BESt Work Life: a multidimensional approach to organisational climate measurement

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Abstract

Measuring organisational well-being and evaluating participation strategies is essential for understanding their impact on workers' satisfaction, mental health, work-life balance, and performance. To address these aspects, we introduce the BESt Work Life organisational climate survey, encompassing sixty statements that capture the multidimensional well-being of workers alongside ten statements to gauge participation levels based on existing literature. The analysis of 790 responses from 26 organisations reveals a positive relationship between workers' participation levels and well-being. Our research offers valuable insights for fostering well-being, participation, and gender analysis to create inclusive and thriving workplaces.

Keywords: worker well-being, work-life balance, corporate performance.

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1. Introduction

In the current historical context of ecological and digital transitions, organisations face the critical challenge and responsibility of reconciling their survival and competitiveness with well-being, health, and quality of work-life.

The relationship between competitiveness and workers wellbeing can however hide virtuous circle and not just trade-offs.

The concept of organisational well-being extends beyond traditional measures of success, emphasizing that a competitive advantage is tied to creating a motivating and peaceful environment based on trust. In today's rapidly changing and demanding work world, organisations can actually prioritize employee well-being to enhance engagement, creativity, and productivity. A positive work environment that fosters well-being can reduce stress, absenteeism, and turnover while cultivating loyalty and commitment. Internal participation and collaboration play a vital role in today's interconnected and evolving society. Our claim is that organisations need to tap into the collective intelligence and diverse perspectives of their workforce to remain competitive. By promoting various forms of participation, such as strategic, organisational, and operational involvement, organisations can unlock the potential of their employees, foster innovation, and adapt more effectively.

Measuring organisational well-being and evaluating the effectiveness of participation strategies are crucial. These assessments enable organisations to gauge the impact of their initiatives on employee satisfaction, mental health, work-life balance, and overall performance. Understanding the factors that contribute to the well-being and actively involving employees in decision-making processes create a positive and inclusive work culture that attracts and retains top talent. The existing literature recognizes the essential roles of worker participation and well-being in relation to company productivity. However, the literature often treats participation and well-being as separate entities, leading to a division of interests within organisations. Integrating both dimensions into the same measurement tools, such as questionnaires, would enhance understanding of organisational well-being. The interplay between participation and well-being contributes to a more comprehensive evaluation of the relationship between workers wellbeing and corporate performance. Moreover, the diversity in definitions of organisational well-being and participation highlights the need for precise and multidimensional concepts that capture the various aspects of work life. This search for refined notions is crucial for guiding effective organisational policies.

Based on extensive research and recognizing the potential for further exploration, this paper introduces the BESt Work Life organisational climate survey as an innovative and comprehensive approach to measuring both workers' well-being and participation levels. This survey builds upon the existing BES framework proposed by Istat and comprises sixty well-being questions encompassing various dimensions of workers' experiences and ten statements focusing on gauging participation levels. By combining these elements, the BESt Work Life survey offers a more nuanced and detailed reflection of an organisation's actual climate state, capturing the intricate interplay between well-being and participation. Together with the proposal of a new climate measurement, this study provides compelling statistical evidence supporting the relationship between participation levels and well-being. Our findings indicate that as participation levels increase, there

is a corresponding increase in well-being among employees. This statistical evidence reinforces the notion that a more participatory work environment fosters a greater sense of well-being among workers. It suggests that organisations should actively promote and encourage employee participation to enhance overall well-being within the workplace.

The structure of the paper is as follows: the second chapter presents a concise literature review on participation levels, organisational well-being, and empirical evidence showcasing their impact on organisational productivity. The third part outlines the structure and methodology of the BESt Work Life survey, which captures crucial measures of well-being and participation. The fourth chapter focuses on data presentation and analysis methods, followed by the fifth chapter presenting the results.

2. Short literature review

Well-being, health, and quality of work-life pose a crucial challenge to organisations whose competitive advantage is deeply linked not only to efficiency and productivity, but also to the ability to build a motivating and peaceful organisational environment based on trust. Especially in today's work world, which is marked by profound uncertainty and increasingly demanding performance requirements, it can be strategic to learn how to design organisational styles that promote the well-being and quality of life of workers together with different forms of internal participation and collaboration. The importance of workers' participation and collaboration cannot be underestimated today. In an interconnected and rapidly evolving world, organisations need to tap into the collective intelligence and diverse perspectives of their workforce to stay competitive. This paragraph presents a short literature review of workers' participation (2.1) and organisational well-being (2.2) definitions and some examples of instruments used to measure them. Furthermore, the last paragraph (2.3) presents some studies providing valuable insights into the complex interplay between participation, workers' well-being and economic-financial indicators of organisations.

2.1 Workers' Participation

Workers' participation has always been highly debated as it represents a delicate intersection between workers' rights and company management and between workers and regulations implemented at the state level. Differently from the past, where workers were mainly seen as mere productive components within a rigid command-and-control framework (Taylorism-Fordism), they today are recognised as crucial creative human resource organisations (Leonardi, 2022). Trying to find a unified definition of the topic based on the available literature, workers' participation can be interpreted as a series of practices that allow, in different forms and modes, to influence and take part in various aspects that characterise the life of an organisation. According to Ichino (2014), all forms of workers' participation are based on "the idea of a common interest between workers and entrepreneurs in the prosperity of the enterprise, and also on the idea that the entrepreneur cannot do without the workers, but the workers cannot do without someone who knows how to enhance their work".

2.1.1 Models, forms, objectives and methods of workers' participation

One of the most well-known concepts of participation was proposed by Baglioni (1995), who identified three main models: antagonistic, collaborative, and integrative. The first type aims to "effectively modify the intrinsic asymmetry of the employment relationship and often the very condition of workers in society" (Lauria, 2010). The collaborative model seeks to address the socioeconomic position of employees without changing the institutional structure of capitalism or the company's mission. Finally, the integrative model proposes the involvement of workers in the company's functioning.

Regarding the modalities of workers' participation, the literature distinguishes between direct and indirect participation (Geary & Sisson, 1994). The first refers to various initiatives or interactions through which management directly consults or delegates to workers the definition of content, conditions, and methods of organising their activity (Eurofound, 2015). The second involves elected workers' representatives in the company's decision-making process through delegation or a union mandate. Furthermore, according to Eurofound (2015), direct participation can be defined as the set of opportunities that managers provide or initiatives they support at the workplace level for consulting and/or delegating responsibilities and decision-making authority to their subordinates, both as individuals and as groups of employees, in relation to immediate work tasks, work organisation, and/or working conditions.

In addition to the above described modalities, the literature defines three distinct levels or objectives of workers' participation (Baglioni & Catino, 1999). Specifically, according to the scholars, participation can be strategic, organisational, and operational. Strategic participation refers to the involvement of workers in important decisions about the company's future, in terms of investment choices, production and management models. Throughout history, this type of participation has been realised based on specific legislation (e.g., German co-determination), ownership rights (e.g., widespread shareholding in the United States), or the presence of a workers' pension fund among corporate shareholders (e.g., Chrysler employees' VEBA fund in 2009) (Leonardi, 2022). Organisational participation regards workers' involvement in the company's day-to-day management and managerial decisions regarding production flows. According to Baglioni and Catino (1999), this can be achieved in various ways, such as through Joint Management-Union Representative Committees or through consultation procedures with workers (or their local basic representatives) on specific topics. Finally, operational participation refers to the direct involvement of workers in the daily work management and the factory labour organisation.

The functions of participation can be then divided into informative, consultative, propositional, negotiating, and decision-making, as described in the literature. The informative function refers to sharing information with workers to make them aware of already decided changes regarding factors such as the company's financial position, market status, production and sales programs, work methods, budget, facilities, and so on. Although workers do not have the right to control the information the management provides, this function is important because involvement in the process can motivate workers to pay more attention to company dynamics and relevant information (Shetzer, 1993; Wagner, 1994).

The consultative function of participation implies a higher degree of workers' involvement, as it allows them to express their opinions on various workplace-related issues, working conditions, financial situations, and so on. In this case, the joint council of workers and management acts as an advisory body, and direction may or may not accept their suggestions. In this process, subordinates provide input to managers before making decisions through suggestions or recommendations, but managers retain control over the final decisions (Ruiz & Rivero, 2018). Consultative participation allows for the exchange of ideas and different viewpoints between management and employees, as well as among employees themselves (Fleetwood & Hesketh, 2010). In consultative participation, employees often engage in direct, formal, and long-term participation, and the content of the participatory decision-making process often focuses on work-related issues: workers express their opinions, and management encourages them to share their perspectives while retaining the right to act.

The propositional function entails a higher degree of sharing authority and responsibility in managerial work, granting workers more autonomy in exercising administrative and supervisory powers concerning welfare, safety, benefits, rewards, and so on. Specifically, workers are expected to contribute proposals on specific topics. Due to increasing levels of complexity, companies and institutions are increasingly called upon to be proactive in their decision-making process, and a propositional approach can lead to the planning of actions before threats or opportunities arise. However, it can be observed that a defensive or passive attitude still characterises many employee representation systems, and some employers seem to pay attention only to immediate effects. This approach can create the so-called "paradox of organisational improvement" where successfully implemented changes in one part of the company do not translate into increased overall performance at the organisational level (Goodman & Rousseau, 2004).

Finally, the negotiating function allows workers to co-determine change through negotiation, meaning that decisions are made jointly on issues related to production, safety, welfare, etc. The decision-making function, on the other hand, is considered the highest form of participation, as it allows workers to determine corporate change. These latter two functions are reflected in the literature: substantial employee involvement in decision-making, on the one hand, can strengthen their interests and, on the other hand, reduce the likelihood of opportunism by managers (Wright et al., 2005). When employees have a fundamental role in defining policies and decisions within the organisation, leaving the organisation can become difficult for them: employee retention increases when they have a say and authority in decisions concerning their work (Ojasalo & Tahtinen, 2016). Finally, this relationship can be influenced by fair and transparent compensation practices (George, 2015).

2.1.2 Measuring workers' participation

The variety of existing notions is also reflected in the instruments used for measuring the degree of workers' participation. One field of study dedicated to workplace participation is the so-called Employee Involvement and Participation (EIP), which refers to a wide range of practices initiated and designed primarily by management to increase the information available to employees and their commitment to the organisation (Wilkinson et al., 1992). According to EIP, individual employee involvement is crucial in producing an engaged workforce that is more likely to contribute to the efficient functioning of an organisation. Additionally, participation indicates the extent to which

employees, often through their representatives, feel involved in the organisation's decision-making process (e.g., through joint consultation, collective bargaining, and employee representation on the board of directors). One study that attempted to quantify EIP practices is the one conducted by Cox et al. (2006), which considered indicators of the level of workplace participation, such as the use of Joint Consultative Committees (JCCs), formal employee surveys, team briefings, problem-solving groups (PSGs), and the provision of information to employees on finance, investments, and organisational personnel. To measure these dimensions of participation, the authors derived from the WERS dataset (UK Workplace Employment Relations Study) the percentage of employees participating in problem-solving groups, the amount of time allocated to employee questions during team briefings, and the method of selecting employee representatives for works councils. According to Cox et al. (2006), management willingness to let employees choose their representatives indicates the company's commitment to greater fairness, democracy, and trust in the workplace. Moreover, the number of participants in problem-solving groups suggests management's interest in involving as many people as possible and employees' interest in participating. Finally, higher employee frequency in PSGs and JCCs indicated their social legitimacy within an organisation as a common means of discussion and communication. In contrast, less frequent use may indicate declining interest or their use to discuss less urgent priorities.

According to the discipline of Human Resource Management (HRM), employee participation or "personnel codetermination" refers to activities and measures adopted by management that allow workers to be actively and collectively involved in decision-making processes and achieve a common goal. According to this discipline, Vanhala and Tuomi (2006) identified in their study seven main dimensions for measuring participation: 1) Formality of Human Resource Management (e.g., the existence of an HRM strategy, written job descriptions in the company, absence register, safety and health program); 2) Hiring policies (e.g., the type of hiring strategy followed, whether primarily hiring young people or not); 3) Employee development (e.g., the level of participation in company training, investment in training, employees' willingness to learn and improve their work); 4) Motivation and rewards (e.g., the ability to motivate employees, willingness to help others); 5) Work flexibility (e.g., flexible working hours, presence of part-time, fixed-time, or temporary contracts); 6) Teamworking and participation; 7) Communication (e.g., how to open the company is to internal communication, how well-informed employees are about the company's performance).

Franca and Pahor (2014) also examined the role of management in the employee participation system. The research was based on the premise that management can considerably impact how employee participation is implemented and demonstrated a positive relationship between management support for participation and its actual implementation. To this aim, the authors developed a comprehensive index of employee participation implementation and tested the relationship between management attitudes towards employee participation and its implementation in a cross-sectional survey of 225 managers in Slovenia. Specifically, the level of employee participation implementation was measured using the Index of Participation Implementation (IPI), which focused on indirect employee participation through representative bodies. In the study, the authors also introduced the Index of the Presence of Bodies (IPB), which measured the mere presence of employee participation bodies in the company (e.g., works council, employee representatives on the board of directors, etc.).

Another tool for measuring the extent of workers' participation in different European countries is the European Participation Index (EPI)[1], devised by researchers at the ETUI (European Trade Union Institute). According to the authors, workers' participation in the company's decision-making process has two main objectives: making social rights effective to strengthen democracy and social understanding and helping companies achieve economic competitiveness and ecological sustainability. The EPI was thus developed as a composite index summarising both formal rights and the extent of participation at three levels: board level, establishment level, and collective bargaining. The most updated EPI, called EPI 2.0, consists of three equally weighted components: i) board-level participation, which measures the strength of legal rights in each country for employee representation in the highest decision-making body of the company; ii) establishment-level participation, based on an analysis of the European Company Survey 2009 by Eurofound, which included data on the presence or absence of formal employee representation in over 27,000 companies in the EU-27 and other European countries; iii) participation in collective bargaining, which measures union influence on company industrial relations policies, including an average of union density (percentage of the workforce belonging to unions) and coverage of collective bargaining (percentage of the workforce covered by collective agreements).

2.2 Workers' multidimensional well-being

Organisational well-being can be defined as "the ability of an organisation to promote and maintain the highest degree of physical, psychological, and social well-being of workers in any type of occupation" (Avallone & Bonaretti, 2003). The studies that have led to the consideration of well-being in the workplace from multiple perspectives - physical, psychological, and social - and the subsequent measurement of multiple dimensions of well-being at work are recent and have emerged from extensive debates and empirical research in the fields of psychology, management, sociology, medicine, and anthropology. Before defining the current measurement tools for organisational well-being, it is important to briefly review the historical journey that has led to formulating the concepts of health and well-being within an organisation.

2.2.1 Historical evolution of workers' well-being

At the beginning of the twentieth century, work organisation was focused on performance and achieving results, excluding the consideration of the work environment and the health of individual workers from organisational decisions. Workers were primarily seen as passive individuals whose task was to respond to economic stimuli and adapt to the technological and organisational system. Gradually, there was an increasing interest in the safety of workplaces, and from the 1930s onwards, the topic of health in organisations was primarily approached in terms of safety through the introduction of assistance tools for injured workers and the establishment of bodies and committees responsible for monitoring and optimising workplace safety.

Thanks to the emergence of the Human Relations Movement, initiated by the research of George Elton Mayo, the field of work psychology began to recognise that organisations had the function of producing goods and services and creating a social environment conducive to the well-being of individual members. This highlighted the importance of the "organisational climate" and social

[1] Source: European Participation Index (EPI) / About WP / Home - WORKER PARTICIPATION.eu (worker-participation.eu)

relationships in worker performance (Mayo, 1933, 1945). These studies also introduced the first reflections on the possible causes of worker distress, such as routinisation, deskilling, alienation, and demotivation. Interest in not only the physical but also the mental and socio-relational aspects of workers increased in the United States, where "psychosocial aspects of work" started to be discussed (Chinoy, 1955; Kornhauser, 1965). This led to "a specific attention towards the issue of safety, not only in terms of the physical dimension, but also for all aspects related to the psychological well-being of the worker" (Colì et al., 2012).

Starting from the 1970s and 1980s, the focus on workplace health expanded to include active health preservation (prevention), thus outlining a more systemic analysis of organisational health. For example, in Terborg's studies (1986), health was no longer seen merely as the absence of disability or illness that the organisation had to contribute to maintaining (health protection), but as a state of authentic physical and psychological well-being for which workers were also responsible, and therefore, they needed to be encouraged by the organisation to pay more attention (health promotion). This shift involved not only considering the environmental conditions that could be detrimental to health but also aiming to modify worker behaviours that could contribute to the onset of certain illnesses or disabling conditions. The extension of the concept of organisational health to include the organisational climate and culture occurred in the 1990s when Raymond et al. (1990) introduced a new interdisciplinary field that emerged from the convergence of health psychology and public health in work environments, known as Occupational Health Psychology (OHP). The OHP approach arose in light of work transformations that began in the 1980s, such as flexible employment and changes in organisational processes. It marked a turning point in work psychology as it was the first attempt to go beyond the concept of safety and extend it to a broader notion of organisational health. It also opened up the possibility of seeking indicators of organisational health. Specifically, OHP concerns the application of psychology to improve the quality of working life and the protection and promotion of workers' safety, health, and well-being. According to OHP, the pillars of occupational health include the state of the work environment, the individual, and the work-family relationship. An organisation could be considered healthy if it exhibited high productivity, high worker satisfaction, good safety, low absenteeism, low turnover, and no violence (Colì et al., 2012).

A few years later, Williams (1994) introduced one of the first tools used to measure organisational health: a grid consisting of four levels to define the health of an organisation. According to Williams (1994), the four pillars of organisational health were environmental factors (e.g., space design, noise, temperature), physical factors (e.g., illnesses, health status), mental factors (e.g., self-esteem, stress, anxiety), and social factors (e.g., work relationships, personal interests). Subsequently, Jaffe (1995) furthered the studies on organisational well-being and confirmed that it could only be defined through a systemic view encompassing four main paradigms: the level of work stress and burnout, work organisational redesign, company policies that promote health, and the psychodynamic study of managers, which could influence the organisation's health positively or negatively.

In the Italian context, the introduction of community regulations adopted with Legislative Decree 626 in 1994 was a significant event that changed the understanding of workplace safety and prevention. The cultural model introduced placed the organisation at the centre of safety

management, shifting the focus from safety to the organisation of work in a preventive perspective. This led to the idea that "the organisation of work and the organisational choices and decisions can create conditions of danger or risk to the physical as well as psychological well-being of workers" (Battaglia et al., 2017). Despite this shift in perspective, most of the studies on workplace well-being conducted until the 2000s were predominantly focused on safety and physical health, while the psychological health of individuals was mainly observed from the perspective of work-related stress. In the 21st century, it became increasingly evident that organisational well-being goes beyond the mere physical state of workers and the prevention of risks, and that must be intended as "the set of cultural nuclei, organisational processes, and practices that animate the dynamics of coexistence in work settings, promoting, maintaining, and improving the quality of life and the degree of physical, psychological, and social well-being of work communities" (Avallone and Bonaretti, 2003, p. 42).

2.2.2 Measuring workers' health and well-being

Regarding the measurement tools for health and organisational well-being, the literature presents various proposals that differ based on the object of investigation. There are tools - mainly questionnaires - that aim to assess work-related stress and potential triggering factors ("psychosocial risks"), and others that seek to obtain a more systemic representation of the health and well-being status of an organisation through the simultaneous evaluation of multiple factors. This section presents both some measures of work-related stress and of organisational well-being, since it is widely established in the literature that the measurement of work-related stress is an important component of overall organisational well-being, and therefore, it is customary to find questionnaires that aim to measure both aspects simultaneously.

Measurement of work-related stress

The study of work-related stress represents one of the most explored fields in the history of occupational psychology and can be defined as "a condition that can be accompanied by physical, psychological, or social disorders or dysfunctions and is a consequence of individuals feeling unable to meet the demands or expectations placed on them" (Article 3, European Framework Agreement, 2004)[2]. The measurement of workplace stress is essential as it is directly involved in the overall definition of an organisation's health/well-being status. In fact, considering the problem of work-related stress "can result in increased efficiency and significant improvement in working conditions, health and safety, with resulting economic and social benefits for companies, workers, and society as a whole" (European Framework Agreement, 2004).

One of the first instruments used to measure work-related stress was the Job Content Questionnaire (JCQ) (Karasek, 1985), which remains one of the most widely used assessment tools. Karasek's stress assessment is based on the "Job demand-control" model (Karasek, 1979). It aims to "analyse and predict the behavioral and psychophysical consequences of industrial society on the worker" based on two main dimensions (job demands and worker control over job tasks) (Colombo, 2017). According to the model, the relationship between high job demands and low decision latitude can lead to a condition of "job strain" or "perceived job stress" and an increased risk of cardiovascular diseases. According to researchers, Karasek's theory remains one of the most reliable models "in

[2] Source: https://resourcecentre.etuc.org/agreement/framework-agreement-work-related-stress

research aimed at evaluating the psychosocial conditions of work and the relationships between stress and coronary heart diseases, chronic fatigue (vital exhaustion), depression, drug abuse, absenteeism, work-related injuries, musculoskeletal disorders, mortality, reproductive problems" (Baldasseroni et al., 2001).

Another questionnaire for assessing work-related stress from the perspective of organisational well-being is the Q-Bo Test (De Carlo et al., 2008), which was developed in Italy in light of Legislative Decree 81/08 and the Circular of the Ministry of Labour and Social Policies of November 18, 2010, in order to conduct a "thorough evaluation, based on the subjective perception of workers, of the work-related stress risk to which workers themselves are potentially exposed" (De Carlo et al., 2008). The Q-Bo Test represents a valid tool for pursuing efficiency and effectiveness in business from the perspective of organisational well-being, as envisioned in the ministerial directive on "Measures aimed at improving organisational well-being in public administrations" (Directive of March 24, 2004)[3]. The test was developed based on literature and the most accredited practical experiences in Italy and abroad to propose a multidimensional investigative model ("systemic approach") of an organisation's well-being status. According to the authors, the systemic approach of the Q-Bo Test allows for acquiring adequate information regarding the risk factors of physiological, psychological (burnout), and behavioural stress/strain; assessing the extent of work-related stress risk; identifying lines of intervention and specific initiatives for preventing distress and promoting well-being and organisational efficiency and effectiveness.

Another tool currently used to assess psychosocial risks in the workplace is the Organisational and Psychosocial Risk Assessment (OPRA), also known as the "Test for Compliance with Legislative Decree 81/08" (Magnani et al., 2009). OPRA is a multifactorial questionnaire developed to "effectively assess the presence of psychosocial risk factors and work-related stress conditions" based on aspects "recognised in the literature as central in defining work well-being and the resulting optimal psychophysical health status" (Colì et al., 2012). The questionnaire, which can be completed individually by all employees in a company, allows, in particular: identifying sources of work pressure, supporting the prevention service managers and employers in identifying the psychosocial risks perceived by employees, and implementing appropriate preventive actions to promote organisational well-being. Moreover, OPRA has been reported by the International Archives of Occupational and Environmental Health (2008, 82, 1-12) as one of the 33 tools to be used in the workplace to measure psychosocial risks associated with work-related stress (Colombo, 2017).

In 2011, the Italian National Institute for Insurance against Accidents at Work (INAIL) proposed a methodological approach based on the Health and Safety Executive (HSE) to assist organisations in managing work-related stress in the implementation of Legislative Decree 81/2008 and subsequent amendments (Rondinone et al., 2011). The INAIL proposal arose from the evidence that "work-related stress has negative effects on companies in terms of employee commitment, performance, and productivity, incidents caused by human error, staff turnover and early abandonment, attendance rates, job satisfaction, and potential legal implications" (Rondinone et al., 2011, p.11). Therefore, the methodology presented by INAIL consisted not only of a stress risk assessment

[3] Source: https://www.funzionepubblica.gov.it/sites/funzionepubblica.gov.it/files/16816.pdf

questionnaire but also of an integrated process based on a participatory approach that involves the active involvement of workers and all prevention figures. The process proposed by INAIL consists of four methodological phases to achieve the correct identification and management of the risk (propaedeutic, preliminary evaluation, in-depth evaluation, and intervention planning). In the preliminary evaluation phase, a " checklist " questionnaire collects and evaluates risk conditions by completing indicators concerning three different areas: sentinel events, job content, and work context. These indicators are not provided to all employees of the participating company but to a sample of workers deemed representative of different positions and balanced by gender (e.g., "Homogeneous groups"). In the preliminary evaluation phase, all company employees complete the "Indicator Tool Questionnaire," which is the Italian version of the Management Standard Indicator Tool developed by the HSE (Rondinone et al., 2012). The questionnaire is a multidimensional tool that measures aspects of job content and work context considered potential work-related stress factors. In particular, according to the reference model, the key areas of job organisation (Management Standard) that, if not carefully managed, can lead to health and well-being problems for workers with repercussions on the company's productivity levels are job demand (workload, work context, and job organisation), control (worker autonomy/control over tasks), management support (encouragement, support, and resources from the company and supervisors), colleague support (encouragement, support, and resources from colleagues), relationships (promotion of a positive workplace), role (worker's awareness of their own role), change (management of internal company changes) (Di Tecco et al., 2017).

Measurement of organisational well-being

One of the first tools for measuring organisational health, beyond mere work-related stress, was the Organisational Health Report or OHR Index (Fiorelli et al., 1998), which allowed potential human resource problems in organisations to be measured and established a threshold for the health status of an organisation below which a "repair" intervention is required. The OHR Index consists of five components created based on the temporal characteristic of the indicator (current, retrospective, forecasting) and the ease/availability of data collection. In this way, an index is defined as containing measures of past events (turnover, burnout), current situations (contacts with the HR department and visits from the ombudsman), and future situations such as the "need for change" (Avallone and Bonaretti, 2003). This model was proposed to help human resource planners identify work management problems that can seriously impact the company's overall well-being and prompt them to take concrete actions. Additionally, the OHR Index uses a process that identifies employee discontent before it becomes a crisis and provides tools to help manage and address work problems (Fiorelli et al., 1998). Shortly after, Lyden & Klengele (2000) proposed a questionnaire as an additional method for evaluating organisational health, containing indicators of organisational "ill-being" (symptoms) (e.g., reduced profits, decreased productivity, absenteeism); dimensions related to individual workers (e.g., workplace reception, communication capacity, involvement in decisions, consideration in the workplace); and dimensions related to the organisation (e.g., internal and external reputation enjoyed by the organisation).

In 2003, Avallone and Bonaretti conducted a study promoted by the Department of Public Administration to improve the quality of work and the well-being of workers within public administrations. The research was born considering the changes shaping the 21st-century work

world (reduced job stability, the introduction of new technologies, increased demands for flexibility, etc.), which required improved techniques for evaluating organisational well-being. In the study, organisational well-being is defined in terms of indicators of "well-being" and "ill-being" constructed based on all those dimensions considered fundamental, also in previous literature, to define the state of good health of an organisation. Starting from the dimensions of an organisation's good health, eleven well-being indicators and fifteen ill-being indicators were constructed within an individual questionnaire ("Questionnaire on Organisational Well-being"). According to the authors, this organisational well-being survey tool is appropriate in terms of data collection speed, cost-effectiveness, and anonymity, and it allows not only the identification of any discomfort but, above all, the monitoring of areas that could promote better working conditions, health, and well-being (Avallone and Bonaretti, 2013, p. 46). Another strength provided by the prepared questionnaire is the possibility of grading the examined dimensions along a scale to capture the multiple facets of the organisation from a personnel policy development perspective.

The dimensions and indicators presented in the 2003 study were later translated into a series of questions by Avallone & Paplomatas (2005), leading to the development of the "Multilevel model of organisational health and well-being." This model is based on the idea that the organisational health status can be defined by examining various dimensions: organisational values, communication, leadership style, the perception of the degree of transparency in decision-making processes, team cohesion, and the level of workload. The authors argue that measuring organisational health is a fundamental step in planning and implementing interventions to reduce organisational stress and promote workplace well-being. The model emphasises the importance of evaluating organisational health at different levels: the individual level (worker's perception), the group level (work team perception), and the organisational level (policies and practices) (Avallone & Paplomatas, 2005).

Since 2010, Italy's well-being assessment has gained attention from the Italian National Institute of Statistics (Istat) and the National Council for Economics and Labor (CNEL). They initiated the Equitable and Sustainable Well-being (Benessere Equo e Sostenibile - BES) project by evaluating economic, social, and environmental dimensions. Outcomes are shared annually through the "BES Report" and a digital dashboard, offering a comprehensive view of Italy's well-being across regions. Specifically, Equitable and Sustainable Well-being encompasses 12 domains measured by 153 indicators that adapt over time (BES Report, 2022)[4]. "Work and Life Balance" is one domain, evaluated through 15 indicators, quantifying the impact of work on Italian well-being. Istat notes that "having adequately paid and reasonably secure work that matches one's skills is a universal aspiration of people, contributing decisively to their well-being. While the lack of 'good employment' undoubtedly hurts well-being, a similar impact can be caused by poor distribution of work commitments that hinder the balance between work, family, and social life." In terms of measurement, the work domain includes five subdomains regarding work engagement, job quality, work-life balance, organizational aspects, and job satisfaction.

2.3 Empirical evidence in literature

This paragraph aims to delve into studies that have empirically explored the following aspects: i) the relationship between participation and worker well-being; ii) the relationship between participation

[4] Source: https://www.istat.it/it/archivio/282920

and economic-financial indicators; iii) the relationship between worker well-being and economic-financial indicators.

2.3.1 The relationship between participation and employee well-being

As mentioned earlier, several studies claim at a theoretical level that employee participation is a key element in increasing their well-being. Among the various components that define well-being - psychological, environmental, and social - feeling involved in the work community through various levels of participation is also important. A significant portion of international literature has distinguished participation practices into two main categories: those related to Human Resources Management (HRM) and those related to financial participation (Uribetxebarria et al., 2021). According to some researchers, the first category includes employee participation in decision-making (decision-making participation) and in the outcomes of the company (profit-sharing participation) (Boselie et al., 2005; Boon et al., 2019). The second category concerns both employee ownership (employee stock ownership) and participation in outcomes (profit-sharing participation) (Kruse et al., 2010; Kurtulus & Kruse, 2017). The existence of these distinct definitions has led many researchers over the years to focus only on HRM practices or solely on financial practices, making it difficult to understand which practices are most suitable for a company (Mullins et al., 2019).

In 2006, Vanhala and Tuomi conducted a study to explore the relationship between participation in company decisions according to the HRM model, company performance, and employee well-being. Starting from the relationship between company decisions and employee well-being, the authors collected data through four questionnaires administered to managers and workers from 1997 to 2000. The purpose of the study was to verify the existence of a positive and significant relationship between employee well-being, seven measures of participation, and six measures of the workplace. Well-being was measured using three different tools: i) a version of the General Health Questionnaire (GHQ) consisting of twelve questions (Cooper & Cartwright, 1994); ii) a five-item scale to measure general satisfaction and well-being (Bradburn, 1969); iii) a measure of emotional exhaustion similar to the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981). The results confirmed a weak and sporadic positive relationship between HRM participation practices and employee well-being. In contrast, a strong and consistent relationship was found between working conditions (e.g., supervisory support, conflict management, job insecurity, participation, organisation, mental and physical engagement) and well-being dimensions (e.g., psychological well-being, job satisfaction, emotional exhaustion). This suggests that what happens directly in the workplace is closely related to the employees' direct experience, while HRM policies to promote participation may be perceived as distant and less engaging by the workers themselves.

The study conducted by Uribetxebarria et al. (2021) contained a comprehensive study that empirically examines the effectiveness of three forms of participation (management participation, profit-sharing participation, and employee ownership) in relation to employee well-being. The authors demonstrated that the presence of any of the three forms of participation contributed to the psychosocial well-being of employees in terms of satisfaction, organisational commitment, and trust in management. Furthermore, it was found that companies with full participation, meaning all three forms of participation ('management x ownership x profit'), have higher employee well-being indicators than other companies. The study was conducted through a survey questionnaire provided

to workers in 278 companies in the province of Gipuzkoa, in the Basque Country, to gather workers' perceptions of the three participation practices and psychosocial well-being in the workplace. The authors demonstrated that companies with one of the three participation models have significantly higher psychosocial well-being levels than those without any participation practice. Among the three forms of participation, 'management participation' showed the greatest absolute differences, suggesting that it is the form of participation that best explains employee well-being. Lastly, for companies with full participation, it was found that well-being dimensions (organisational commitment, job satisfaction, trust in management) have significantly higher means compared to companies with less or no participation.

2.3.2 The relationship between participation and economic-financial indicators

Another topic concerns the relationship between different employee participation models and company performance regarding financial and productivity indicators. One of the first works exploring the topic of company performance was conducted by Huselid (1995), who demonstrated that High Performance Work Practices, which improve an organisation's ability to attract, select, hire, develop, and effectively retain high-performing personnel, have a statistically and economically significant impact on intermediate employment outcomes (turnover, productivity) and the company's financial performance in the short and long term (corporate financial performance). Although this study focused more on Human Resource practices than on a specific type of participation, it has been referenced by subsequent studies interested in measuring the impact of managerial decisions on a company's financial and economic performance, recognising productivity as one of the most suitable indicators to measure it (Uribetxebarria et al., 2021).

Zwick (2004) demonstrated a significant positive relationship between participation and productivity. In this study, workers' participation was intended as the involvement of lower-level staff in decision-making and work processes to ensure greater autonomy and control over work tasks. The study used panel data (IAB establishment panel) containing information from various German establishments to estimate the productivity effect of introducing new participatory policies (teamwork, autonomous work groups, hierarchical reduction). The results revealed that the introduction of teamwork, autonomous work groups, and hierarchical reduction in 1996/1997 significantly increased the average productivity of some establishments from 1997 to 2000.

Another study that attempted to measure the effect of participation on productivity was conducted by Vanhala and Tuomi (2006). In addition to exploring the relationship between HRM policies and employee well-being, they also investigated the relationship between key HRM dimensions and company performance. Company performance was measured through five different measures: gross margin, managerial assessment of the company's economic performance, and three combined scales that compared performance among companies in the same industry (competitiveness, customer satisfaction, and ability to get employees committed). The findings showed that five key HRM dimensions were statistically related to company performance. In particular, the "investment in training" dimension positively and significantly affected gross margin and managerial assessment of economic performance. Additionally, the communication dimension significantly and positively affected competitiveness, customer satisfaction, and employee engagement. This study reinforced the hypothesis that attention to specific dimensions, such as those in Human Resource Management, can improve a company's financial performance.

Williams (2018) empirically investigated the relationship between employee financial participation (profit sharing, employee share-ownership) and labour productivity in 29 European countries. The study is based on cross-sectional data from the European Company Survey (ECS) in 2009, from which the two variables of interest, financial participation (profit sharing, employee share-ownership), are derived. Labour productivity was measured through a subjective evaluation provided by participating managers. The study demonstrated that financial participation is strongly associated with higher productivity in the workplace, especially when it is open to all employees within a facility. Specifically, the author showed significant variation in the effectiveness of both programs across countries, primarily due to the coverage of collective bargaining at the national level. In countries with greater coverage, profit sharing is weaker, while employee share ownership outperforms those with lower collective bargaining coverage. With this study, the author highlighted the comparative dimension of the relationship between financial participation and labour productivity.

Finally, the work conducted by Uribetxebarria et al. (2021), previously mentioned for demonstrating a significant and positive relationship between participation forms and employee well-being, also delved into the role of employee participation in organisational performance. The results confirmed a positive and statistically significant relationship between productivity (i.e. the ratio of sales to the number of employees) and 'employee ownership' and 'profit sharing' forms of participation, while 'management participation' showed a significant but negative relationship. Overall, the authors argued that the positive effect on productivity from participation forms stems from the ability of financial participation programs to provide employees with incentives to work harder and better, communicate information to management and colleagues, and collaborate effectively.

2.3.3 The relationship between worker well-being and economic-financial indicators

Although measuring workers' well-being is still an emerging theme, several empirical studies have attempted to quantify the relationship between worker well-being and the economic performance of the companies they work for. Specifically, some studies demonstrate a positive relationship, while others highlight a negative or no relationship. The results' contradiction may be due to fundamental aspects, primarily the diversity in defining and measuring workers' well-being and economic performance (Hart, 2019). For example, the term "employee performance" is defined differently in the literature. According to Human Resource Management (HRM), employee performance aligns with productivity and should be measured using financial measures such as the ratio of net sales to the number of employees. In contrast, other studies focusing on worker well-being propose productivity measures such as absenteeism, presenteeism, or turnover.

Building on these notions, the study proposed by Hart (2019) provided an in-depth exploration of the relationship between well-being and work performance, defined in terms of absenteeism (short and long-term), presenteeism, and turnover. The study aimed to verify a relationship between well-being and employee performance and, if confirmed, understand to what extent well-being factors influence absenteeism, presenteeism, and turnover. For this study, individual-level data were collected through two surveys distributed to workers and managers during two periods, involving a total of 35 companies and 38,233 participants. These surveys allowed information collection regarding twelve dimensions of well-being for managers and workers, and worker performance measures (absenteeism, presenteeism, turnover). The results demonstrated the existence of a

relationship between employee well-being and performance, with each individual well-being factor having a different (positive or negative) relationship with employee performance depending on the performance measure assessed. For example, the probability of presenteeism was higher when workers engaged in physical activity, and an increase in the "training and development" dimension corresponded to an increased probability of presenteeism. Concerning absenteeism, the results revealed that the company's improvement in mental health support and well-being policies was associated with fewer days of long-term absenteeism. Finally, policies to reduce tobacco consumption and a desire to remain in one's company were associated with lower turnover rates. Overall, although the estimated effects between well-being and economic-financial indicators were not direct and heavily depended on the dimensions considered, this study represents a commendable effort to explore workers' well-being from a multidimensional perspective.

Another study concerning the measurement of workers' well-being, productivity, and company performance was conducted by Krekel et al. (2019). The study aimed to understand whether higher employee well-being leads to increased individual productivity and, ultimately, tangible benefits such as higher profits for companies. The study consisted of three parts. The first delves into the hypothesis that happier workers are inclined to work better ("happier workers working better"). The authors reviewed various theoretical and empirical studies attempting to demonstrate a positive relationship between workers' well-being and individual productivity (e.g., Amabile et al., 2005; Coviello et al., 2017). In this section, the existing literature up to that point suggested a positive impact of workers' well-being on performance. However, the magnitude and direction of the effect on performance depended on the specific context in which the study was conducted and the metric used to measure worker well-being (e.g., happiness, mood).

The second part of Krekel et al.'s study (2019) empirically examined whether worker well-being has positive effects at the individual and company levels (firm performance). In this section, a meta-analysis was conducted using the Gallup client database, which included 339 independent research studies containing observations on the well-being of 1,882,131 employees and the performance of 82,248 business units from 230 organisations in 49 sectors. For each business unit, the authors calculated the correlation between two dimensions of employee well-being (employee satisfaction and engagement) and four dimensions of company performance (customer loyalty, employee productivity, profitability, staff turnover). They found a significant and strong positive correlation between employee satisfaction, employee productivity, and customer loyalty and a negative correlation with staff turnover. Furthermore, higher well-being at work was positively correlated with higher profitability at the business unit level.

The third and final section of Krekel et al. (2019) presented research beyond measuring correlation and exploring the causal effect of worker well-being on company performance. Among these studies, Agrawal and Harter (2010) examined the relationship between employee engagement (customer loyalty) and financial performance (revenue, margin) using temporal variation in the Gallup client database. The authors found not only a reciprocal correlation between engagement and employee profitability (i.e., they influence each other over time) but also that employee engagement at time t was a stronger predictor of profitability at time t+1. This suggested that short-term outcomes such as customer loyalty and employee turnover were important mediators in this relationship. Another study cited by Krekel et al. (2019) was Edmans (2011), which investigated

whether companies with higher levels of employee well-being achieved better stock market outcomes. To answer this question, Edmans (2011) studied the relationship between employee satisfaction and long-term stock returns using a weighted portfolio of the top 100 companies to work for in the United States (information provided by a ranking from the Great Place to Work Institute in San Francisco). Data were derived from survey responses of 250 randomly selected employees per company (providing information on job satisfaction and attitudes toward management) and publicly available information (demographic composition, compensation and benefits programs, culture). The study demonstrated that from 1984 to 2009, the "100 Best Companies to Work for in America" had an annual alpha, a measure of stock market excess returns, of 3.5 and outperformed sector averages by 2.1% in stock returns. Overall, these results confirmed a strong and positive relationship between employee well-being, employee productivity, and company performance, suggesting that worker well-being should not be seen as conflicting with the interests of the business community but rather as a competitive advantage.

2.4 Limits of the literature and our research hypothesis

As seen from the studies mentioned above, existing literature tends to recognise the important roles of workers' participation and well-being, especially when considered in relation to company productivity. Confirming a positive and significant relationship between worker participation, worker well-being, and certain economic-financial indicators is crucial for supporting organisational decisions to improve working conditions. Although many studies are moving in this direction, the literature still tends to tackle into the topics of participation and worker well-being separately and often with different definitions, almost implying that these two dimensions represent separate interests within the same organisation. Overcoming this division and the ability to integrate these two aspects in the same measurement tools (e.g., questionnaires) can represent a significant improvement in understanding the state of organisational well-being, as both areas contain aspects that, by feeding into each other, can contribute to a more comprehensive and granular definition of well-being. Furthermore, the diversity in current definitions of organisational well-being and participation suggests the need to continue the search for more defined and multidimensional notions capable of capturing the multiple facets of work life and, thus, better guiding organisational policies. Considering the existing literature and the broad research horizon yet to be explored, this paper aims to enrich the rethinking of traditional methods for investigating the organisational climate by proposing a multidimensional assessment model called BESt Work Life. This organisational climate survey simultaneously considers the various facets of workers' well-being and participation level. In doing so, it is hoped that the final measurement of an organisation's health will reflect a more accurate picture of its well-being.

Based on the state of art of the literature resumed above and our final considerations we formulate the following research hypothesis

Ho1: (properly measured and comprehensive) Workers participation significantly and positively affects workers' well-being

3. BESt Work Life: a new organisational climate measurement approach

Next Nuova Economia Per Tutti EPS ATS, in collaboration with Corriere della Sera Buone Notizie[5] and FIM CISL[6], promoted the first edition of the organisational climate survey BESt Work Life to investigate the workers' multidimensional well-being and their level of participation in a sample of Italian organisations. To this aim, a questionnaire was designed and submitted to all those organisations - of any dimension, juridical form and sector - willing to participate in the trial. The investigation, which lasted from June 2022 to November 2022, consisted of two main steps: on one side, the completion of the BESt Work Life questionnaire on behalf of the workers (at each level); on the other, the compilation of the organisation data form on behalf of the organisation's management. Both documents are attached in Appendix 1.

3.1 BESt Work Life questionnaire

The BESt Work Life organisational climate questionnaire was designed consistently with the Italian multidimensional framework BES (Benessere Equo e Sostenibile - Equitable and Sustainable Well-being) proposed by ISTAT (National Institute of Statistics)[7]. The survey, designed to be submitted to each employee, simultaneously measures workers' well-being and participation level. In particular, the questionnaire comprises three sections (Appendix 1). The first collects socio-demographic data about the respondent (gender, age, job seniority, job role, province of residence, organisation), the second contains sixty statements on multidimensional well-being and the third ten statements regarding the level of participation. Each statement is rated on a 5-point Likert scale from 1 (Strongly disagree) to 5 (Strongly agree). The three main composite measures derivable from the statements are described below.

3.2 Multidimensional workers' well-being

The sixty statements (indicators) contained in the second part of the questionnaire allow the calculus of the workers' well-being composite measure. Each indicator belongs to one of the 12 domains of multidimensional well-being as proposed by the BES framework (environment, economic well-being, innovation, education, work and life balance, landscape and cultural heritage, politics and institutions, quality of services, social relationships, health, security)[8]. After collecting the data, scores for indicators with negative polarity are converted (5 becomes 1; 4 becomes 2; 3

[5] *Corriere della Sera Buone Notizie* is the weekly supplement of Corriere della Sera, one of Italy's oldest and most-read newspapers. The supplement enhances the strength, energy, creativity and professionalism of the Italian third sector by promoting stories of women and men, volunteers, cooperatives and social enterprises, foundations, and companies. It focuses on innovation and sustainability, new economies and new professions, crafts and agriculture. (Source: https://www.corriere.it/buone-notizie/chi-siamo.shtml).

[6] The FIM is the Italian Metalworkers Federation of the CISL, the Italian Confederation of Workers' Unions. It is a democratic organisation, constituted by the free accession of thousands of workers throughout Italy. (Source: https://www.fim-cisl.it/)

[7] The National Institute of Statistics (Istat) has developed a multidimensional approach measuring the "Equitable and Sustainable Well-being" (Bes). The project started in 2010 on the wave of the Stiglitz-Sen-Fitoussi Commission (2008), when the need to construct new measures of people's well-being and societies' progress significantly emerged. Focusing on the Italian context, Istat developed a set of crucial well-being dimensions and inequality and sustainability measures that support evaluating the progress of society from an economic, social and environmental perspective. (Source: https://www.istat.it/en/well-being-and-sustainability/the-measurement-of-well-being)

[8] Source: https://www.istat.it/it/files//2018/04/12-domains-scientific-commission.pdf

remains 3; 2 becomes 4; 1 becomes 5). Such action is necessary to ensure that a higher score of the well-being composite corresponds to a better multi-dimensional well-being situation for workers. The polarity of each well-being statement is displayed in Table 1 (Appendix 2).

The score associated with each well-being domain is calculated as the average of all the indicators' scores belonging to the same domain.

$$SD_{iBes} = \frac{\sum_{j=1}^{n} SI_{ij}}{n}$$

Where: SD_i is the score obtained by a single domain *i*; SI_{ij} is the score of each indicator *j* belonging to the domain *i*; *n* is the number of indicators *j* belonging to the same domain *i*. Each domain can assume a minimum value of one and a maximum of five.

Therefore, the overall score of the workers' multidimensional well-being for each organisation is the weighted average of the scores computed for each well-being domain.

$$BES_j = \frac{\sum_{i=1}^{12} SD_{iBes} * n_{iBes}}{60}$$

Where: BES_j is the weighted average of all the well-being domains scores (SD_{iBes}) associated to each organisation *j*; n_{iBes} is the number of indicators belonging to each domain $iBes$; 60 is the sum of all the indicators. The composite measure can assume a minimum value of one and a maximum of five.

3.3 Workers' level of participation measure

The ten statements contained in Part 3 of the survey allow the calculus of the workers' participation level (aggregate measure). Each participation item is associated with a weight assigned by NeXt Nuova Economia Per Tutti's technical and scientific committee (CTS) (Appendix 3, Table 2). The overall participation level obtained by the j-th organisation (LP_j) is the simple average of the scores of each participation item (IP_i) multiplied by the corresponding weight (w_i) and divided by the overall sum of weights. The workers' participation level assumes a minimum value of one and a maximum of five.

$$LP_j = \frac{\sum_{i=1}^{10} IP_i * w_i}{50.714285}$$

3.4 BESt Work Life measure

The third and most innovative measure of interest proposed by this study is the BESt Work Life (from now on BWL), which is the weighted average of the two composite measures presented so far. The calculation of the BWL depends on the size of the company (number of workers), to which different weights are associated. In small organisations, a lower level of participation has a more significant impact on well-being because the relationships are significantly stronger, and the bonds between

individuals are more intense. Each individual's contribution to the company's strategic direction has a higher marginal relevance. On the other hand, in large organisations, the climate depends more on the level of well-being and to a lesser extent on participation, which mainly occurs in the form of representation rather than direct involvement.

$BWL_j = (BES_j * 0{,}7 + LP_j * 0{,}3) * 2$, where j = j-th Micro organisation (<10 workers)
$BWL_j = (BES_j * 0{,}75 + LP_j * 0{,}25) * 2$, where j = j-th Small organisation (10-49 workers)
$BWL_j = (BES_j * 0{,}8 + LP_j * 0{,}2) * 2$, where j = j-th Medium organisation (50-249 workers)
$BWL_j = (BES_j * 0{,}85 + LP_j * 0{,}15) * 2$, where j = j-th Large organisation (> 249 workers)

The maximum score obtainable by the BESt Work Life measure is 10, which occurs in the case both BES_j and LP_j of the j-th company gets the maximum score (equal to 5).

4. Data and methods

Our dataset contains 790 individual-level records (members of 26 organisations) from the BESt Work Life organisational climate survey. Each organisation deliberately participated in the trial and proposed the questionnaire completion to all their workers at each level. The data collection started in June 2022 and ended in November 2022. Since the questionnaire filing was not mandatory, the collected records do not necessarily come from the totality of workers of each organisation.

The main characteristics of the participating organisations in terms of dimension (micro, small, medium, large), juridical form (e.g., consortium, Spa, consumer cooperative, etc.) and belonging sector (e.g., agriculture, construction, health, etc.) are reported in Table 1 (Appendix 3). For what concerns the dimension, 34.61% of the participating organisations are micro (<10 workers), 30.77% small (11-50 workers), 19.23% medium (51-250 workers) and 15.38% large (>250 workers). Regarding the juridical form, the majority is classified as limited liability companies (53.85%), followed by social cooperatives (15.38%), joint-stock companies (11.54%), consortium (7.7%), limited partnership companies (3.84%), Consumer cooperatives (3.84%) and simplified limited liability company (3.84%). In terms of belonging sectors, the most common are manufacturing activities (30.3%), followed by other service activities (25%) and information and communication (15.62%).

The main characteristics of 790 respondents in terms of belonging organisation's dimension, role, seniority, age and gender are reported in Table 2 (Appendix 3). In particular, 43.54% of respondents come from a large organisation, 33.29% from a medium, 19.11% from a small and 4.05% from a micro. Regarding the role, 51.27% of respondents are employees, 23.04% are labourers, 21.90% are managers, and 3.80% are directors. In terms of seniority, the extended continuous service within an organisation, 45.57% of surveys come from people working for their organisation for more than ten years, 22.03% are people with a seniority of 4-10 years, 17.59% work for 1-3 years and the 14.71% for less than one year. In terms of age class, 34.43% of the group belongs to the 45-54 class, 29.24% to 35-44, and 22.28% to 18-34 and 14.05% to Over 55. Finally, 52.66% of the respondents are female, 46.96% are male, and 0.38% preferred not to answer. Other information is reported in Table

3 (Appendix 3) and Figure 1 (Appendix 3), which contain the cross-frequency of respondents' characteristics depending on the organisation dimension and graphical representation.

For what concerns the answers provided by the respondents to the questionnaire, Figure 2 and Figure 3 (Appendix 3) respectively present the share of answers from 1 to 5 for each statement regarding the well-being domains (Figure 2) and those regarding the participation items (Figure 3).

4.1 Data analysis

4.1.1 Differences between groups

Scores of Workers' well-being, Participation level and BESt Work Life were filtered by organisation dimensions and workers' characteristics (role, gender, seniority, age) and the significance of differences compared using parametric and non-parametric tests. The Independent Samples T-Test verifies whether the sample mean of BESt Work Life composite measure statistically differs when paragoning Male and Female groups. This parametric test is applied since the two sample distributions are normally distributed according to the Shapiro-Wilk normality test.

The Mann-Whitney U Test[9] was applied to verify whether there are differences in the distributions, or the medians, of two gender groups (Males and Females) in terms of an independent continuous variable (e.g., Workers' well-being; Participation level). This non-parametric test is applied since the two sample distributions are not normally distributed according to the Shapiro-Wilk normality test. In particular, Male and Female distributions with respect to Worker's well-being do not have similar shapes in terms of variance (Levene's Test). Therefore, in this specific case, the Mann-Whitney U test is used to determine whether there are differences in the distributions of the two groups. Differently, the Male and Female groups in terms of Participation Level have similar distribution shapes (Levene's Test). Thus, the U test determines whether there are differences in the medians of the two groups[10].

The Kruskal-Wallis H Test[11] is an extension to the Mann-Whitney test allowing the comparison of three or more groups in terms of a quantitative variable. As before, it is applied under the non-normality and heteroskedasticity assumptions allowing to compare the distributions (i.e., medians) of the variables of interests filtered by characteristics such as i) organisation's dimension, ii) workers' role, iii) workers' age class, iv) workers' seniority. It is important to highlight that the Kruskal-Wallis H test is an omnibus test statistic that only outputs if at least two groups are different and do not specify which groups of the variable of interest are statistically significantly different from other. To determine which of the groups differ from each other, the post hoc non-parametric Dunn test[12] is conducted, which performs pairwise comparisons between each independent group and specifies which groups are statistically significantly different.

[9] Source: https://www.stata.com/manuals/rranksum.pdf

[10] Source: https://statistics.laerd.com/statistical-guides/mann-whitney-u-test-assumptions.php

[11] Source: https://www.stata.com/manuals/rkwallis.pdf

[12] Source: https://journals.sagepub.com/doi/pdf/10.1177/1536867X1501500117

4.1.2 Workers' well-being and participation level

One of the main aims of this study is to provide evidence that higher levels of participation correspond to greater levels of multidimensional workers' well-being. To this aim, the survey observations were divided into two groups: one whose average participation level is above the sample mean (>1.96) and the other whose average participation level is below the sample mean (<1.96). In this case, the Mann-Whitney U Test was implemented to verify whether the two groups' distributions, or medians, statistically differ in terms of Workers' well-being, BESt Work Life, and multidimensional well-being domains. For what concerns the two groups in terms of workers' well-being, the distributions do not have similar shapes in terms of variance (Levene's Test). Therefore, the Mann-Whitney U test is used to determine whether there are differences in the distributions of the two groups. Instead, when considering the BESt Work Life composite measure, the two groups have similar distribution shapes (Levene's Test) and therefore, the U test determines whether there are differences in the medians of the two groups.

Together with this mere descriptive methodology, a decision tree-based method for regression was implemented to support that higher levels of participation correspond to greater levels of workers' well-being. This method is a non-parametric supervised learning algorithm that segments the predictor space into smaller homogeneous groups - called nodes - and is represented through a specific graphical representation (i.e., decision tree). The regression tree allows the prediction of continuous variables (Workers' well-being) through simple linear regressions conducted on data partitions made by the algorithm and based on a pre-selected criterion. This method stratifies the predictor space into several regions indicating whether there are some participation thresholds above or below which groups of observations can be divided in terms of average Workers' well-being. The space partitioning, named *recursive binary splitting* (James et al., 2013), can be generalised as:

$$\hat{f}(X) = \sum_{m=1}^{m} \quad c_m I(X_1) \in R_m$$

Where $\hat{f}(X)$ is a continuous response variable (Workers' well-being) and X_1 is the input variable (Participation level). The idea is that the recursive partitioning of data results in m regions where the model predicts Y with a constant c_m for each region R_m.

After creating training and test set containing respectively 80% (632) and 20% (158) of observations, the regression tree was obtained through the *rpart()* function of the R programming language[13]. The subdivision criterion chosen to create the data partitions is Anova, which allows partitioning of the data whether the sum of squares between groups is maximized (Between-groups sum-of-squares). Subsequently, to verify the suitable size of the tree and avoid overfitting, the *printcp()* R function identifies the ideal value of the complexity parameter corresponding to the least cross-validation error. The reported tree presents several "split" (divisions) consistent with this criterion. Finally, to verify that the chosen regression tree model is more predictive than a regular linear regression

[13]Source: https://cran.r-project.org/web/packages/rpart/rpart.pdf

model, the mean square error (MSE) was calculated for both models. The rule of thumb is that the higher the MSE, the higher the predictive ability is.

From a graphical point of view, a decision tree comprises multiple nodes connected through arcs/branches and the upper part of the tree is splitted into internal nodes. The division of the tree into nodes continues until only the leaves (or terminal nodes) are left at the bottom of the graph, representing all possible outcomes of the dependent variable. The nodes of the trees - the coloured circles - contain the predicted value of the dependent variable calculated within the group of observations with the least variance between them. The percentage indicates the share of observations in the node concerning the entire training set (100%).

5. Results

5.1 Significance of differences

Workers' multidimensional well-being

When examining the summary statistics of workers' multidimensional well-being, as presented in Table 5 of Appendix 3, filtered by categorical variables such as dimension, role, gender, age, and seniority, several patterns emerge. In terms of organisational size, micro-organisations exhibit the highest average well-being grade, with a score of 4.45 out of 5. They are followed by medium-sized organisations (3.93), small organisations (3.92), and large organisations (3.6). This suggests that workers in smaller organisations generally report higher levels of well-being compared to their counterparts in larger organisations. When considering roles within organisations, directors have the highest well-being grade, scoring 4.3. They are followed by managers (3.84), labourers (3.78), and employees (3.77). This indicates that individuals in higher-level positions tend to experience higher levels of well-being than those in lower-level roles. Analysing the data by gender, male workers have a slightly higher well-being score of 3.89 than female workers, who have a score of 3.73. This suggests a slight gender disparity, with males reporting slightly higher levels of well-being on average. Examining well-being scores by age groups, individuals in the 35-44 age range have the highest average score of 3.89. They are followed by those over 55 years old (3.88), the 18-34 age group (3.81), and the 45-54 age group (3.7). This indicates that workers in their mid-30s to mid-40s generally report higher levels of well-being compared to other age groups. Finally, considering the seniority of respondents, those with less than one year of work experience have the highest average well-being score of 4.04. They are followed by those with 1-3 years of experience (3.93), 4-10 years of experience (3.87), and over 10 years of experience (3.65). This suggests that individuals in the early stages of their careers report higher levels of well-being compared to those with more extensive work experience.

Statistical tests were conducted to examine the differences in workers' well-being based on gender, organisation dimension, role, age classes, and seniority. The Mann-Whitney U Test confirmed a statistically significant difference in the distribution of workers' well-being between female and male respondents (p-value = 0.0013). For the organisation dimension, the Kruskal-Wallis H test indicated that the distributions of well-being across the four dimensions (large, medium, small,

micro) are significantly different at a very high level of significance (p-value < 0.01%). Pairwise comparisons using Dunn's test revealed significant differences in well-being between all dimensions (p-value = 0.0000), except for medium and small organisations (p-value = 0.4496). Regarding the role of respondents (Director, Manager, Employee, Labourer), the Kruskal-Wallis H test rejected the hypothesis that the medians of well-being for the four roles are the same at a very high level of significance (p-value < 0.01%). Dunn's test showed significant differences in well-being between Directors and Managers (p-value = 0.0000), Directors and Employees (p-value = 0.0000), and Directors and Labourers (p-value = 0.0000). When considering age classes (18-34, 35-44, 45-54, and Over 55), the Kruskal-Wallis H test indicated significant differences in the medians of well-being among the four classes at a level above 0.49% significance. Dunn's test revealed significant differences in well-being between 18-34 and 45-54 (p-value = 0.0354), 35-44 and 45-54 (p-value = 0.0005), and 45-54 and Over 55 (p-value = 0.0052) age groups. Finally, for respondent seniority (< 1 yr., 1-3 yrs., 4-10 yrs., >10 yrs.), the Kruskal-Wallis H test rejected the hypothesis that the medians of well-being for the four seniority groups are the same at a very high level of significance (p-value < 0.01%). Dunn's test indicated significant differences in well-being between <1 yr. and 1-3 yrs. (p-value = 0.047), <1 yr. and 4-10 yrs. (p-value = 0.0028), <1 yr. and >10 yrs. (p-value = 0.000), and 4-10 yrs. and >10 yrs. (p-value = 0.0001). The graphical representation of workers' well-being scores for each categorical variable can be found in Figure 4 of Appendix 3.

Participation level

When examining the summary statistics of workers' participation level as presented in Table 6 of Appendix 3, several patterns emerge across different categorical variables. In terms of organisational size, micro-organisations exhibit the highest average participation level, scoring 3.07 out of 5. They are followed by small-sized organisations (2.14), medium organisations (2.11), and large organisations (1.66). This suggests that workers in smaller organisations generally report higher participation levels than their counterparts in larger organisations. When considering roles within organisations, directors have the highest participation grade, scoring 2.51. They are followed by managers (2.19), labourers (1.89), and employees (1.85). This indicates that individuals in higher-level positions tend to experience higher participation levels than those in lower-level roles. Analysing the data by gender, male workers have a higher participation score of 2.06, compared to female workers with, a score of 1.87. This suggests a slight gender disparity, with males reporting slightly higher levels of participation on average. Examining scores by age groups, individuals in the 35-44 age range have the highest average score of 2.12. They are followed by the 18-34 age group (2.05), those over 55 years old (1.92), and the 45-54 age group (1.77). This indicates that workers in their mid-30s to mid-40s generally report higher participation levels than other age groups. Finally, considering the seniority of respondents, those with 4-10 years of experience present the highest participation level (2.16). These are followed by those with 1-3 years of experience (2.11), less than one year of experience (2.05), and more than 10 years of experience (1.77). This suggests that individuals in the intermediate stages of their careers report higher levels of participation compared to those with more extensive work experience or those with very little experience.

The statistical analysis examined the differences in workers' level of participation based on gender, organisation dimension, role, age classes, and seniority. The Mann-Whitney U Test confirmed a statistically significant difference in the medians of participation level between female and male

respondents at a 95% significance level (p-value = 0.0019). When filtering by organisation dimension (large, medium, small, micro), the Kruskal-Wallis H test rejected the hypothesis that the medians of participation level are the same across the four dimensions at a level below 0.01%. The posthoc Dunn test revealed significant differences in participation level at a 95% significance level between several dimension pairs: Medium and Large (p-value = 0.0000), Medium and Micro (p-value = 0.0001), Large and Small (p-value = 0.0000), Large and Micro (p-value = 0.0000), and Small and Micro (p-value = 0.0005). Regarding the respondents' role (Director, Manager, Employee, Labourer), the Kruskal-Wallis H test rejected the hypothesis that the medians of participation level are the same across the four roles at a level below 0.01%. The Dunn test showed significant differences in participation level at a 95% significance level between several role pairs: Directors and Managers (p-value = 0.000), Directors and Employees (p-value = 0.000), Directors and Labourers (p-value = 0.0000), Managers and Employees (p-value = 0.000), Managers and Labourers (p-value = 0.000), and Employees and Labourers (p-value = 0.0423). When considering age classes (18-34, 35-44, 45-54, Over 55), the Kruskal-Wallis H test rejected the hypothesis that the medians of participation level are the same across the four age groups at a level below 0.09%. The Dunn test revealed significant differences in participation level at a 95% significance level between 18-34 and 45-54 (p-value = 0.0019) and 35-44 and 45-54 (p-value = 0.0001). Finally, when examining respondents' seniority (< 1 yr., 1-3 yrs., 4-10 yrs., >10 yrs.), the Kruskal-Wallis H test rejected the hypothesis that the medians of participation level are the same across the four seniority groups at a level below 0.01%. The Dunn test confirmed significant differences in participation level at a 95% significance level between <1 yr. and >10 yrs. (p-value = 0.0060), 1-3 yrs. and >10 yrs. (p-value = 0.0009), and 4-10 yrs. and >10 yrs. (p-value = 0.0000). The graphical representation of workers' level of participation according to the categorical variables can be found in Figure 5 of Appendix 3.

BESt Work Life (BWL)

When examining the summary statistics of the BESt Work Life composite measure as presented in Table 7 of Appendix 3, several patterns emerge across different categorical variables, providing valuable insights into the relationship between workers' experiences and various organisational factors. In terms of organisational size, micro-organisations have the highest average composite measure score of 8.07 out of 10, indicating a positive organisational climate. They are followed by medium-sized organisations (7.13), small organisations (6.96), and large organisations (6.63). These findings suggest that workers in smaller organisations generally report higher levels of overall organisational climate compared to their counterparts in larger organisations. When considering roles within organisations, directors have the highest composite measure score of 7.85, followed by managers (7.07), labourers (6.83), and employees (6.81). This implies that individuals in higher-level positions tend to experience higher levels of organisational climate, possibly due to increased decision-making authority, autonomy, and access to resources. However, it is worth noting that even employees and labourers still report relatively positive organisational climates, indicating that the commitment to a positive work environment extends across different roles within the organisation. Analysing the data by gender reveals a slight gender disparity in the reported organisational climate. Male workers have a higher average composite measure score of 7.05 compared to female workers, who have a score of 6.80. Examining scores by age group shows that individuals over 55 have the highest average composite measure score of 7.07. They are closely followed by the 35-44 age group (7.06), while the 18-34 age group (6.92) and the 45-54 age group

(6.72) follow suit. These results suggest that older workers report higher levels of the best work life, indicating a potential accumulation of experience, stability, and satisfaction with their work environment. Finally, considering the seniority of respondents, those with less than one year of work experience have the highest average climate score of 7.32, indicating a positive initial work experience. They are followed by those with 2-3 years of experience (7.11), 4-10 years of experience (7.04), and more than 10 years of experience (6.65). This suggests that individuals in the early stages of their careers may be more optimistic and satisfied with their work environment, while those with more extensive experience may encounter challenges or changes that impact their perceptions of organisational climate.

The statistical analysis examined the differences in the BESt Work Life composite measure of well-being based on gender, organisation dimension, role, age classes, and seniority. The Independent Samples T-Test confirmed a statistically significant difference in the sample means of the BESt Work Life composite measure between female and male respondents at a 95% significance level (p-value = 0.0033). When filtering by organisation dimension (large, medium, small, micro), the Kruskal-Wallis H test rejected the hypothesis that the medians of the four dimensions are the same across all categories at a level below 0.01%. The posthoc Dunn test revealed significant differences in workers' well-being between all dimensions at a 95% significance level (p-value = 0.0000), except for Medium and Small (p-value = 0.0947). Regarding the respondents' role (Director, Manager, Employee, Labourer), the Kruskal-Wallis H test rejected the hypothesis that the BESt Work Life scores are the same across all roles at a level below 0.01%. The Dunn test indicated significant differences in well-being at a 95% significance level among several role pairs: Directors and Managers (p-value = 0.0002), Directors and Employees (p-value = 0.0000), Directors and Labourers (p-value = 0.0000), Manager and Employee (p-value = 0.0145), and Manager and Labourer (p-value = 0.0339). When considering age classes (18-34, 35-44, 45-54, Over 55), the Kruskal-Wallis H test rejected the hypothesis that the medians are the same across all age groups below 0.87%. The Dunn test revealed significant differences in well-being at a 95% significance level between 35-44 and 45-54 (p-value = 0.0012) and 45-54 and Over 55 (p-value = 0.0052). Finally, when filtering by respondents' seniority (< 1 yr., 1-3 yrs., 4-10 yrs., >10 yrs.), the Kruskal-Wallis H test rejected the hypothesis that the medians of the four dimensions are the same across all seniority categories at a level below 0.01%. The Dunn test confirmed significant differences in well-being at a 95% significance level among several seniority pairs: <1 yr. and 4-10 yrs. (p-value = 0.0160), <1 yr. and >10 yrs. (p-value = 0.0000), 1-3 yrs. and >10 yrs. (p-value = 0.0001), and 4-10 yrs. and >10 yrs. (p-value = 0.0003). The graphical representation of the BESt Work Life score according to the categorical variables can be found in Figure 6 of Appendix 3.

These findings provide valuable insights into the complex interplay between workers' experiences and organisational factors. They underscore the importance of fostering a positive organisational climate across different organisational sizes, roles, genders, age groups, and levels of seniority. Creating an inclusive, supportive, and engaging work environment benefits all employees, enhances their well-being, and ultimately contributes to organisational success.

5.2 Greater participation level, higher workers' well-being

To support the relationship between participation level and workers' well-being, the observations were divided into two groups based on the average participation level. The threshold for separation

was set at an average participation level of 1.96. The first group consisted of respondents with an average participation level smaller than 1.96 (n=472), while the second group included respondents with an average participation level greater than 1.96 (n=318). From a descriptive perspective, the analysis revealed that when separating the data into these two groups, there was a 14% increase in workers' well-being. This suggests that respondents with a higher average participation level experienced a greater improvement in their overall well-being than those with a lower average participation level. Furthermore, the BESt Work Life average score also increased by 23% when separating the data into these two groups. This indicates that workers who were more actively engaged and involved in various aspects of their work and well-being reported higher scores in terms of work-life balance and overall work satisfaction. Statistical analysis using the Mann-Whitney U-Test revealed that the distribution of workers' well-being significantly differed at a 95% significance level (p-value = 0.0000) between the two groups. This indicates that workers with higher levels of participation experienced greater levels of well-being compared to those with lower levels of participation. Similarly, the Kruskal-Wallis H test showed that BESt Work Life medians differed significantly at a 95% significance level (p-value = 0.0000) between the two groups. This further confirms that workers with higher levels of participation had higher levels of well-being, as indicated by the composite measure. These statistical findings support the positive relationship between participation level and workers' well-being. They suggest that organisations should strive to promote and encourage higher levels of employee participation to enhance overall well-being within the workplace. The statistics and graphical representation of the results based on the level of participation are provided in Table 8 and Figure 7 (Appendix 3).

Concerning the single domains of the multidimensional workers' well-being, it can be observed that all domains experienced an increase in their average and median values when considering the partition according to the participation level. Specifically, the domains with the highest average increase are Innovation (28%), Education (23%), and Politics and Institutions (19%). On the other hand, Security (6%), Environment (11%), and Work-life balance (11%) had the lowest increase. These results and the graphical representation are reported in Table 9 and Figure 8 (Appendix 3).

Regression tree

The decision tree presented in Figure 9 (Appendix 3) provides a deeper understanding of the relationship between workers' well-being and the Participation Level variable. This tree-based model aims to predict workers' well-being based on different participation thresholds. The tree consists of three internal nodes and four terminal nodes (leaves). The divisions in the tree are determined by maximising the sum of squares between the groups, as determined by the Anova criterion. The colour intensity of the nodes reflects the magnitude of the regression outcome, representing the estimated workers' well-being. Darker colours indicate higher estimated values. The initial node at the top of the tree represents the average workers' well-being for the entire sample, which is indicated as WB=3.8. The first division occurs at a threshold of 1.71 for the Participation Level variable, resulting in two nodes. The left node represents 55.1% of the sample, with a participation level smaller than 1.71 and an estimated well-being of 3.55. On the other hand, the right node includes 44.09% of the sample with a participation level equal to or higher than 1.71, estimated to have a well-being of 4.09. Further subdivisions occur within the nodes to provide more detailed insights. On the left side, a participation level of 1.03 leads to two terminal nodes with

estimated well-being values of 3.47 (when the participation level is smaller than 1.03) and 3.68 (when the participation level is greater than 1.03). On the right side, the internal node splits around a participation level of 2.74. For participation levels smaller than 2.74, the estimated well-being is 3.97, while for higher participation levels, it increases to 4.21.

To summarise, the decision tree analysis highlights that higher levels of participation are associated with greater estimated values of workers' well-being. This suggests that active engagement and involvement in decision-making processes within the organisation positively influence workers' overall well-being. Furthermore, the Mean Squared Error (MSE) computed for this tree model confirmed its higher predictive ability than a standard linear regression model. This implies that the tree-based model provides a better fit to the data and can more accurately predict workers' well-being based on different participation thresholds.

6. Conclusion

Our research contributes to the literature on corporate organization and workers wellbeing by proposing a new composite measure and by testing with the nexus between workers' participation and their wellbeing. The introduction of the BESt Work Life organisational climate survey provides a comprehensive tool for measuring multidimensional well-being and gauging participation levels. By integrating these dimensions, organisations can gain a more nuanced understanding of their actual climate state, enabling them to make informed decisions and implement strategies that positively impact employee satisfaction, mental health, work-life balance, and overall performance. This paper highlights the importance of prioritising well-being, health, and work-life quality in organisations. It emphasises that organisational well-being extends beyond traditional success measures, underscoring the significance of creating a motivating and peaceful environment while fostering participation. The findings highlight the positive relationship between participation level and workers' well-being, indicating that increased engagement and involvement in various domains can significantly improve overall well-being and work-life satisfaction.

By doing so, this research highlights the need for organisations to go beyond traditional measures and explore new approaches to organisational well-being. The paper calls for ongoing research in so far partially unexplored dimensions and development of measurement tools, such as the NeXt Gender Analysis instrument, to deepen the understanding of gender dynamics and inform effective organisational policies. Uncovering and addressing gender disparities is crucial for creating inclusive and thriving workplaces. By embracing diverse perspectives and promoting gender equality, organisations can tap into the full potential of their workforce, attract top talent, and foster innovation.

Overall, this study contributes valuable insights into enhancing well-being, promoting participation, and addressing gender disparities within organisations. It provides a foundation for further exploration and encourages organisations to prioritise the holistic development of their employees, leading to inclusive, thriving, and successful workplaces in today's society's dynamic and evolving landscape.

Bibliography

Agrawal S., Harter J. K. (2010). The Cascade Effect of Employee Engagement: A Longitudinal Study, Washington, DC: Gallup Organisation.

Amabile T. M., S. G. Barsade, J. S. Mueller, B. M. Staw (2005). "Affect and Creativity at Work", Administrative Science Quarterly, 50, 367-403.

Avallone F., Bonaretti M. (2003). "Benessere Organizzativo. Per migliorare la qualità del lavoro nelle pubbliche amministrazioni". Rubbettino Editore.

Avallone F., Paplomatas A. (2005). "Salute organizzativa, psicologia del benessere nei contesti lavorativi". Raffaello Cortina Editore, Milano.

Baglioni G. (1995). Democrazia impossibile? I modelli collaborativi nell'impresa: il difficile cammino della partecipazione fra democrazia ed efficienza. Il Mulino, Bologna.

Baglioni G., Catino M. (1999). Operai e ingegneri. Cooperazione e partecipazione nel distretto industriale di Imola. Il Mulino, 1999

Baldasseroni A., Camerino D., Cenni P., Cesana G.C., Fattorini E., Ferrario M., Mariani M., Tartaglia R. (2001). "La valutazione dei fattori psicosociali. Proposta della versione italiana del Job Content Questionnaire di R. A. Karasek", *Fogli d'informazione ISPES*L, vol. 3.

Battaglia A., Calleja M., Cannone G., Capuano R., Piscopo M. (2017). Salute in azienda. Le nuove malattie ed il ruolo dell'HR. Il valore del benessere.

Blasi J., Freeman R., Mackin C., Kruse D. (2010). Creating a Bigger Pie? The Effects of Employee Ownership, Profit Sharing, and Stock Options on Workplace Performance. In Kruse D, Freeman R, Blasi J (2010). *Shared capitalism at work: Employee ownership, profit and gain sharing, and broad-based stock options* (pp. 139-165). University of Chicago Press, Chicago.

Boselie P, Dietz G, Boon C (2005). Commonalities and contradictions in HRM and performance research. Hum Resour Manag J 15(3):67–94.

Boon C, DenHartog DN, Lepak DP (2019). A systematic review of human resource management systems and their measurement. J Manag 45(6):2498–2537.

Bradburn, N.M. (1969). The structure of psychological well-being. Chicago: Aldine Publishing

Chinoy E. (1955). Automobile Workers and the American Dream. Doubleday, Garden City NJ.

Colì E., Giachi L., Giuffrida S., Ippoliti O., Micolitti T., Rissotto A. (2012), Il benessere, il clima e la cultura delle organizzazioni: significati ed evoluzione in letteratura. Consiglio nazionale delle ricerche, Roma.

Colombo L. (2017). Gli strumenti per la rilevazione del benessere organizzativo. Torino.

Cooper, C. L., & Cartwright, S. (1994). Healthy mind; healthy organisation: A proactive approach to occupational stress. *Human Relations, 47*(4), 455–471.

Coviello D., E. Deserranno, N. Persico, P. Sapienza (2017). "Effect of Mood on Workplace Productivity," mimeo.

Cox A., Zagelmeyer S., Marchington M. (2006). Embedding employee involvement and participation at work. Human Resource Management Journal, 16(3), 250-267.

De Carlo N. A., Falco A., Capozza D. (2008). Test di valutazione del rischio stress lavoro-correlato nella prospettiva del benessere organizzativo (Q-Bo).

Di Tecco C., Ghelli M., Iavicoli S., Persechino B., Ronchetti M. (2017). LA METODOLOGIA PER LA VALUTAZIONE E GESTIONE DEL RISCHIO STRESS LAVORO-CORRELATO. Manuale ad uso delle aziende in attuazione del D.Lgs. 81/2008 e s.m.i. Tipolitografia Inail, Milano.

Edmans, A. (2011). "Does the stock market fully value intangibles? Employee satisfaction and equity prices" Journal of Financial Economics, 101, 621-640.

Eurofound (2015). Third European Company Survey – Direct and indirect employee participation. Luxembourg: Publications Office of the European Union.

Fiorelli J.S., Alarcon G.A., Taylor E., Woods K. (1998). The organisation health report: An HR metric to mobilize executives into action. HR. Resource Planning, Tempe.

Fleetwood, S., Hesketh, A. (2010). Explaining the performance of human resource management. Cambridge, UK: Cambridge University Press.

Franca V., Pahor M. (2014). Influence of management attitudes on the implementation of employee participation. Economic and Industrial Democracy. 2014; 35(1): 115-142.

Geary, J. F., Sisson K. (1994). Conceptualising Direct Participation in Organisational Change, Luxembourg: Office for Official Publications of the European Communities.

George C. (2015). Retaining professional workers: What makes them stay? Employee Relations, 37, 102-121.

Goodman P.S., Rousseau D.M. (2004). Organisational change that produces results: The linkage approach. Academy of Management Executive, 2004 18(3): 7-19. Technological Forecasting and Social Change, 65: 3-22

Hart K. (2019), Employee Wellbeing and Performance. Bristol.

Huselid MA (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. Acad Manag J 38(3):635–672

Ichino P. (2014). Partecipazione dei lavoratori nell'impresa. Rivista Italiana di Diritto del Lavoro, 2014, n.1, parte I.

Jaffe, D. T. (1995). The healthy company: Research paradigms for personal and organisational health. In S. L. Sauter & L. R. Murphy (Eds.), *Organisational risk factors for job stress* (pp. 13–39). American Psychological Association. https://doi.org/10.1037/10173-001

James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013), An Introduction to Statistical Learning: with Applications in R. New York: Springer, 2013.

Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative science quarterly*, 285-308.

Karasek, R. A. (1985). Job content questionnaire. *Journal of Occupational Health Psychology*.

Kornhauser A. W. (1965). Mental health of industrial workers: a Detroit study. Wiley, New York.

Krekel C., Ward, G., De Neve J.E. (2019). Employee Wellbeing, Productivity, and Firm Performance. Saïd Business School WP 2019-04.

Kruse D., Freeman R., Blasi J. (2010). Appendix B. The Shared Capitalist Thermometer Index. In Kruse D, Freeman R, Blasi J (2010). *Shared capitalism at work: Employee ownership, profit and gain sharing, and broad-based stock options* (pp. 403-405). University of Chicago Press, Chicago.

Kurtulus FA, Kruse DL (2017). How did employee ownership firms weather the last two recessions? Employee ownership, employment stability, and firm survival: 1999–2011. WE Upjohn Institute, Kalamazoo

Lauria F. (2010). Quadro definitorio ed evoluzione storica. Dossier Adapt, numero 6 del 21 aprile 2010

Leonardi S. (2022), La partecipazione diretta al tempo della trasformazione digitale. Il caso italiano (Progetto europeo DIRECT II). Working Paper FDV n. 1/2022 ISSN 2724 1882

Lyden J.A., Klengele W.E. (2000). Supervising organisational health. *Supervion*, Burlington.

Magnani M. Majer, V., Mancini G. A. (2009). Sicurezza e stress lavoro-correlato: sviluppo di un indice di rischio per l'adempimento di quanto previsto dal D. Lgs. 81/2008. Sicurezza e stress lavoro-correlato, 1000-1018.

Maslach C., Jackson S.E. (1981): The measurement of experienced burnout. In: Journal of Occupational Behaviour, 2: 99-113.

Mayo E. (1933). "The human problems of an industrial civilization". New York, Macmillan.

Mayo E. (1945). "The social problems of an industrial civilization". Harvard University Press. Boston.

Mullins F., (2019). Broad-based employee stock ownership: what makes it effective in the management of human resources? Hum Resour Manag 58(6):567–570.

Ojasalo J., Tahtinen L. (2016). Integrating open innovation platforms in public sector decision making: Empirical results from smart city research. Technology Innovation Management Review, 6(12), 38-48.

Raymond, J. S., Wood, D. W., & Patrick, W. K. (1990). Psychology doctoral training in work and health. *American Psychologist, 45*(10), 1159–1161. https://doi.org/10.1037/0003-066X.45.10.1159

Rondinone B. M., Persechino B., Castaldi T., Valenti A., Ferrante P., Ronchetti M., Iavicoli S. (2011). Valutazione e gestione del rischio da stress lavoro-correlato. Manuale ad uso delle aziende in attuazione del D.Lgs. 81/08 e s.m.i., Tipolitografia INAIL, Milano.

Rondinone B. M., Persechino B., Castaldi T. et al. (2012). Work-related stress risk assessment in Italy: the validation study of Health Safety and Executive Indicator Tool. G Ital Med Lav Erg. 2012; 34(4): 392-99.

Ruiz L. G., Rivero E. R. (2018). The motivational role of consultative participation in a multi-period target setting: An experimental study. Spanish Journal of Finance and Accounting, 47(3), 329-351.

Shetzer L. (1993). A social information processing model of employee participation Organisation Science, 4 (1993), pp. 252-268

Terborg J.R. (1986). The organisation as a context for health promotion. In S Oskamp e S. Spacapan (eds.), *Social psychology and health: The Claremont Symposium on Applied Social Psychology,* Newbury park, CA: Sage.

Uribetxebarria, U., Garmendia, A. & Elorza, U. (2021) Does employee participation matter? An empirical study on the effects of participation on well-being and organisational performance. *Cent Eur J Oper Res* 29**,** 1397–1425.

Vanhala S., Tuomi K. (2006). HRM, Company Performance and Employee Well-being. Management Revue, 2006, Vol. 17, No. 3, Special Issue: The Value of HRM?! Optimising the Architecture of HRM (2006), pp. 241-255. https://www.jstor.org/stable/41783520

Wagner J.A. (1994). Participation's effects on performance and satisfaction: a reconsideration of research evidence. Academy of Management Review, 19 (1994), pp. 312-330

Wilkinson A., Marchington M., Goodman J., Ackers P. (1992). Total quality management and employee involvement. Human Resource Management Journal, 2(4), 1-20.

Williams R., Williams V. (1994). Anger kills: Seventeen strategies for controlling the hostility that can harm your health. New York: Harper Perennial.

Williams M. (2018). Understanding variation in the efficacy of financial participation across Europe: the role of country-level factors. Econ Ind Democr 39(2):195–227.

Wright, P., Gardner, T., Moynihan, L. and Allen, M. (2005) The Relationship Between HR Practices and Firm Performance: Examining Causal Order. Personnel Psychology. 58 (2), pp. 409-446.

Zwick, T. (2004). Employee participation and productivity. Labour Economics, 11(6), 715-740.

Appendix 1

BESt Work Life: an innovative organisational climate questionnaire

Compilation Guide

This survey is designed by NeXt Nuova Economia per Tutti APS ETS and submitted to your organisation at the request of the management. The questionnaire investigates the organisation's internal climate by measuring multidimensional well-being and participation dimensions.

The survey is composed of three sections. The first concerns collecting socio-demographic data regarding the respondent and the belonging organisation; the second contains sixty statements on workers' well-being; the third presents ten statements about the level of participation inside the organisation.

For each of the seventy questions, an attribution of judgment is requested. Therefore, we ask you to evaluate each statement with extreme sincerity and attention. Each statement must be rated on a scale from 1 (Strongly disagree) to 5 (Strongly agree). Below is the meaning of each possible score valid for all seventy statements:

- 1 (Strongly disagree)
- 2 (Disagree)
- 3 (Slightly agree)
- 4 (Agree)
- 5 (Strongly agree)

We ensure the anonymity of each received questionnaire in every step of the collection, analysis and return of the data. The data-processing will respect the current privacy protection regulations.

Part 1 – Socio-demographic information

1) Gender
2) Age
3) Job seniority (in years)
4) Job role
5) Province of residence
6) Organisation name

Part 2 – Workers' multidimensional well-being

On a scale of 1 (Strongly disagree) to 5 (Strongly agree), answer the following questions:

1. XXX allows me to satisfy my willingness to care for the environment (e.g., separate waste collection, renewable sources, etc.).
2. My workplace can be easily reached without generating negative impacts on the environment.
3. Times, methods, and procedures of my remuneration are disregarded.
4. My remuneration reflects my competencies and makes me feel appreciated.
5. I think my salary level is commensurate with the assigned responsibilities.
6. I think my salary level is fair compared to that of others.
7. The ways and times to reach my workplace cause me stress.
8. I'm motivated to do my job.
9. I think XXX is appreciated from the outside.
10. In the last 6 months, I have felt appreciated for the commitment I have put into my work.
11. At XXX, I feel listened to for my needs.
12. I think XXX needs to innovate some of its technology systems.

13. I think XXX needs to innovate some of its work modalities.
14. At XXX, I have the opportunity to update the skills that are useful for my work regularly.
15. The workplace offers adequate equipment, space, and comfort for carrying out my activities.
16. Time spent at work affects my ability to enjoy my free time.
17. I feel my work makes sense.
18. Every day I feel that my work is part of XXX's mission.
19. I have no difficulty staying even after working hours in case of need.
20. I think my daily commitment is sustainable in terms of workload.
21. Much of my work is based on commitments arising from urgencies, emergencies, or unexpected events.
22. I have a clear plan of the activities to be carried out.
23. XXX enables remote working.
24. In the last year I have been thinking about changing my job.
25. I have clear in mind what the objectives of my work are.
26. Sometimes I think the tasks I carry out at work are contradictory.
27. XXX (management/direct supervisor) is bullying me at work.
28. I feel workplace bullied by my colleagues.
29. I am autonomous, so I can carry out daily tasks without waiting for feedback every time.
30. Any problems that arise at work are usually solved in less than a week.
31. At XXX, there are no unnecessary problems slowing down the actions.
32. I am satisfied with the historical landscape (e.g., museums and monuments) that surrounds my workplace.
33. I am satisfied with the natural landscape (e.g., parks and gardens) that surrounds my workplace.
34. XXX's management transparently communicates its objectives.
35. At XXX, I can suggest work process improvements to my responsible or management.
36. I am informed of the economic and financial results that XXX achieves annually.
37. Communication between workers and management is always clear and respectful.
38. XXX supports me in handling my tasks outside of work (e.g., nursery school, transport concessions, etc.).
39. XXX provides me with supplementary health insurance.
40. XXX's management has activated listening and support courses for its workers.
41. I am convinced to carry on the job tasks while others do not.
42. In my workgroup, the responsible checks the tasks do not overburden me.
43. I think too much attention is given to the personal affairs of colleagues in the office.
44. I am well-seen by my colleagues for my social skills.
45. At XXX, I can share viewpoints and ideas with colleagues to improve the work.
46. I have a good relationship with colleagues.
47. I am well-seen by my colleagues for my technical skills.
48. At XXX, I feel free to express my opinions.
49. The organisational climate of XXX is collaborative.
50. At XXX, discussions are always polite and controlled.
51. I have felt discriminated against in the workplace (by ethnicity, gender, religion, sexual orientation, disability, income status or other).
52. In XXX, I know/have seen/think that there are some types of discrimination (because of ethnicity, gender, religion, sexual orientation, disability, income status or other).
53. Malicious comments and gossip about one or more colleagues are frequent in the workplace.
54. I never thought a colleague was trying to slow me down.
55. The behaviour of my organisation makes me feel uncomfortable towards suppliers and consultants.
56. My workplace is healthy and does not threaten my personal health.
57. I often feel mentally tired.
58. I often feel physically tired.
59. XXX's safety equipment makes me feel safe at work.
60. At XXX, one or more cases of harassment have occurred.

Part 3 – Workers' participation

On a scale of 1 (Strongly disagree) to 5 (Strongly agree), answer the following questions:

1. I feel involved in the decision-making processes on organisation welfare policies.
2. I feel involved in the decision-making processes regarding the criteria definition for choosing and selecting suppliers.
3. I feel involved in the decision-making processes on product and/or process innovation policies.
4. I feel involved in the decision-making processes on goal setting and general planning.
5. I feel involved in the decision-making processes on the objectives and planning of the business unit I belong to.
6. I feel involved in the decision-making processes on stakeholder engagement and local integration policies.
7. I feel involved in the decision-making processes on social and environmental sustainability strategies.
8. I feel involved in the decision-making processes on human resource management policies.
9. I feel involved in the decision-making processes on professional training courses, career paths and enhancement of skills.
10. I feel involved in the decision-making processes on health, safety, and ergonomics policies.

The organisation data form (only for management)

Section 1 – Information about the organisation

1. Organisation name: _____

2. For each year, report the corresponding information about revenue, number of workers, collaborators and suppliers:

	Annual revenue	No. Workers	No. Collaborators	No. Suppliers
2019				
2020				
2021				

3. Indicate the sector to which the organisation belongs:

A. Agriculture, forestry and fishing		L. Real estate business	
B. The exploitation of minerals in mines and quarries		M. Professional, scientific and technical activities	
C. Manufacturing activities		N. Rental, travel agencies, business support services	
D. Supply of electricity, gas, steam and air conditioning		O. Public administration and defence; compulsory social security	
E. Water supply, sewerage, waste management and remediation		P. Education	
F. Construction		Q. Health and social care	
G. Wholesale and retail trade; repair of motor vehicles and motorcycles		R. Artistic, sporting, entertainment activities	
H. Transportation and storage		S. Other service activities	
I. Accommodation and catering activities		T. Household and household activities as employers for domestic staff; production of goods and services undifferentiated for own use by families and cohabitation	

J. Information and communication		U. Extra-territorial organisations and bodies	
K. Financial and insurance activities			

4. Indicate the province of the registered office: _____

5. Indicate the province of any operating locations other than the registered office: _____

Section 2 – Organisational well-being and participation measures

6. For each dimension of workers' well-being, indicate if one or more related measures are implemented, the year of their introduction and a short description. Supporting documents and links can be attached.

	One or more measures are implemented	Year of introduction	Short description	Supporting links and documents
Working environment				
Clear objectives and coherence				
Enhancement of skills				
Active listening				
Communication and sharing of information				
Conflict management				
Relational environment				
Administrative smoothness				
Equity				
Stress level				
Wealth of work sense				
Injuries prevention				
Work management and commitment sustainability				
Open and innovation				
Organisational welfare				

7. For each indicator of workers' participation, indicate if one or more related measures are implemented, the year of their introduction and a short description. Supporting documents and links can be attached.

	One or more measures are implemented	Year of introduction	Short description	Supporting links and documents
Organisational welfare				
Organisational development (objectives, etc.)				
HR management				

Time management (methods, timing, group management, etc.)				
Remuneration, rewards and benefit				
Information and internal communication				
Information and external communication				
Professional training, career paths and skills development				
Health protection, safety and ergonomics				
Economic and financial performance and budgetary documents				
Definition of criteria for suppliers' selection				
Product and process innovation				
Investment				
Employment (redundancies, recruitment, internships, role changes, awarding contracts/projects, etc.)				
General planning				
Planning of the belonging unit				
Workers shareholding				
Problems, conflicts, internal disputes				
Problems, conflicts, external disputes				
Stakeholder engagement and integration with the territory				
Environmental sustainability				

Appendix 2

Table 1. Multidimensional well-being domains from BES (Equitable and Sustainable well-being) framework, well-being statements (indicators), polarity.

Domains BES framework	Statements (indicators)	Polarity
ENVIRONMENT	XXX allows me to satisfy my willingness to care for the environment (e.g., separate waste collection, renewable sources, etc.).	P
	My workplace can be easily reached without generating negative impacts on the environment.	P
ECONOMIC WELL-BEING	Times, methods, and procedures of my remuneration are disregarded.	N
	My remuneration reflects my competencies and makes me feel appreciated.	P
	I think my salary level is commensurate with the assigned responsibilities.	P
	I think my salary level is fair compared to that of others.	P
	The ways and times to reach my workplace cause me stress.	N
	I'm motivated to do my job.	P
	I think XXX is appreciated from the outside.	P
	In the last 6 months, I have felt appreciated for the commitment I have put into my work.	P
	At XXX, I feel listened to for my needs.	P
INNOVATION	I think XXX needs to innovate some of its technology systems.	N
	I think XXX needs to innovate some of its work modalities.	N
EDUCATION	At XXX, I have the opportunity to update the skills that are useful for my work regularly.	P
WORK AND LIFE BALANCE	The workplace offers adequate equipment, space, and comfort for carrying out my activities.	P
	Time spent at work affects my ability to enjoy my free time.	N
	I feel my work makes sense.	P
	Every day I feel that my work is part of XXX's mission.	P
	I have no difficulty in staying even after working hours in case of need.	P
	I think my daily commitment is sustainable in terms of workload.	P
	Much of my work is based on commitments arising from urgencies, emergencies or unexpected events.	N
	I have a clear plan of the activities to be carried out.	P
	XXX enables remote working.	P
	In the last year I have been thinking about changing my job.	N

	I have clear in mind what the objectives of my work are.	P
	Sometimes I think the tasks I carry out at work are contradictory.	N
	XXX (management/direct supervisor) is bullying me at work.	N
	I feel workplace bullied by my colleagues.	N
	I am autonomous so that I can carry out daily tasks without having to wait for feedback every time.	P
	Any problems that arise at work are usually solved in less than a week.	P
	At XXX, there are no unnecessary problems slowing down the actions.	P
LANDSCAPE AND CULTURAL HERITAGE	I am satisfied with the historical landscape (e.g., museums, monuments) that surrounds my workplace.	P
	I am satisfied with the natural landscape (e.g., parks and gardens) that surrounds my workplace.	P
POLITICS AND INSTITUTIONS	XXX's management transparently communicates its objectives.	P
	At XXX, I can suggest work process improvements to my responsible or management.	P
	I am informed of the economic and financial results that XXX achieves annually.	P
	Communication between workers and management is always clear and respectful.	P
QUALITY OF SERVICES	XXX supports me in handling my tasks outside of work (e.g., nursery school, transport concessions, etc.).	P
	XXX provides me with supplementary health insurance.	P
	XXX's management has activated listening and support courses for its workers.	P
SOCIAL RELATIONSHIPS	I am convinced to carry on the job tasks while others do not.	N
	In my workgroup, the responsible checks the tasks do not overburden me.	P
	I think too much attention is given to the personal affairs of colleagues in the office.	N
	I am well-seen by my colleagues for my social skills.	P
	At XXX, I have the opportunity to share viewpoints and ideas with colleagues to improve the work.	P
	I have a good relationship with colleagues.	P
	I am well-seen by my colleagues for my technical skills.	P
	At XXX, I feel free to express my opinions.	P
	The organisational climate of XXX is collaborative.	P
	At XXX, discussions are always polite and controlled.	P
	I have felt discriminated against in the workplace (by ethnicity, gender, religion, sexual orientation, disability, income status or other).	N

	In XXX, I know/have seen/think that there are some types of discrimination (because of ethnicity, gender, religion, sexual orientation, disability, income status or other).	N
	Malicious comments and gossip about one or more colleagues are frequent in the workplace.	N
	I never thought a colleague was trying to slow me down.	P
	The behaviour of my organisation makes me feel uncomfortable towards suppliers and consultants.	N
HEALTH	My workplace is healthy and does not threaten my personal health.	P
	I often feel mentally tired.	N
	I often feel physically tired.	N
SECURITY	XXX's safety equipment makes me feel safe at work.	P
	At XXX, one or more cases of harassment have occurred.	N

Table 2. Weights corresponding to each participation item.

Items of participation level	Participation question	Weights assigned by Next's technical and scientific committee
ORGANISATIONAL WELFARE	I feel involved in the decision-making processes on organisation welfare policies.	5.47619
HR MANAGEMENT	I feel involved in the decision-making processes on human resource management policies.	4.952381
PROFESSIONAL TRAINING, CAREER PATHS AND SKILLS DEVELOPMENT	I feel involved in the decision-making processes on professional training courses, career paths and enhancement of skills.	5.952381
HEALTH PROTECTION, SAFETY AND ERGONOMICS	I feel involved in the decision-making processes on health, safety, and ergonomics policies.	5.095238

DEFINITION OF CRITERIA FOR SUPPLIERS' SELECTION	I feel involved in the decision-making processes regarding the definition of criteria for choosing and selecting suppliers.	2.904762
PRODUCT AND PROCESS INNOVATION	I feel involved in the decision-making processes on product and/or process innovation policies.	4.666667
GENERAL PLANNING	I feel involved in the decision-making processes on goal setting and general planning.	5.761905
INTERNAL PLANNING	I feel involved in the decision-making processes on the objectives and planning of the business unit I belong to.	3.238095
STAKEHOLDER ENGAGEMENT AND INTEGRATION WITH THE TERRITORY	I feel involved in the decision-making processes on stakeholder engagement and local integration policies.	6.333333
ENVIRONMENTAL SUSTAINABILITY	I feel involved in the decision-making processes on social and environmental sustainability strategies.	6.333333
		TOTAL 50.714285

Appendix 3

Table 1. Main characteristics of the participating organisations.

A. Dimension	No. Organisations	%
Micro organisation (<10 workers)	9	34.61%
Small organisation (11-50 workers)	8	30.77%
Medium organisation (51-250 workers)	5	19.23%
Large organisation (>250 workers)	4	15.38%
Total	**26**	**100%**

B. Juridical form (English)	Juridical form (Italian)	No. Organisations	%
Consortium	Consorzio	2	7.7%
Social cooperative	Cooperativa sociale	4	15.38%
Limited partnership company	Società in accomandita semplice (Sas)	1	3.84%
Consumer cooperative	Cooperativa di consumo	1	3.84%
Joint-stock company	Società per azioni (Spa)	3 (2 Benefit corporation)	11.54%
Limited liability company (Ltd)	Società a responsabilità limitata (Srl)	14 (2 Benefit corporation)	53.85%
Simplified limited liability company	Società a responsabilità limitata semplificata (Srls)	1	3.84%
Total		**26**	**100%**

C. Sector	No. Organisations	%
A. Agriculture, forestry, and fishing	1	3.12%
C. Manufacturing activities	10	30.3%
F. Construction	1	3.12%
G. Wholesale and retail trade; repair of motor vehicles and motorcycles	2	6.25%
I. Accommodation and catering activities	1	3.12%
J. Information and communication	5	15.62%
M. Professional, scientific and technical activities	2	6.25%
Q. Health and social care	2	6.25%
S. Other service activities	8	25%
Total	**32***	**100%**

Note: *The number of organisations in the lower table is greater than 26 because some of them belong to more sectors.

Table 2. Frequency table of respondents' characteristics.

	Frequency	Percentage	Cumulative
Organisation dimension			
Large organisation	344	43.54	43.54
Medium organisation	263	33.29	76.84
Small organisation	151	19.11	95.95
Micro organisation	32	4.05	100.00
Role			
Director	30	3.80	3.80
Manager	173	21.90	35.70
Employee	405	51.27	76.97
Labourer	182	23.04	100.00
Seniority			
Less than 1 year	117	14.81	14.81
1-3 years	139	17.59	32.40
4-10 years	174	22.03	54.43
More than 10 years	360	45.57	100.00
Age class			
18-34	176	22.28	22.28
35-44	231	29.24	51.52
45-54	272	34.43	85.95
Over 55	111	14.05	100.00
Gender			
Female	416	52.66	52.66
Male	371	46.96	99.62
Not declared	3	0.38	100.00
Total	790		

Table 3. Cross-frequency table of respondents' characteristics by organisation dimension (%).

	Large	Medium	Small	Micro
Role				
Director	2.62%	4.94%	1.32%	18.75%
Manager	22.97%	20.15%	23.84%	15.63%
Employee	54.36%	44.87%	53.64%	59.38%
Labourer	20.06%	20.15%	23.84%	15.63%
Gender				
Female	70.93%	36.12%	41.06%	46.88%
Male	29.07%	62.74%	58.94%	53.13%
Not declared	-	1.14%	-	-
Age class				
18-34	12.79%	27.76%	32.45%	31.25%
35-44	19.77%	34.98%	41.72%	25.00%
45-54	48.26%	26.24%	19.87%	21.88%
Over 55	19.19%	11.03%	5.96%	21.88%
Seniority				
< 1 year	11.63%	18.25%	28.48%	28.13%
1-3 years	6.40%	28.52%	19.21%	40.63%
4-10 years	11.34%	28.52%	34.44%	25.00%

>10 years	70.64%	24.71%	28.48%	28.13%

Figure 1. Cross-frequency graphs of respondents' characteristics by organisation dimension (%).

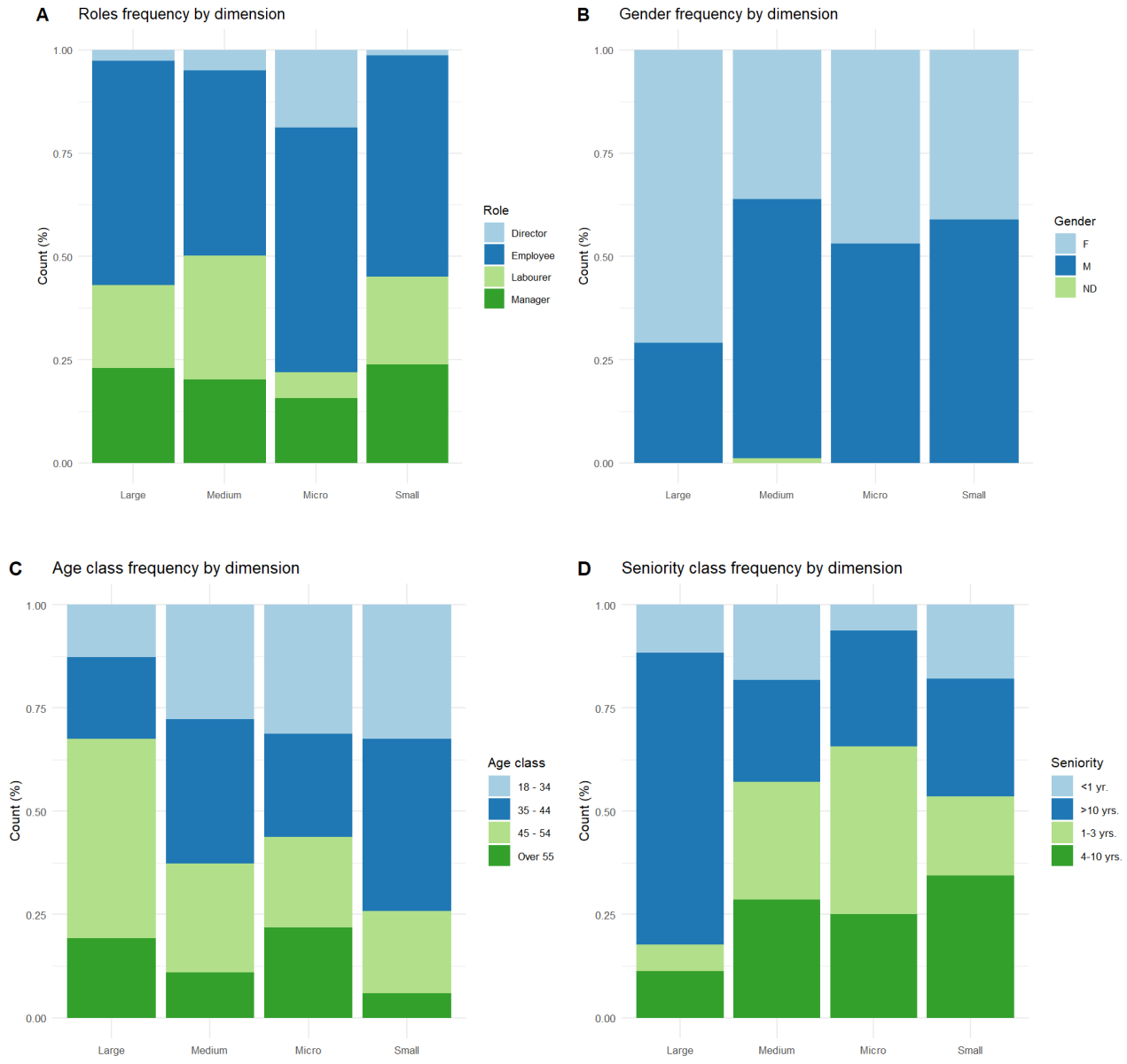
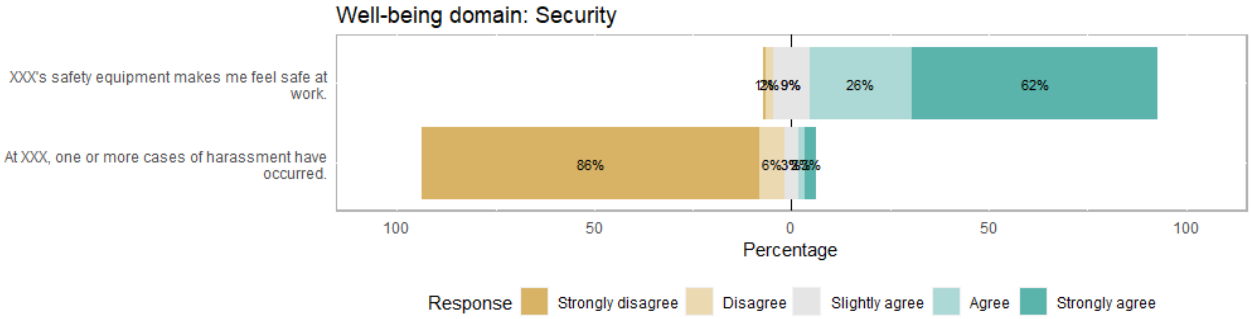
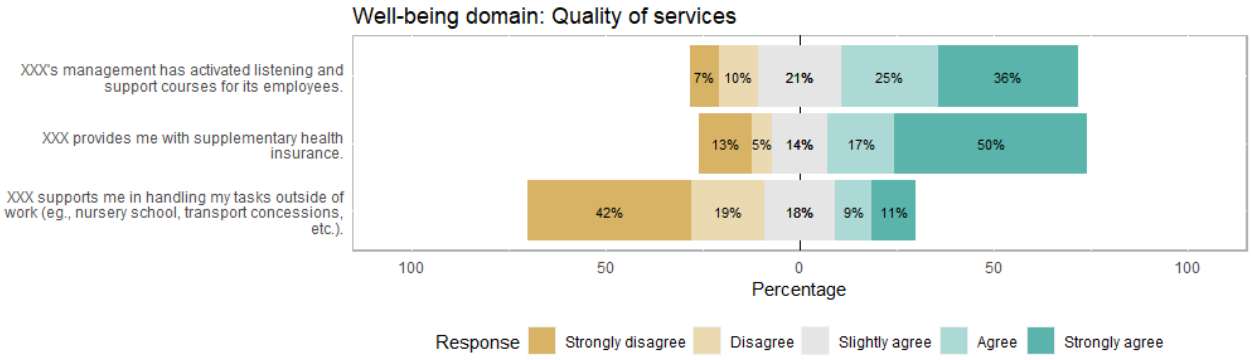
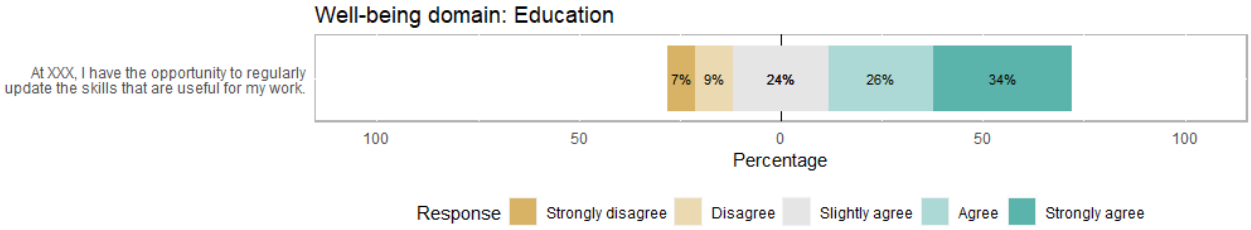
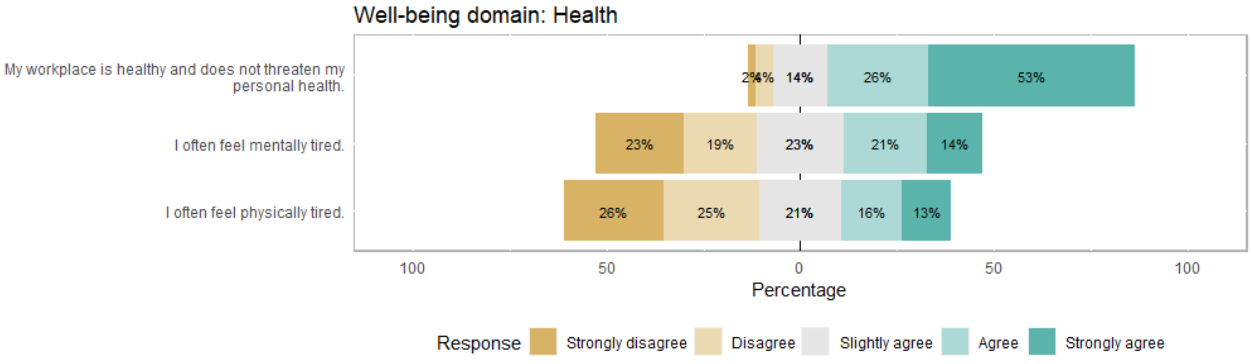


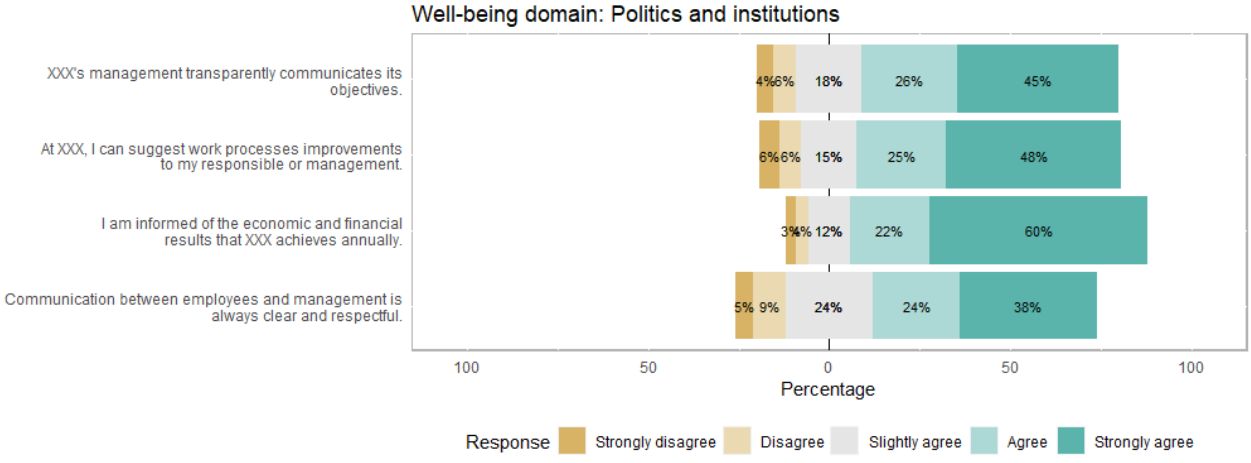
Figure 2. Frequency of responses (5-Likert scale) by multidimensional well-being dimension.

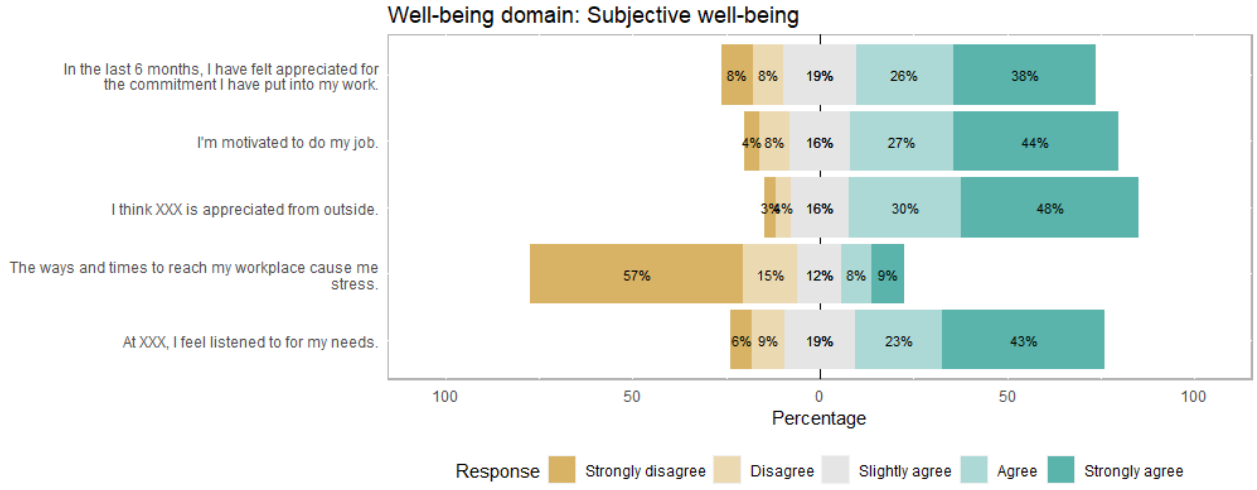


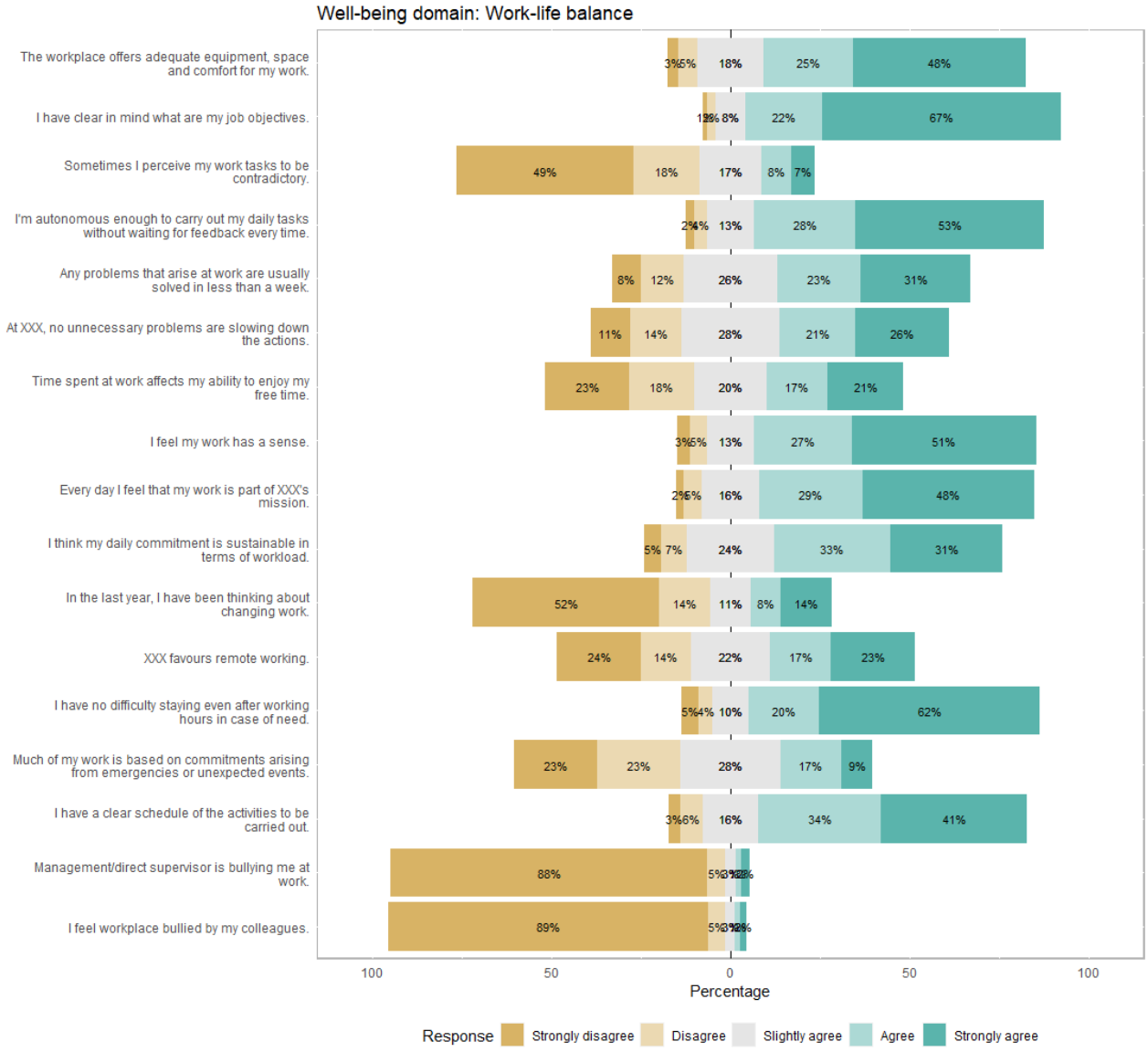












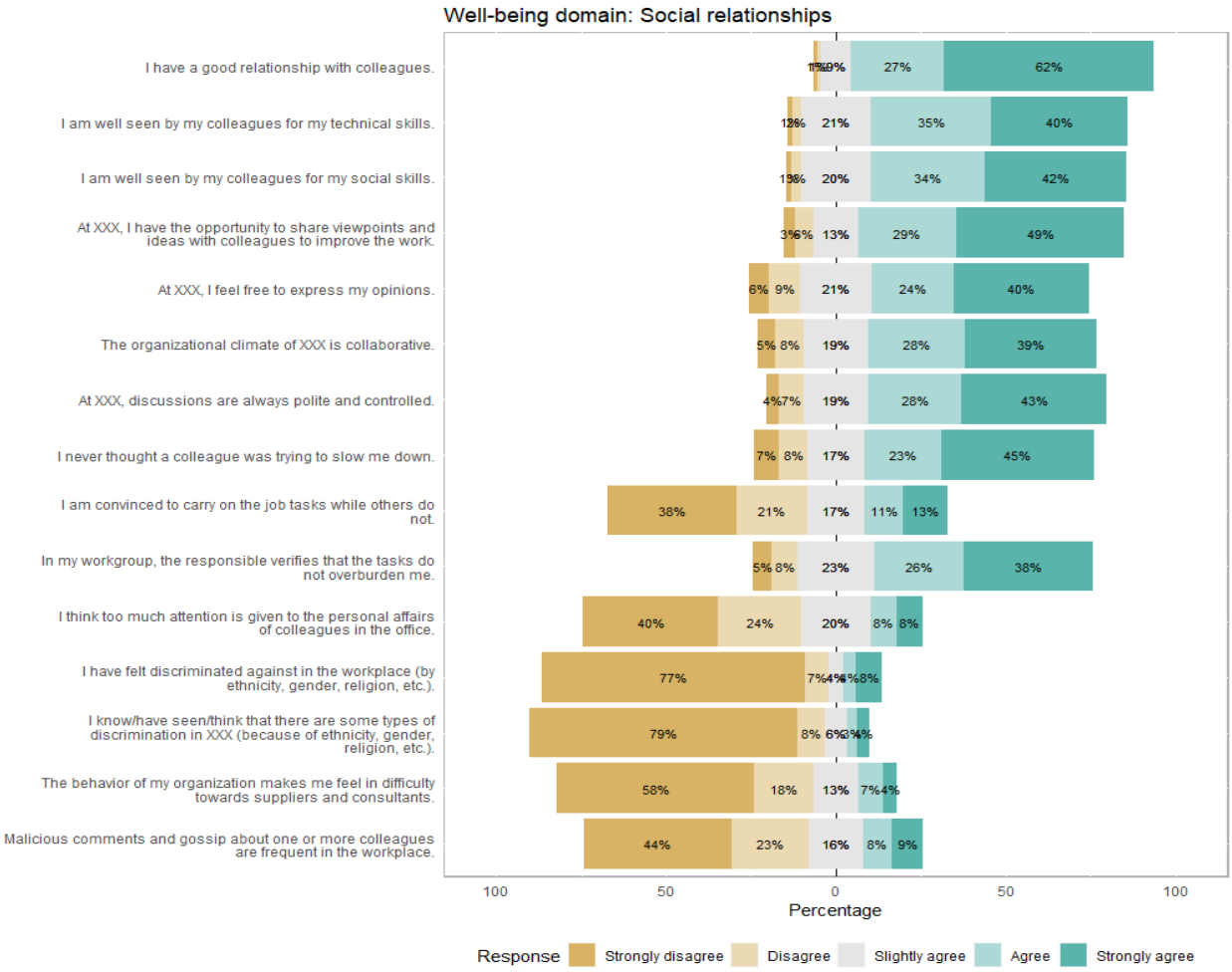


Figure 3. Frequency of responses (5-Likert scale) in participation level items.

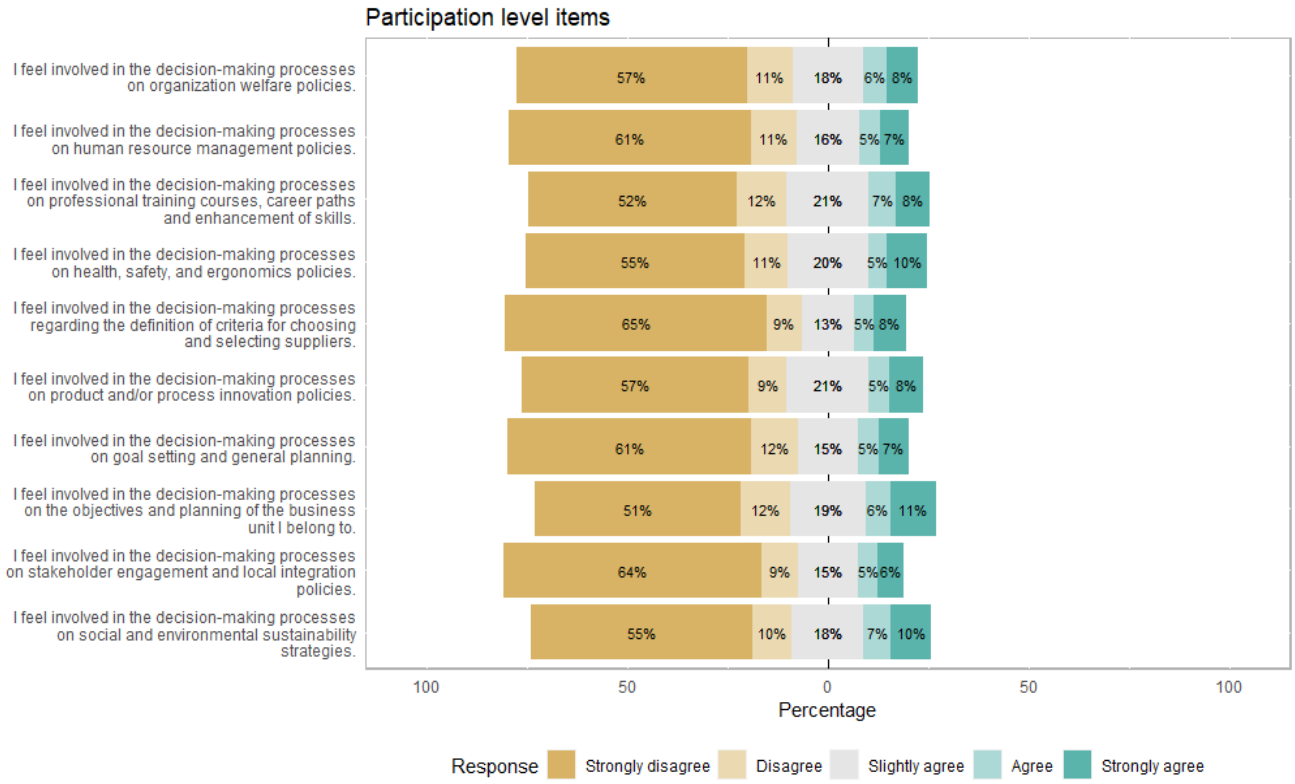


Table 4. Summary statistics of multidimensional well-being domains, participation items and composite measures (Workers' well-being, Participation level, BESt Work Life).

	Mean	Median	SD	Min	Max
Multidimensional well-being domains					
Health	3.580169	3.666667	0.984445	1	5
Education and training	3.720253	4	1.214183	1	5
Work and life balance	3.827178	3.882353	0.562019	1.882353	4.764706
Economic well-being	3.490823	3.5	0.999839	1	5
Social relationships	4.043797	4.133333	0.676988	1.4	5
Politics and institutions	4.048734	4.25	0.89632	1	5
Security	4.586076	5	0.6111	1.5	5
Subjective well-being	3.970127	4.2	0.869666	1.2	5
Environment	4.018987	4	0.970552	1	5
Innovation, research, creativity	2.50443	2.5	1.250974	1	5
Quality of services	3.283544	3.333333	0.914634	1	5
Landscape and cultural heritage	3.146835	3	1.303436	1	5
Participation items					
Organisational welfare	1.949367	1	1.295392	1	5
HR management	1.870886	1	1.267129	1	5
Training, career paths and skills development	2.06962	1	1.3202	1	5
Health protection, safety, ergonomics	2.049367	1	1.355211	1	5
Definition of criteria for suppliers' selection	1.811392	1	1.287011	1	5
Product and process innovation	1.992405	1	1.316732	1	5
General planning	1.867089	1	1.273222	1	5
Internal planning	2.139241	1	1.397392	1	5
Stakeholder engagement and territory integration	1.8	1	1.241651	1	5
Environmental sustainability	2.063291	1	1.381957	1	5
Composite measures					
Workers' multidimensional well-being (BES)	3.809198	3.85	0.612222	1.75	4.933333
Participation level	1.960271	1.580282	1.096538	1	5
BESt Work Life (BWL)	6.918273	6.9275	1.208836	3.275	9.866667

Table 5. Summary statistics of workers' well-being filtered by the categorical variables (dimension, role, gender, age, seniority).

	Mean	Median	SD	Min	Max
Dimension					
Large	3.606589	3.683333	0.625723	1.75	4.933333
Medium	3.930101	3.916667	0.572809	2.416667	4.933333
Small	3.925055	3.95	0.503035	2.583333	4.85
Micro	4.446875	4.6	0.381387	3.3	4.85
Role					
Director	4.301667	4.366667	0.411598	3.35	4.933333
Manager	3.845376	3.883333	0.538449	2.3	4.85
Employee	3.769342	3.833333	0.605518	2.033333	4.933333
Labourer	3.782326	3.783333	0.683447	1.75	4.933333
Gender					
Female	3.733734	3.816667	0.634661	1.75	4.933333
Male	3.896496	3.9	0.574146	2.2	4.933333
Age					
18-34	3.819981	3.891667	0.584512	2.15	4.916667
35-44	3.889322	3.916667	0.577743	2.133333	4.933333
45-54	3.704228	3.766667	0.62102	1.75	4.85
Over 55	3.882583	3.916667	0.671198	2.333333	4.933333
Seniority					
<1 yr.	4.049145	4.166667	0.552987	2.15	4.933333
1-3 yrs.	3.934652	3.95	0.603332	2.35	4.833333
4-10 yrs.	3.872126	3.9	0.588378	2.3	4.933333
>10 yrs.	3.652361	3.708333	0.605604	1.75	4.933333

Figure 4. Workers' well-being score boxplots and interquartile range over the main characteristics (dimension, role, gender, age, seniority).

Box plots comparing workers' well-being score by organisation dimension (I), respondents' role (II), respondents' gender (III), respondents' age (IV), and respondents' seniority (V). The horizontal bold line in the middle of the box is the median value. The box is the IQR from the first quartile to the third quartile. Whiskers are the range of maximum and minimum values between 1.5 times IQR above the third quartile and 1.5 times IQR below the first quartile. Circles are the outliers between 1.5 and 3 times IQR either above the third quartile or below the first quartile.

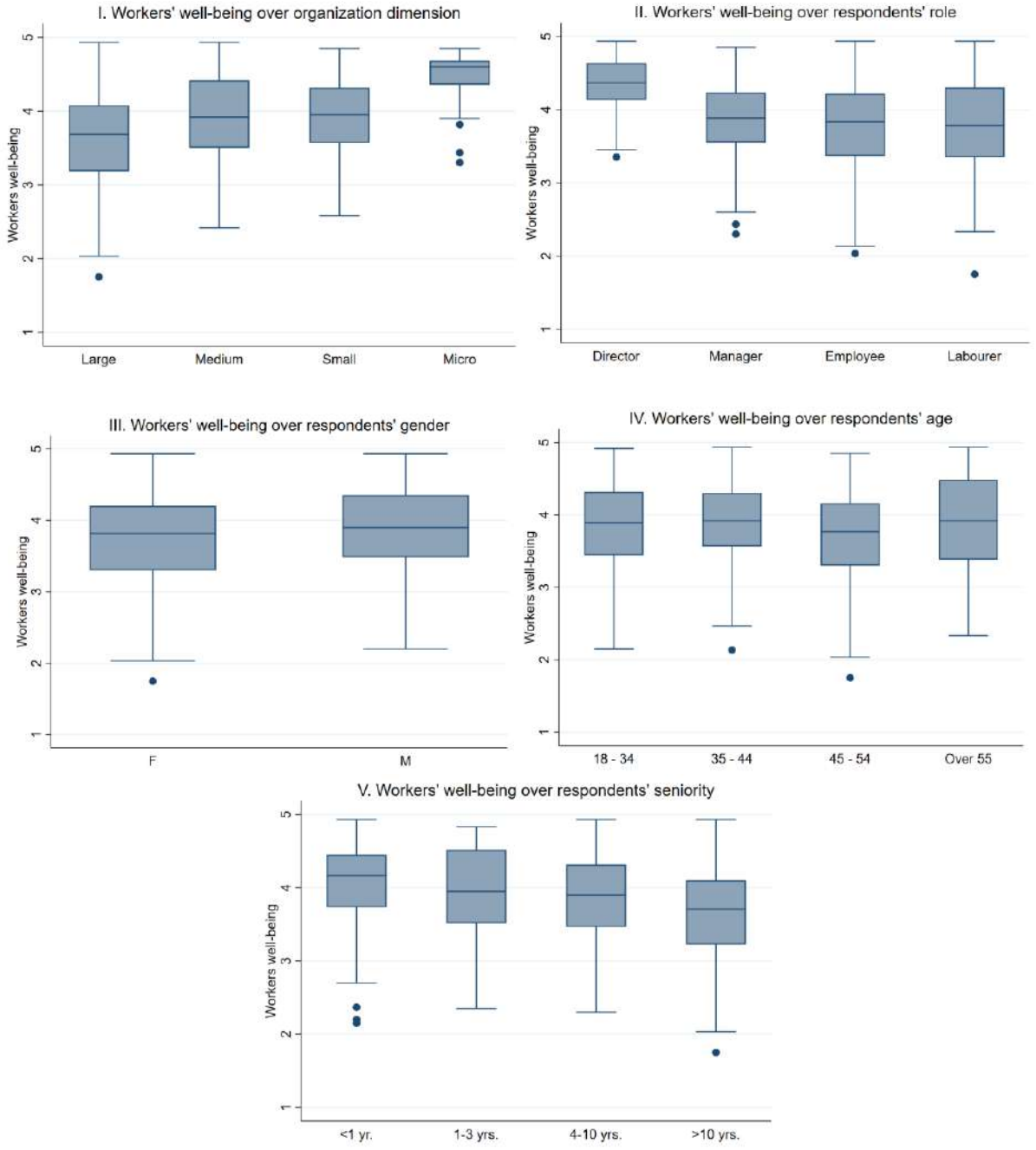


Table 6. Summary statistics of participation level filtered by the categorical variables (dimension, role, gender, age, seniority).

	Mean	Median	SD	Min	Max
Dimension					
Large	1.662742	1.121127	0.951838	1	5
Medium	2.109823	1.874178	1.142333	1	5
Small	2.140826	1.851643	1.04802	1	5
Micro	3.077582	2.892019	1.271089	1	5
Role					
Director	2.507324	2.467606	0.906995	1	5
Manager	2.197813	1.991549	1.044672	1	5
Employee	1.847584	1.450704	0.997832	1	5
Labourer	1.895063	1.104225	1.309161	1	5
Gender					
Female	1.871149	1.404225	1.082565	1	5
Male	2.058305	1.784976	1.108109	1	5
Age					
18-34	2.048608	1.735211	1.113969	1	5
35-44	2.123562	1.803756	1.156253	1	5
45-54	1.776919	1.256808	1.016191	1	5
Over 55	1.929679	1.676056	1.076226	1	5
Seniority					
<1 yr.	2.055712	1.684507	1.155142	1	5
1-3 yrs.	2.113541	1.803756	1.187815	1	5
4-10 yrs.	2.163672	1.985446	1.050504	1	5
>10 yrs.	1.771763	1.281221	1.034182	1	5

Figure 5. Workers' participation level boxplots and interquartile range over the main characteristics (dimension, role, gender, age, seniority).

Box plots comparing workers' participation level by organisation dimension (I), respondents' role (II), respondents' gender (III), respondents' age (IV), and respondents' seniority (V). The horizontal bold line in the middle of the box is the median value. The box is the IQR from the first quartile to the third quartile. Whiskers are the range of maximum and minimum values between 1.5 times IQR above the third quartile and 1.5 times IQR below the first quartile. Circles are the outliers between 1.5 and 3 times IQR either above the third quartile or below the first quartile.

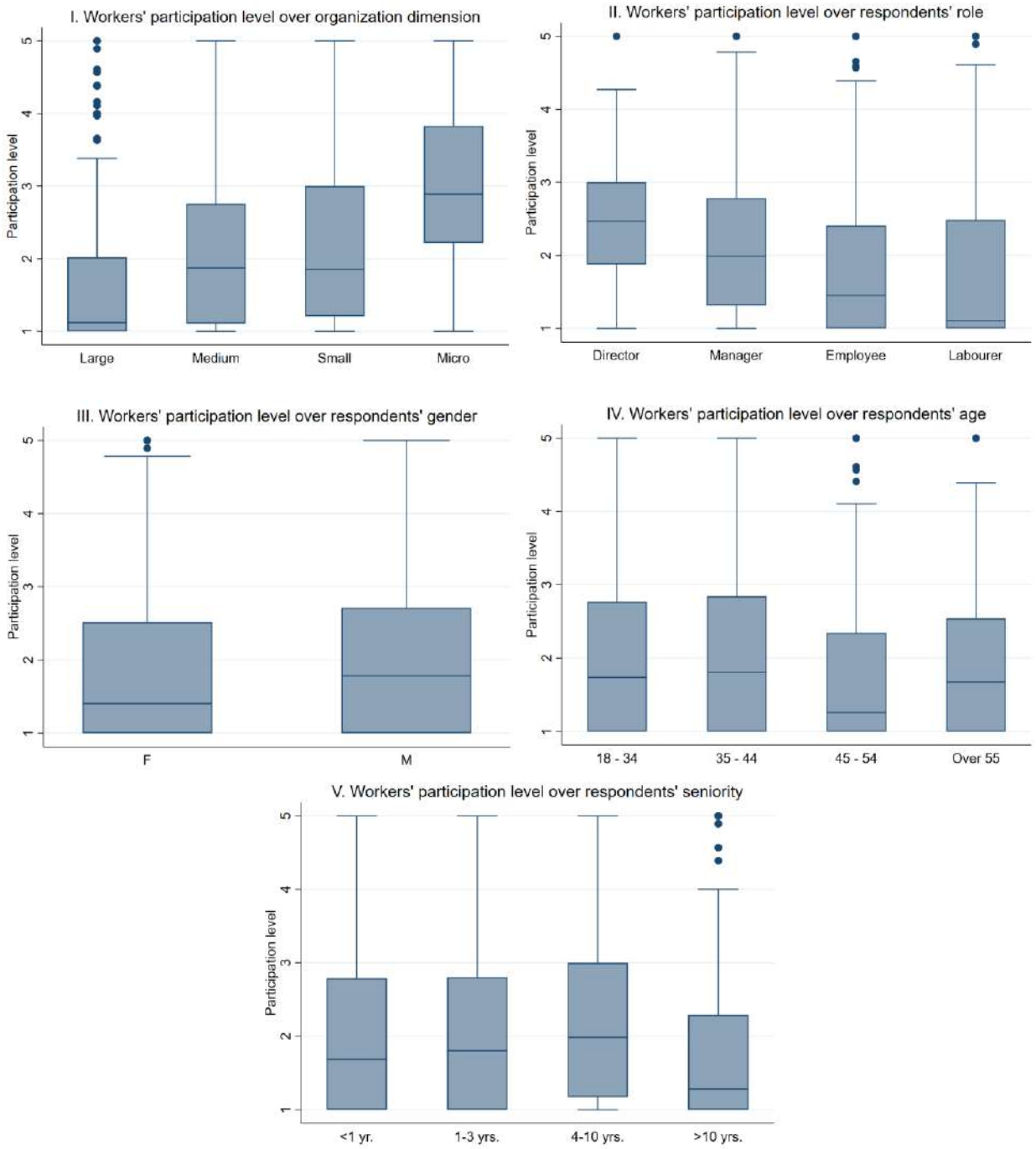


Table 7. Summary statistics of BESt Work Life score filtered by categorical variables (dimension, role, gender, age, seniority).

	Mean	Median	SD	Min	Max
Dimension					
Large	6.630024	6.755505	1.176047	3.275	9.416526
Medium	7.132092	7.041502	1.196177	4.266667	9.866667
Small	6.957996	6.939085	1.104078	4.375	9.325
Micro	8.072174	8.169436	1.098023	5.22	9.58
Role					
Director	7.853303	7.990939	0.900574	5.840375	9.44
Manager	7.079515	6.996831	1.099355	4.21	9.556666
Employee	6.815427	6.813521	1.163226	3.756667	9.84
Labourer	6.839738	6.768615	1.368094	3.275	9.866667
Gender					
Female	6.800777	6.81885	1.231433	3.275	9.84
Male	7.053867	7.052535	1.169845	4.21	9.87
Age					
18-34	6.927315	6.886162	1.221733	3.955	9.866667
34-44	7.063633	7.028521	1.190704	4.017089	9.68
45-54	6.725407	6.814331	1.168924	3.275	9.733334
Over 55	7.074036	7.252418	1.270859	4.266667	9.84
Seniority					
<1 yr.	7.32993	7.462535	1.133963	3.955	9.866667
1-3 yrs.	7.114683	7.173333	1.2586	4.266667	9.733334
4-10 yrs.	7.043054	7.050681	1.192785	4.21	9.52
>10 yrs.	6.648337	6.679542	1.162227	3.275	9.84

Figure 6. BESt Work Life score boxplots and interquartile range over the main characteristics (dimension, role, gender, age, seniority).

Box plots comparing BESt Work Life score by organisation dimension (I), respondents' role (II), respondents' gender (III), respondents' age (IV), and respondents' seniority (V). The horizontal bold line in the middle of the box is the median value. The box is the IQR from the first quartile to the third quartile. Whiskers are the range of maximum and minimum values between 1.5 times IQR above the third quartile and 1.5 times IQR below the first quartile. Circles are the outliers between 1.5 and 3 times IQR either above the third quartile or below the first quartile.

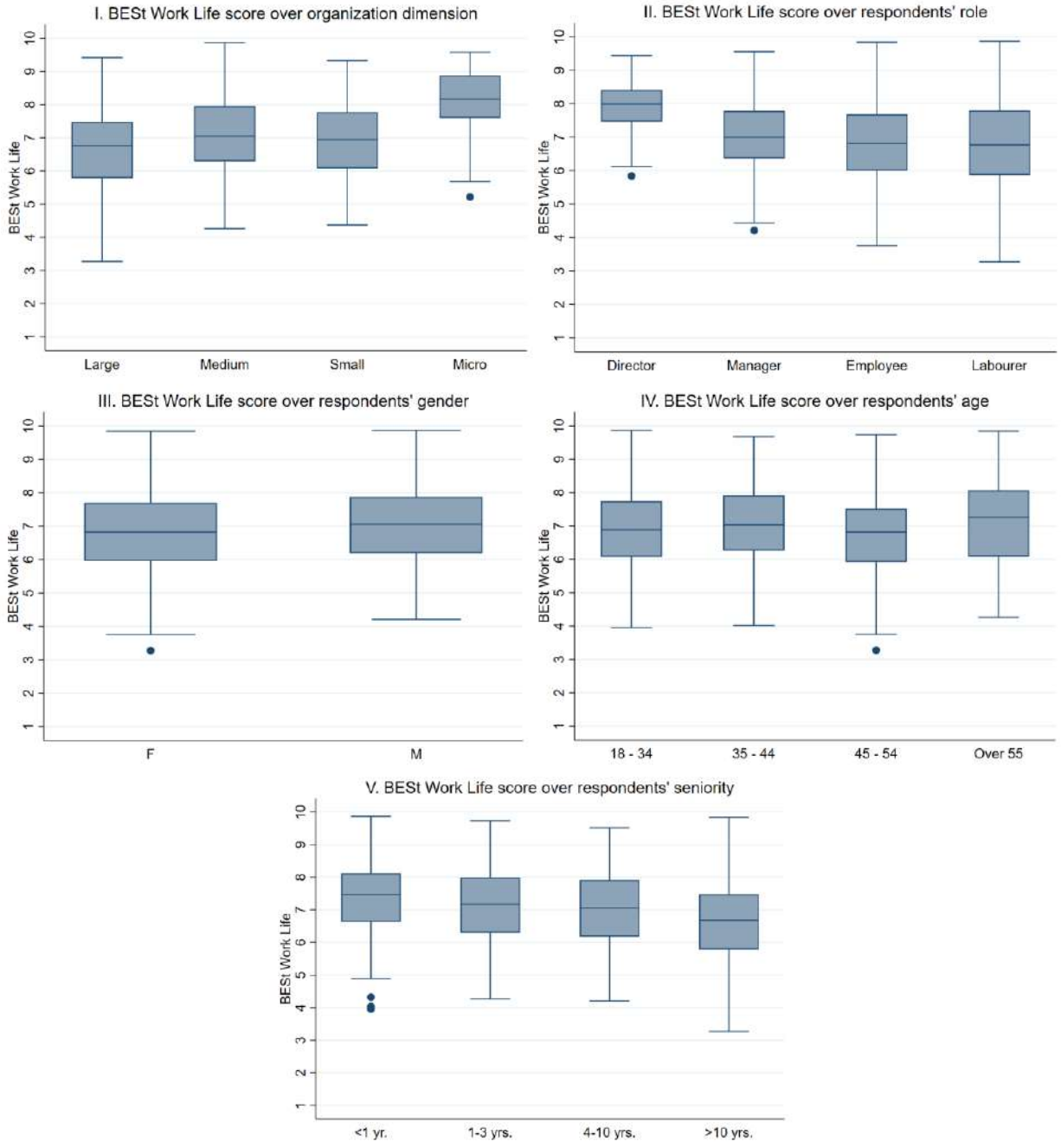


Table 8. Summary statistics of workers' well-being and BESt Work Life depending on the participation level (<1.96, >1.96).

	Mean	Median	SD	Min	Max
Participation level < 1.96					
Workers' well-being	3.602225	3.633333	0.595103	1.75	4.933333
BESt Work Life	6.326079	6.364472	0.984574	3.275	8.41115
Participation level > 1.96					
Workers' well-being	4.116405	4.191667	0.498247	2.45	4.933333
BESt Work Life	7.797252	7.806596	0.948447	4.88838	9.866667

Table 9. Summary statistics of workers' well-being domains depending on the participation level (<1.96, >1.96).

	Mean	Median	SD	Min	Max
Participation level < 1.96					
Environment	3.851695	4	1.014354	1	5
Economic well-being	3.295551	3.375	0.995234	1	5
Innovation	2.251059	2	1.164769	1	5
Education	3.402542	3	1.211688	1	5
Work-life balance	3.66002	3.705882	0.565731	1.882353	4.764706
Cultural and natural heritage	2.897246	3	1.303487	1	5
Politics and institutions	3.756356	4	0.929986	1	5
Services	3.096045	3	0.876257	1	5
Social relationships	3.833051	3.866667	0.679439	1.4	5
Health	3.346751	3.333333	0.962402	1	5
Security	4.48411	4.5	0.647764	1.5	5
Subjective well-being	3.702119	3.8	0.892238	1.2	5
Participation level > 1.96					
Environment	4.267296	4.5	0.843943	1.5	5
Economic well-being	3.78066	4	0.935648	1	5
Innovation	2.880503	3	1.281338	1	5
Education	4.191824	5	1.055702	1	5
Work-life balance	4.075287	4.117647	0.455287	2.294118	4.764706
Cultural and natural heritage	3.517296	3.5	1.21395	1	5
Politics and institutions	4.482704	4.75	0.631157	2	5
Services	3.561845	3.666667	0.900705	1	5
Social relationships	4.356604	4.466667	0.539011	2.6	5
Health	3.926625	4	0.913464	1.333333	5
Security	4.737421	5	0.517287	1.5	5
Subjective well-being	4.367925	4.6	0.658727	1.2	5

Figure 7. Workers' well-being score boxplots and interquartile range depending on the participation level (<1.96, >1.96).

Box plots comparing Workers' well-being (I) and BESt Work Life score (II) by participation level. The horizontal bold line in the middle of the box is the median value. The box is the IQR from the first quartile to the third quartile. Whiskers are the range of maximum and minimum values between 1.5 times IQR above the third quartile and 1.5 times IQR below the first quartile. Circles are the outliers between 1.5 and 3 times IQR either above the third quartile or below the first quartile.

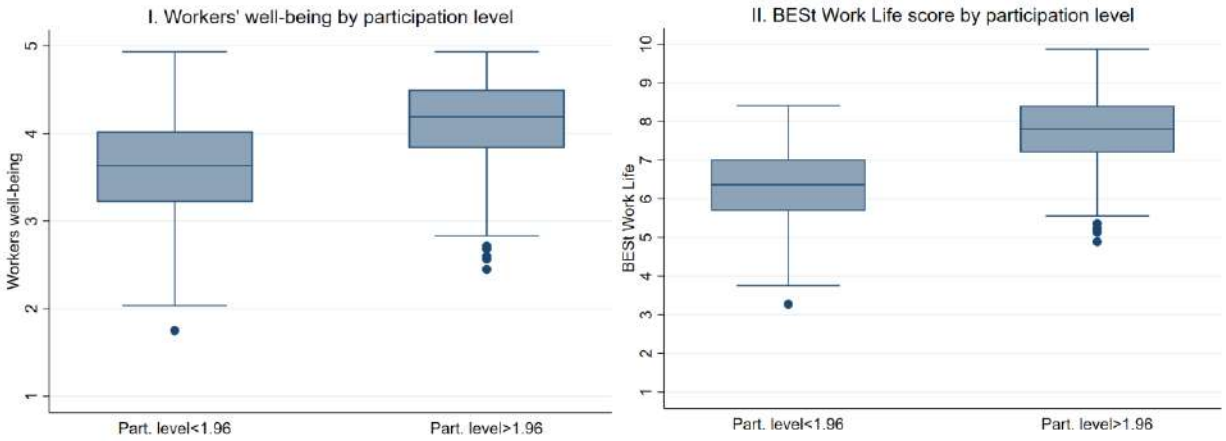


Figure 8. Well-being domains score boxplots and interquartile range depending on the participation level (<1.96, >1.96).

Box plots comparing twelve well-being domain scores by participation level. The horizontal bold line in the middle of the box is the median value. The box is the IQR from the first quartile to the third quartile. Whiskers are the range of maximum and minimum values between 1.5 times IQR above the third quartile and 1.5 times IQR below the first quartile. Circles are outliers between 1.5 and 3 times IQR, either above the third quartile or below the first quartile.

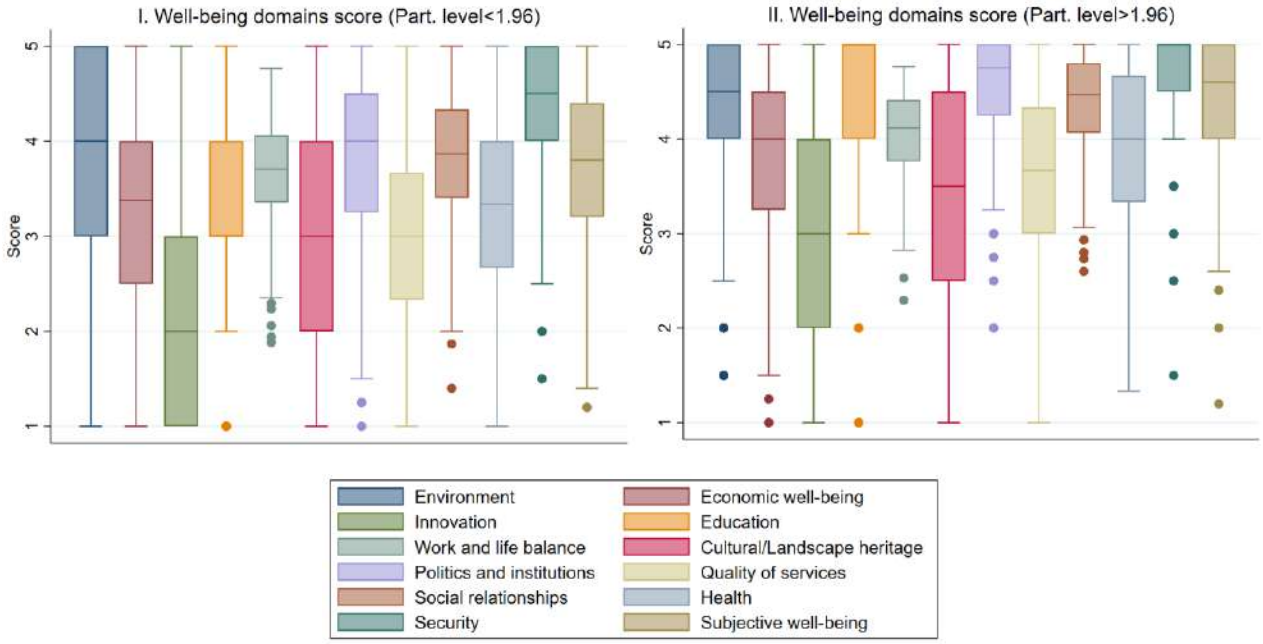


Figure 9. Regression tree reporting the multiple partitions of average workers' well-being (WB) and the share of respondents in each node (n) depending on the participation level.

The tree-based model aims to predict workers' well-being based on different participation thresholds. The tree consists of three internal nodes and four terminal nodes (leaves). The divisions in the tree are determined by maximizing the sum of squares between the groups, as determined by the Anova criterion. The color intensity of the nodes reflects the magnitude of the regression outcome, representing the estimated workers' well-being. Darker colors indicate higher estimated values of well-being.