1016/j.jbusres.2022.01.024>
- Sparrowe R., *Empowerment in the hospitality industry: An exploration of antecedents and outcomes*, in *Hospitality Research Journal*, 17, 3, 1994, 51-73.
- Sparrowe R., Liden R., *Process and structure in leader-member exchange*, in *Academy of Management Review*, 22, 2, 1997, 522–552. <https://doi.org/10.5465/amr.1997.9707154068>
- Sytch M., Greer L.L., *Is your organization ready for permanent WFH*, in *Harvard Business Review*, 18, 2020.
- Trapp C.T., Kanbach D.K., *Green entrepreneurship and business models: Deriving green technology business model archetypes*, in *Journal of cleaner production*, 297, 126694, 2021. <https://doi.org/10.1016/j.jclepro.2021.126694>
- Volmer J., Niessen C., Spurk D., Linz A., Abele A., *Reciprocal relationships between leader–member exchange (LMX) and job satisfaction: A cross-lagged analysis*, in *Applied Psychology*, 60, 4, 2011, 522-545.

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