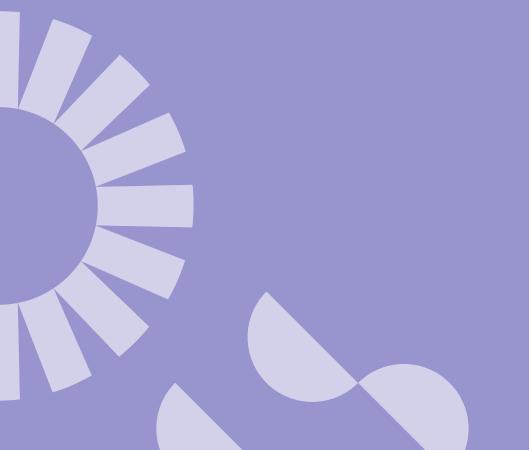
# Supervisors' work ability and work-related strain in a changing working life

Research-based knowledge and solutions





## Supervisors' work ability and work-related strain in a changing working life

## Working group

Mikko Nykänen Kristina Savolainen Iina Manninen

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## **Summary**

## The focus of current study

Current trends in working life include the increasing use of technology, increased pace of work or amount of work and an increase in cognitive demands. Current trends in working life can also generate new risks for the work of first-line supervisors. In autumn 2024, Elo carried out a survey study on supervisors' work ability and workload strain. The survey was answered by 473 first-line supervisors from 14 different companies. The survey produced new knowledge on the work ability and work-related stress of supervisors, with particular focus on the cognitive demands of the work.

## A third of supervisors felt that their work ability had weakened

One third felt that their work ability was moderate at most and estimated that it had weakened over the last six months. One in five also felt there was a high threshold to raise concerns about their personal work ability with their own supervisor. The ability of supervisors to support employee well-being through their supervisory work was significantly diminished when work recovery was inadequate.

## A hectic pace, overlapping tasks and role conflict often burden supervisors

Survey respondents indicated that the hectic pace, information overload, overlapping tasks and conflicting or incompatible expectations at work were associated with work stress among supervisors. In addition to their actual supervisory work, the duties of first-line supervisors often included project and development work, customer work, or expert work. Many stated that they face challenges in finding a balance between the requirements of their different work roles. Many experienced that the time they had for leadership and management was insufficient. The more conflicting expectations there were regarding the work, the weaker the experienced work performance and work satisfaction. Conflicting expectations were less often experienced when the first-line supervisor received strong support from their own supervisor.

## Work resources counterbalance the stress and strain of supervisory work

The results showed that supervisory work can provide a lot of resources to counterbalance work demands at its best. Most felt they received support from the work community. In particular, the ability to influence one's work was associated with better work ability. The strongest association with self-rated work performance was the clarity of expectations regarding the work. The lowest ratings among work resources were given to the experience of receiving sufficient feedback.

## On the basis of the results, five methods were devised to support the work ability of first-line supervisors

- **1.** First-line supervisors are provided with genuine opportunities to influence decisions related to leadership work.
- 2. Upper management develops a culture where discussing the well-being of first-line supervisors is part of everyday work ability management.
- Workplaces support the prioritization of first-line supervisors' work and ensure sufficient time for leadership.
- **4.** Workplaces assess the conditions for first-line supervisors' cognitive work and pay attention to managing information overload.
- **5.** Upper management offers multifaceted feedback to first-line supervisors, and the feedback is based on dialogue.

## Introduction and research questions

Alarming developmental patterns have been identified in the well-being at work of supervisors. The number of supervisors and managers suffering from likely cases of burnout has tripled from 2019 to 2024. In particular, the cognitive impacts of burnout (e.g., difficulty in learning new things and focusing) have increased among supervisors and managers between 2023 and 2024. (Finnish Institute of Occupational Health, 2024).

Change trends in working life include an increase in cognitive loading, an increasing use of technology, intensifying demands for efficiency at work and increasing learning requirements. The cognitive demands of the work are often even further emphasised in the everyday working life of supervisors. Up-to-date information is needed on the workload strain and work ability of supervisors in order to develop tools to support these areas and the work functionality of supervisors amidst the requirements of modern working life.

### Research questions:

- How does the cognitive load manifest itself in the everyday working life of supervisors?
- What work resources exist to counterbalance the stress and strain of supervisory work?
- What correlations are there between the cognitive load and work resources of first-line supervisors and the resulting work ability, work functionality and work satisfaction?

## **Cognitive strain**

Cognitive strain refers to the work-related mental strain placed on a person as a result of the demands of knowledge work. The causes of cognitive strain have been defined in earlier studies as, e.g., information overload, interruptions and disturbances at work, a hectic pace and time pressures, excessive overlapping of work tasks, interruptions or gaps in the flow of information, and unclear instructions or conflicting expectations for the work. (Kalakoski et al., 2022). The increase in cognitive strain has been viewed as one phenomenon resulting from changes in working life. (Mauno et al., 2023).

## Information overload

Digital tools make work more efficient, but they can expose one to an excessive amount of information. An information overload refers to a situation in which the amount of information being processed at work increases, in terms of the amount of tasks, messages and things to remember, to the point at which it is difficult to manage the work situation and learn new information.

## Interruptions and disturbances

Work interruptions increase work-related stress when the employee is forced to shift their focus and then return to their original task. Continuous interruptions are harmful and burden the memory capacity, especially when the interrupting task is different from the original task in terms of material content.

## Hectic pace and time pressures

A certain amount of time pressure can make work more efficient, but a constant hectic pace and unreasonable workload cause harmful stress, weaken work performance and can lead to a weakened level of work ability.

## **Excessive overlapping of tasks**

The excessive fragmentation of work into multiple separate work areas increases memory loading and makes it harder to manage the work. The overlapping of work tasks also increases the need to shift frequently from one task to another, thereby causing work-related stress and overload.

## Interruptions or gaps in the flow of information

Effective, clear, and timely communication promotes work efficiency and reduces work-related uncertainty.

## **Unclear instructions**

A lack of clarity about operating models and the desired way of working increases uncertainty and stress at work.

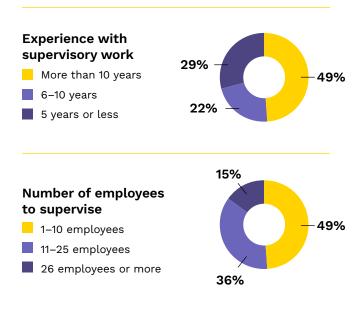
## Conflicting expectations for work

Role conflicts arise when a person experiences conflicting expectations for their work from different parties, making it impossible to please everyone. Conflicting expectations increase uncertainty at work and make it difficult to prioritise work tasks and plan out the work.

## Study data

The research is based on survey and interview data. A total of 473 supervisors from 14 different companies responded to the survey. The survey targeted those in a first-line supervisory role. The average response rate per company was approximately 50%. A total of 7 supervisors participated in the interviews. In the interviews, the supervisors were allowed to talk openly about the issues underlying their work-related stress and cognitive load. Companies representing the service, trade, industry and other technical sectors participated in the research. The majority (about 70%) of respondents were between 35 and 55 years of age. Nearly half of the respondents had more than 10 years of experience in supervisory work and fewer than 10 employees to supervise.

## Background information on survey participants

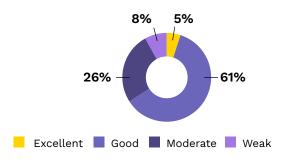


## Results

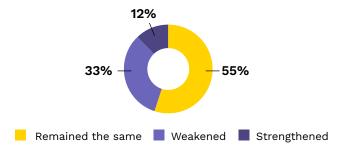
## Supervisors' work ability, work satisfaction and self-rated job performance

First-line supervisors were asked to answer the question: "What score would you give your current level of work ability compared to the best score possible?". Respondents assessed their work ability on a scale of 0 = Very poor to 10 = Very good. The results were classified as 0-5 = Weak work ability, 6-7 = Moderate work ability, 8-9 = Good work ability and 10 = Excellent work ability. In addition, supervisors were asked to assess the change in their work ability during the past six months with response options: weakened, remained the same, strengthened. The majority of the supervisors assessed their level of work ability as being at least good (66%). Nearly one third felt that their work ability was moderate at most and slightly over one third as having weakened over the past six months. Of those who experienced a weakened level of work ability, 19% rated their work ability as poor, 48% as moderate and about 33% as being good.

Respondents were asked to assess how well they felt they had performed their work in the last month compared to their own personal best performance level. The responses given on a scale of 0 to 10 were categorised as follows: 0-6 low, 7 moderate and 8-10 good. More than half (65%) of the respondents thought they had performed well. Approximately 23% of the respondents rated their own performance to be moderate and 12% as low. Presenteeism can be defined as an imbalance between an individual's abilities or potential and their work performance (Muramatsu et al., 2021). The reasons may include deficiencies in working conditions or factors related to a person's individual situation (e.g., health status). A total of 23% of the respondents, therefore, had a mild risk of presenteeism and 12% had a high risk. Correlation analyses showed that work ability was strongly associated with one's perception of work performance (r=0.62, p<.01). When work ability was seen as being at a good level, the corresponding assessment of work performance was also more positive.



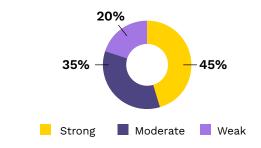
More than half of the supervisors considered their own **work ability** to be at a good level and nearly one third as being moderate



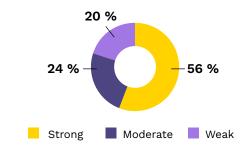
Every third supervisor feels that their **work ability** has weakened over the past six months.

Work satisfaction was assessed with one question: "How satisfied are you with your work overall?" Responses were given on scale 1=Very dissatisfied to 5=Very satisfied. About 70% felt quite or very satisfied with their work, those who gave a neutral score totalled approximately 19% and those who were dissatisfied amounted to 11%.

The survey respondents assessed the extent to which they feel they can take care of their own well-being at work and raise concerns about their work ability with their supervisor (scale 1=Very poorly, 5=Very well). The given responses were categorised as follows: 1–2 = Weak capability, 3=Moderate capability and 4–5=Strong capability. About half of the respondents felt they had a strong level of capability when it comes to caring for their own well-being and raising concerns about their work ability with their own supervisors. One in five supervisors found it challenging to care for their own well-being and felt there was a high threshold for discussing work ability with their own supervisor.



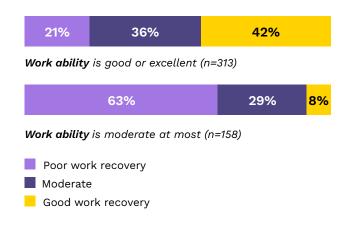
**Perceived capability** to care for personal well-being at work.



**Perceived capability** to raise concerns about work ability with one's own supervisor.

## Work recovery

Work recovery was assessed by asking the respondents how well they usually feel they are recovering from workload strain. The response scale was 0=Not at all to 10=Very well. The responses were categorised as poor 0-5 (35%), moderate 6-7 (34%) and good 8-10 (31%). Those who feel they recover well also rated themselves as having a better work ability.



## Stress and cognitive strain

Respondents assessed their stress level through a single question: "Stress refers to a situation in which you feel tense, restless, nervous or anxious or you find it difficult to sleep, because your mind is constantly focused on your worries. Are you currently suffering from such stress?" (Elo et al., 2003). Responses were given on a scale from 0=Not at all to 10=Very high level of stress. Responses indicating a low stress level were scored 0–5 (36%), moderate 6–7 (30%) and high 8–10 (34%). The stress level was lower when work ability was assessed as being good.



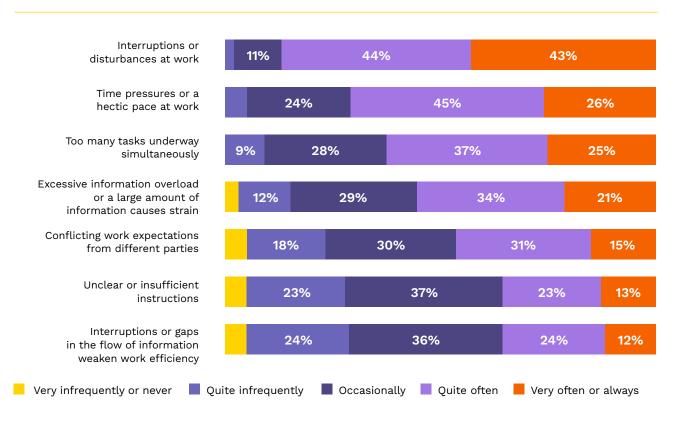




Work ability is moderate at most (n=158)

- Low stress level
- Moderate stress level
- High stress level

Cognitive loading was a common aspect of the work of first-line supervisors. The majority of survey respondents often experienced a hectic pace and time pressures, excessive overlapping of tasks and job interruptions at work. Excessive information overload and conflicting expectations for their work were often experienced by about half of the respondents.



The correlations between different forms of cognitive strain and harmful stress ranged from 0.21 to 0.42. Stress was most connected with the hectic pace of work (r=0.42, p<.01), information overload (r=0.41, p<.01) and an excessive overlapping of tasks (r=0.37, p<.01). Harmful stress was higher the more the supervisor experienced information overload, a hectic pace or an excessive overlapping of tasks.

The interviews with first-line supervisors involved discussing how the various forms of cognitive strain, such as information overload and overlapping tasks, are present in everyday work. In addition, 384 respondents (80% of all respondents) answered the open-ended question: "What do you feel causes you the most stress at work? Please mention 1–3 things." The responses were categorised in accordance with predefined survey responses. The analysis process involved the use of artificial intelligence and a language model that analysed and categorised the responses in accordance with specific survey categories

defined in advance. The process was carried out using AI to identify strain factors mentioned in the responses and to group them into the predefined survey categories. The effectiveness of the analysis was ensured by comparing the content of the responses to the AI categorisations and assessing the success of the process. In the open-ended responses, 46% mentioned a hectic pace, 28% information overload or excessive amount of information, 26% conflicting expectations, 25% excessive overlapping of tasks, 24% interruptions and disturbances, 13% unclear instructions or operational models and 13% interruptions or vagueness in the flow of information. Other issues mentioned in the open-ended responses included, e.g., challenges with work-life balance, conflicts in the working community, dysfunctional processes, HR shortages, personnel absences due to illness, dissatisfaction with the top management, commissioning of new systems. The table below draws on the interview and open-ended response material to illustrate how the key load factors are manifested in the everyday work.

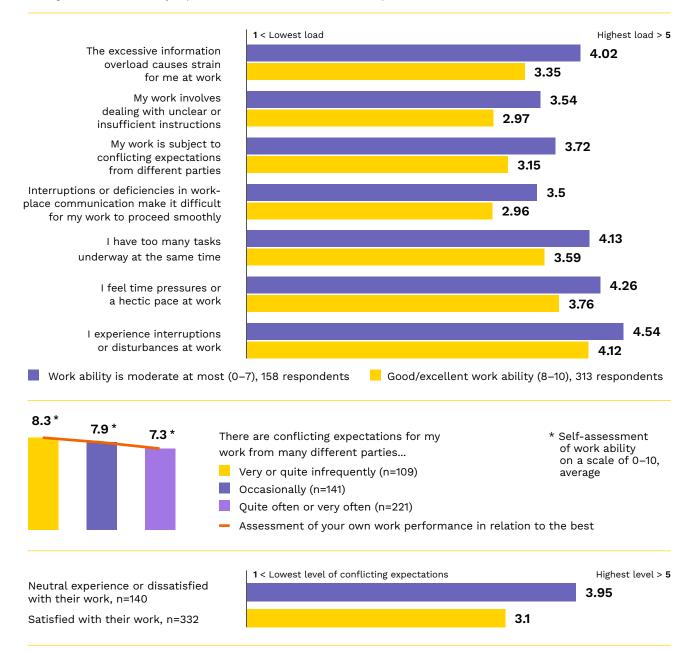
Work-related strain with the strongest correlation to stress. 1	How is the workload strain generated? <sup>2</sup>
Hectic pace and timetable pressures	Supervisory work is characterised by the scarcity of time available and a broad job description. The management of the working hours of supervisors was characterised as an attempt to balance the time needed for supervisory work, networking with stakeholders and possible expert/service work of their own. Time management at work can be complicated by situations requiring a quick reaction such as the need to support personnel, to clarify customer work situations, to respond to timetables presented by stakeholders or other situations requiring ar immediate response. The hectic pace was often further exacerbated by HR challenges, such as the need to deal with personnel absences due to illness.
Information overload	Supervisors are often at the hub of the information flow within the workplace. Supervisory work requires active and multi-channel information acquisition, the identification of essential information, processing of information for their own supervised employees and other stakeholders, a rapid learning of information, an understanding of the importance of information in terms of the business and knowledge-based decision-making. The job description of supervisors is often linked to many different processes within the organisation and often extends to networking with parties outside of the organisation. The networking required at work increases the number of information channels that should be monitored. The flow of information was generally perceived as effective, but as the number of communication channels and the amount of information increased, it made it challenging to weed out the specific information that was essential for management work and decision-making.
Excessive overlapping of tasks	The work of first-line supervisors often requires them to assume multiple different roles. At its best, this can bring versatility to the work, but it also often increases the overlapping of work tasks and poses challenges in terms of work time utilisation and the prioritisation of work tasks. In addition to management work, the everyday working life of supervisors often includes project work, expertasks or customer service work. Furthermore, mentions were made about reforms related to organisational changes that required supervisors to take on new work tasks alongside their existing supervisory work. Unreasonably large tasks were perceived as undermining work functionality and the manageability of the work. Many expressed that there is often not enough time for supervisory work, which negatively affects the quality of the management work and the supervisor's own ability to cope.

## Correlation between work-related strain and work ability, job performance and work satisfaction

Cognitive strain was, on average, stronger among those who perceived their work ability as lower. The biggest difference between those who perceived themselves as having a good level of work ability and those with a moderate at most level was found in their experience with information overload.

Correlations between cognitive strain and one's estimate of their work performance ranged from -0.17 to -0.30. The strongest correlation with job performance was found as

being linked to conflicting work expectations (r=-0.30, p<.01). The more conflicting expectations burdened the work, the weaker the work performance was estimated to be in comparison to the best possible scenario. Those who were satisfied with their work experienced less than average work-related stress. The biggest difference in average values between those who are satisfied with their work and those who are dissatisfied had to do with the amount of conflicting expectations.



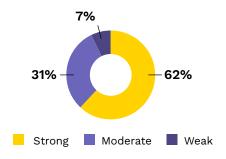
In the interviews and open-ended responses to the survey, it was pointed out that the broad job description of supervisors and the connections and networking required by the work can increase a risk of conflicting expectations for the work. Wishes, expectations and performance pressures are directed at the work from multiple directions. Some of the interviewees felt that being situated between top management and employees can create conflicts in expectations if the coping of the personnel makes it difficult

to meet productivity pressures. The interviewees also often mentioned their changed job descriptions, which required them to take on an increasing amount of expert work, development work and participation in projects and customer work in addition to their original supervisory work. At best, the different roles were viewed as supporting each other, but the expectations for the different roles also posed difficulties when attempting to prioritise working hours.

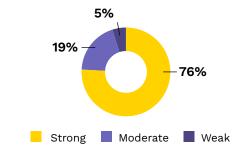
## Impact of work-related stress on supervisors and their leadership

The study examined respondents' self-efficacy in promoting employee well-being through leadership and raise concerns related to the work ability of employees.

Over half felt a strong self-efficacy in promoting employee well-being through leadership, but nearly 40% rated their personal abilities as moderate at best. The self-efficacy in addressing concerns related to employees' work ability was strong for nearly 80%.

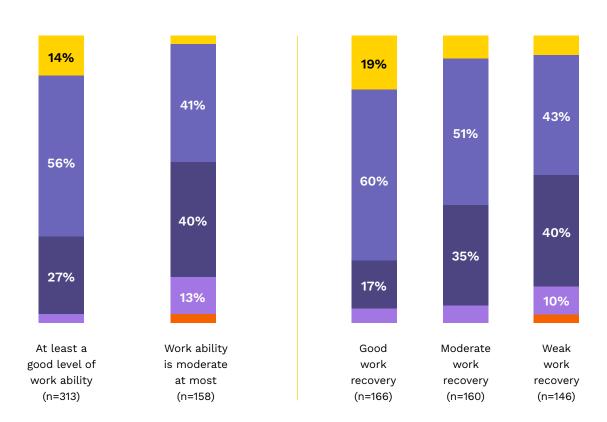


**Self-efficacy** to promote the well-being at work of personnel through supervisory work.

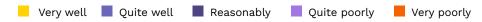


**Self-efficacy** to raise concerns related to the work ability of employees

The results showed that a good level of work ability and work recovery were associated with a stronger self-efficacy to support the well-being of personnel through leadership.



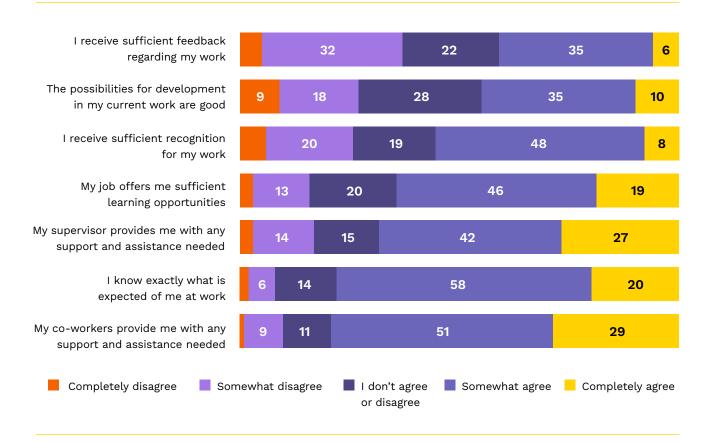
How well do you think you can promote employee well-being at work through your own management skills?



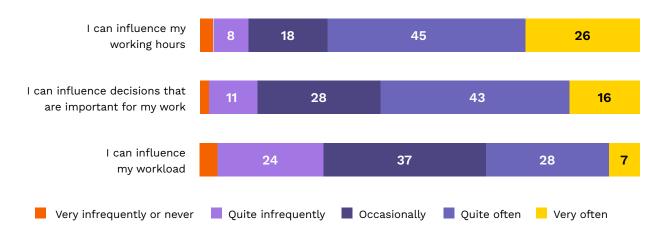
## Supervisors' perceived job resources

The survey assessed supervisors' perceptions of job resources such as opportunities for development, opportunities to influence the work, recognised appreciation and support from the work community. The majority of the respondents felt that they receive support from their co-workers and supervisors when necessary. A significant percentage of f respondents viewed the adequacy of feedback and their own development opportunities critically

or neutrally. When exploring the associations between work related strain and resources, it was found that the support that first-line supervisors received from their own supervisors was negatively associated with conflicting work expectations (r=0.39, p<.01). In other words, conflicting expectations were less frequently experienced when the support from supervisors was strong. The result illustrates the importance of effective interactions between supervisors and upper level management.



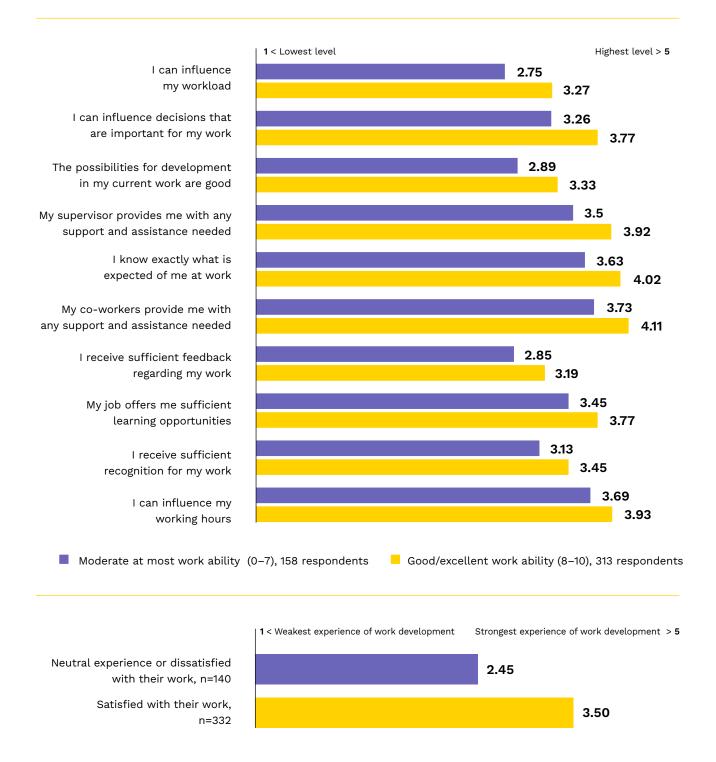
The majority felt they could often influence their working hours, but there was more variation in responses regarding the ability to influence important work-related decisions and workload.



## Associations between job resources and work ability, job performance and work satisfaction

Those who feel that their ability to work is good assess their work resources as being better in relation to others. The biggest difference between those who rated their work ability as good and those who rated it as moderate at most was in their possibilities to influence the work. Correlations between work resources and self-rated job performance ranged between 0.15 and 0.34.

The strongest correlation to the self-rated performance at work was found in the clarity of expectations regarding work (r=0.34, p<.01). The more clearly one understand the expectations for their own work, the more positive they felt about their own work potential and work balance. When examining the correlation between work satisfaction and resources, the biggest discrepancy in the averages between those who were satisfied and those who were dissatisfied was dependent on the possibilities for development.



## **Conclusions**

## Supervisors perform demanding knowledge work

A hectic pace, information overload and an excessive overlapping of work tasks were common strain factors in the everyday work of first-line supervisors and were associated with higher stress levels. Earlier studies have shown that as burnout symptoms are developing, cognitive functioning begins to weaken. This can be reflected as difficulties in remembering details, focusing at work and making decisions (Schaufeli et al., 2020). It is possible that, for overburdened supervisors, the harmful effects of information overload were emphasized. On the other hand, studies have shown that an excessive amount of information overload also directly increases mental strain(Misra & Stokols, 2012). In today's working life, the amount of knowledge work has increased, and first-line supervisors often operate at the intersections of information flows and in the role of information mediators. Therefore, information overload occurring in the workplace can be particularly pronounced in the daily lives of supervisors. The ability to distinguish essential information from non-essential is an increasingly important skill for first-line supervisors. It is becoming increasingly important for workplaces to facilitate the knowledge work of supervisors, control information overload and utilise new technologies such as artificial intelligence for filtering, analysing, summarising and managing the large amounts of information. Paying attention to the cognitive ergonomics of supervisors can help reduce the unnecessary mental strain and enable for resources and working time to be channelled into their actual management work.

## Conflicting expectations are associated with perceived stress, job performance and work satisfaction

Conflicting expectations were associated with higher stress levels and lower work satisfaction. When conflicting expectations were more frequent, first-line supervisors also assessed their own performance more critically. In addition to leadership work, supervisory roles often include development and project work, expert tasks, or customer service work. At best, different work roles complement each other, but they can often pose challenges to the sufficiency of work time. Additionally, supervisors felt they had to balance between the directives of senior management, the expectations and needs of subordinates, and the expectations of customers.

It is important to reduce conflicting expectations for work and provide support to manage them, since conflicting expectations have been shown to increase the risk of burnout (Schaufeli, 2023). Effective collaboration and interaction between first-line supervisors and upper management can help first-line supervisors to prioritize and limit their broad range of tasks, as well as generally manage the diverse expectations placed on their work. It is important for workplaces to identify the core tasks of first-line supervisors, limit the excessive division of work time into separate task areas, support task prioritization, and ensure sufficient time for leadership.

## The excessive stress of supervisors is a risk to the entire work community

The results show that the work strain of supervisors is reflected in the entire work community. A third of the survey respondents were in the risk group for decreased work ability. Challenges in recovering from work were associated with supervisors' reduced ability to support employee well-being. It was often easier for supervisors to address the work ability issues of their subordinates than to raise their own work ability concerns with their own supervisor. Workplaces need more of a culture where there is openness and trust between first-line supervisors and their supervisors to discuss work fluency and workload. This enables finding solutions and providing support at an early stage. Without early support and low-threshold dialogue, the situation may deteriorate further.

## Supervisory work offers resources for counterbalancing work-related stress

Good job resources were generally associated with better work ability. In particular, the ability to influence work was perceived as stronger among those who rated their work ability as good. The clarity of expectations regarding work was most associated with a more positive assessment of one's own job performance. Most respondents felt they received support from the work community when needed. Interviews highlighted the importance of sharing the challenges and solutions of supervisory work with other supervisors. Networking and peer support are essential for enhancing supervisors' job performance and well-being.

Less than half of the survey respondents felt they received sufficient feedback, and slightly more than half felt they received enough appreciation in their work. Previous studies have shown that a positive feedback culture supports well-being and performance at work (Katz et al. 2021). The results highlight a feedback deficit among first-line supervisors in workplaces. More attention should be paid to the feedback received by first-line supervisors, especially in hybrid work, where face-toface meetings are less frequent.

## Five methods to support the work of first-line supervisors

Based on the results of our research, we present five recommendations of ways to promote the work ability and work functionality of first-line supervisors.

- 1. First-line supervisors are provided with genuine opportunities to influence decisions related to leadership work.
- 2. Upper management develops a culture where discussing the well-being of first-line supervisors is part of everyday work ability management.
- 3. Workplaces support the prioritization of first-line supervisors 'work and ensure sufficient time for leadership.
- **4.** Workplaces assess the conditions for first-line supervisors 'cognitive work and pay attention to managing information overload.
- 5. Upper management offers multifaceted feedback to first-line supervisors, and the feedback is based on dialogue.

A tool for supporting the working ability of first-line supervisors	Implementation examples
1.  First-line supervisors are provided with genuine opportunities to influence decisions related to leadership work.	Are supervisors being asked how they perceive their own possibilities for influence within their work? Can the possibilities to influence work related decisions, for example, regarding management work be increased?  Are possibilities for influence being utilised? If not, what are the perceived obstacles?  Work together to brainstorm ways to make better use of the possibilities for influence.
2.  Upper management develops a culture where discussing he well-being of first-line supervisors is part of everyday work ability management	Hold regular discussions between the first-line supervisors and their own supervisors for the purpose of reviewing the scope of the job tasks, the workload generated by the various task areas, the adequacy of working time, obstacles that weaken work functionality and solutions that support management work.  Engage first-line supervisors in dialogue to discuss limiting their responsibilities within management work as a means of supporting their ongoing ability to cope at work.  Provide support for the sharing of peer support between first-line supervisors.
3.  Workplaces support the prioritization of first-line supervisors' work and ensure sufficient time for leadership.	Conduct joint discussions concerning the workload and individual tasks in order to gain a common vision of what is most essential in terms of ensuring daily work functionality.  Define the core tasks of first-line supervisors. Identify the other tasks on which time is being spent. Estimate the working hours being spent on different work areas, and the adequacy of working time for management.  Discuss the expectations of the work roles inherent to first-line supervisory work and identify possible conflicts, for example, with regard to the use of working time or the prioritisation of work.  Ensure that the time allocated to expert work, project work, customer work and general supervisory work is balanced.

## A tool for supporting the working ability of first-line supervisors

### Implementation examples

## 4.

Workplaces assess the conditions for first-line supervisors' cognitive work and pay attention to managing information overload. Assess the number of information channels the first-line supervisor is required to monitor and the prerequisites to properly monitor the information. What communication methods are being used for urgent matters? What issues and messages are being discussed using chat applications and in which matters is email being used? What is a sufficient response time, and when must one be available and when not?

Minimise the number of communication channels and sources of information to be monitored and assess appropriateness to reduce the fragmentation of information and to strengthen the accessibility of information.

Consideration in work planning should be paid to work that requires concentration. Assess what type of interruptions might be necessary within the everyday work of supervisors. Discuss how the interruptions might be minimised.

Utilise the tools provided by new technologies and artificial intelligence to enhance the access, filtering, categorisation, summarising, management and control of information related to the workplace and work of the first-line supervisors.

Support supervisors' skills in using communication tools and new technology.

## 5.

Upper management offers multifaceted feedback to first-line supervisors, and the feedback is based on dialogue. Engage in dialogue with supervisors about the type of feedback they wish to receive regarding their work and their role as leaders. What kind of leadership do they feel they need to succeed in their leadership roles?

Encourage first-line supervisors to also share feedback with their own supervisors.

Provide first-line supervisors with feedback on their successes, strengths, and development as leaders. Feedback can focus on areas such as managing employee performance and supporting work ability, organizing one's own work, and developing personal leadership skills.

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