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## Understanding sociotechnical organizational leeway and acting to increase it to prevent MSDs among care assistants in care homes for the elderly

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### Abstract

Musculoskeletal disorders (MSDs) are the leading occupational disease in France, Europe, and internationally. Due to challenging working conditions, care assistants in care homes for the elderly are particularly affected. Care professions are increasingly less attractive, while needs are growing due to the societal context of ageing population. Restoring leeway to healthcare professionals is a challenge to support their caregiving activities and prevent MSDs. We distinguish two types of leeway: Situational Operational Leeway (SOL) which is the workers' ability to implement an efficient operating mode in a working situation, and SocioTechnical Organizational Leeway (STOL) which is the possibilities the work environment offers to workers.

This research aims to understand STOL, its link with regulations and SOL, and ways to support the creation of new opportunities, to sustainably prevent MSDs.

To understand the perceived and actual STOL, we implemented a mixed quantitative and qualitative approach. The quantitative approach is based on data from a questionnaire aimed to identify and assess perceived STOL. The qualitative approach is based on work analysis aimed to identify the use of the available STOL during care activities. In an attempt to help increasing STOL, we carried out a participatory approach through collective confrontations and presentations.

The quantitative approach partly predicts actual STOL and provided a valuable tool for conveying the reality to decision-makers and guiding the intervention. The qualitative analysis supplements the quantitative analysis. It reveals new dimension of STOL, in particular the STOL offered by the resident. It shows links between STOL and the possibilities for regulation, revealing potential levers for action. STOL offered by colleagues and by participatory setting are particularly important to regulate when faced to resident care difficulties. The care assistants' and management's analysis of real work situations allowed them to create new STOL with varying effects on the actors' activity. It seems that the link between STOL and development of SOL depends particularly on the existing work collective. STOL diagnosis could be a useful tool for guiding the intervention towards building the one that is favourable to regulations and development of SOL to prevent MSDs among care assistants.

### Keywords

Leeway, Musculoskeletal disorders, care assistants, care homes for the elderly

### Context

Despite efforts to prevent the risks in past years, musculoskeletal disorders (MSDs) are still the leading occupational disease in France, Europe, and internationally. The residential care homes for the elderly sector is particularly affected. In 2019 in France, 94% of recognised occupational diseases were linked to MSDs<sup>1</sup>.

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<sup>1</sup> <https://www.ameli.fr/entreprise/sante-travail/risques/troubles-musculosquelettiques-tms/secteurs-activite>

## Understanding sociotechnical organizational leeway and acting to increase it to prevent MSDs among care assistants in care homes for the elderly

Care assistants are on the front line in terms of supporting residents. Increasingly taxing care, management methods based on purely economic interests (as seen in the Orpéa care home scandal), and tension on employment affect their working conditions and reduce operational leeway, with consequences on their health and the quality of care. The COVID crisis accentuated these vulnerabilities. This is making care professions increasingly less attractive, while needs are growing due to the societal context of ageing population (Bonnet, Cambois et Fontaine, 2021). MSDs are the consequence of work organisation that does not offer employees the possibility to regulate when faced with variable situations, meaning that they must compromise on their health and/or their performance (Saint Vincent et al., 2011; Vezina, 2001). Etiological and interventional MSD prevention models show the need for an organisational and participatory approach (Bellemare, Marier, Montreuil, Allard & Prévost, 2002; Brunet, Petit & Roquelaure, 2015; Daniellou et al., 2008; EU-OSHA, 2022; Roquelaure, 2018) to help develop activity and build health (Courarel & Petit, 2014). Indeed, employee participation allows for discussion of the actual work, resulting in reorganizations, leading to the creation of new leeway supporting employee regulations.

With this in mind, for several years, researchers have been using the concept of operational leeway to understand the occurrence of MSDs and to take preventive action (Coutarel & al., forthcoming; Coutarel, Caroly, Vézina & Daniellou, 2015; Cuny-Guerrier, Caroly, Coutarel & Aublet-Cuvelier, 2018; Norval, Zare, Brunet, Coutarel & Roquelaure, 2019). Recently, some authors distinguish between SocioTechnical Organizational Leeway (STOL) and Situational Operational Leeway (SOL) (Coutarel et al., 2022). The SOL is the worker's ability to implement an efficient operating mode in said situation, and being able to maintain balance between their health and performance (Coutarel et al., 2015). The greater it is, the more workers are able to develop strategies that ensure both their health protection and performance of tasks. Being low, workers will have to make compromises that can be costly to their health (Coutarel et al., 2015). Workers develop their SOL by drawing on their individual resources and the means available in their work environment (Coutarel et al., 2015; Cuny-Guerrier et al., 2018). The STOL refers to the possibilities available to workers to carry out their activities. It is offered by the work environment (Coutarel, 2004; Roquelaure, 2018). The greater it is, the greater the possibilities for regulation. However, the fact that these means exist is not sufficient to ensure efficient regulation; employees must be aware of them and be able to make use of them (Coutarel & Petit, 2013; Roquelaure, 2018, Weill-Fassina, 2012) to develop the SOL.

### *Objectives*

This research aims to (i) understand perceived STOL, as well as what is actually available and used by care assistants when caring for residents, (ii) explore if STOL increases care assistants' possibilities for regulation and the development of SOL, (iii) examine ways to support the creation of new opportunities, to sustainably prevent MSDs.

### *Methods*

The facility in which the study took place was chosen due to its context, which was conducive to creating operational leeway: part of an association, low accident rate, actors who were easily accessible, existing participatory setting, management committed to TMS Pros<sup>2</sup> prevention approach, etc.

To understand the perceived and actual STOL, we implemented a mixed approach (Creswell & Plano Clark, 2011):

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<sup>2</sup> TMS means MSDs in French. It is a participatory approach to MSD prevention.

<https://osha.europa.eu/en/publications/france-tms-pros-programme-and-other-initiatives-tackle-msds>

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- The quantitative approach comprised a questionnaire to evaluate the employees' perceived STOL. The questions were selected by a group of interdisciplinary researchers who are working to define an indicator of STOL (Bodin et al., forthcoming). It aimed to identify and assess perceived STOL. Nineteen out of thirty care assistants responded to the questionnaire.
- The qualitative approach involved work analysis, based on 8 days of observation (54 hours) followed by self-confrontation interviews with 7 care workers. It aimed to identify the use of the available STOL during care activities and the effects on health and the quality of care.
- To compare the results of both approaches, we sorted STOL based on categories. These later have been defined from existing categories found in the literature completed with new ones defined by the analysis of our data. The final set of categories are: STOL offered by social environment (care workers collective, management, residents) and by work organisation (participatory setting, autonomy, temporal organization, material resources, learning opportunities, ability to manage emotional demands).

In an attempt to help increase STOL, we carried out:

- Two collective presentations of the results of the mixed analysis to validate the diagnosis and co-construct the next stage of the study;
- Two crossed allo-confrontation (Mollo & Nacimiento, 2014) on observed difficult washing situations to encourage discussions on the quality of care with a focus on efficiency and health (Clot & Simonet, 2015; Danielou et al., 2008). Organisational solutions emerged during the presentation of the results of crossed allo-confrontation;
- Observations of two morning shifts trialling the solutions and individual interviews to assess the study's effects on activity.

### *Main results*

#### **Assessment of perceived sociotechnical organizational leeway**

Respondents believe that they work in a participatory setting (they are able to give their opinion, have qualitative exchanges with management), are supported by their superiors, and feel that they can develop their skills. A lack of STOL is perceived in terms of support from colleagues (insufficient staff numbers, tensions), autonomy (repetitiveness), the temporal organization (external demands that requires an immediate response, lack of time), material resources and the ability to manage emotional demands (tensions with residents and their relatives, too many demands at the same time, ...).

#### **Actual sociotechnical organizational leeway available and use in real work situations**

The qualitative analysis revealed a new dimension: the STOL offered by the resident. This is related to the resident's level of cooperation and their functional status. Significant STOL facilitates manual handling and limit the cognitive load. Care assistants are able to take advantage of this thanks to their experience and the trust established with the resident. When there is little STOL, care assistants can use the STOL offered by others (working in pairs, receiving advice, etc.). However, the qualitative analysis confirmed the mixed perception of support from colleagues. There are tensions within teams and colleagues are unavailable due to workloads, which limits peer support and cooperation. The qualitative analysis also revealed a new component of STOL offered by colleagues and management linked to the participatory setting: the possibility of building efficient care strategies through discussions about work. The qualitative analysis supplemented the quantitative results of the autonomy dimension. It showed other components that encourage regulation, such as autonomy in terms of procedures and decision-making. Granted autonomy allows teams to adapt care techniques or protocols to

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the residents' needs, allocate certain residents differently, and influence decisions about care. Professional skills and participatory setting support these regulations. However, when STOL offered by colleagues and management is lacking, the high degree of autonomy granted complicates coordination between care assistants.

The qualitative analysis confirmed the perceived lack of time, particularly in the mornings. The care assistants have little opportunity to recover and often compensate by not taking their break. The qualitative analysis enabled certain correlations: the workload is likely to increase if the condition of one or more residents deteriorates and if there is a lack of STOL offered by colleagues.

Finally, the analysis of the work situations corroborates the low perception of the emotional demands dimension in the STOL. Certain residents' physical and mental condition leads to a high emotional work for care assistants, especially when washing patients. Combined with a lack of time and/or poor social support, the subsequent emotional burden can lead to adverse health effects.

### **Contribution of the sociotechnical organizational leeway diagnosis through a mixed approach**

The presentation of the quantitative results has been a tool for dialogue with the management to discuss the organisation. The figure on the tensions among colleagues came as a surprise for the management. The categories constructed by the researchers to present the analysis emphasized the dimensions to be further investigated. The qualitative analysis highlighted the importance of the STOL offered by colleagues and by participatory setting to regulate when faced to resident care difficulties. The presentation of this diagnosis influenced the intervention towards supporting the development of the collective of care assistants through participatory approach. The objective is to create new STOL and promote their use in the workplace to enhance SOL's development.

### **Supporting and guiding the creation of sociotechnical organizational leeway that help care assistant developing their situational operational leeway**

Care assistants and their management collectively analysed real, complex washing situations during crossed allo-confrontation. This allowed them to create STOL, with varying effects on the actors' activity:

- For the director, knowing more about the work activity allows him to better understand the difficulties the care assistants face. He revealed that he is now more attentive to the team's challenges when a difficult resident arrives. He can use this knowledge to talk to the families. During the assessment phase of the study, the care assistants reported feeling heard. STOL offered by management increased. However, it was not possible to assess whether the creation of these STOL led to the development of carer's SOL during care activity.
- Alerted by the difficulties of a team in sharing viewpoints about modalities of resident care, the healthcare manager initiated additional team meetings. Team members found compromised, and tensions have been reduced. STOL offered by participatory setting has been created. Care assistants have re-appropriated the STOL offered by their peer, which should facilitate their use during activity and then the construction of SOL. The last team meeting occurred after the assessment phase of the study, so we are not able to assess the real impact on the SOL yet.
- One care assistant explained that the discussions about each assistant's practices taught him new strategies that he tried out in real situations. By sharing their experience, colleagues offered him STOL. The care assistant has been able to develop his SOL by using these learned strategies.

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- The care assistants actively participated in defining the solutions. They wanted to add to their job organisation sheets. These sheets contain the list of residents to be cared for with certain information such as the type of protection, food textures, etc. In a unit specialising in caring for residents with dementia, a column was added with tips for dealing with each resident. Substitute care assistants who are not familiar with the unit can use this information, which is easier to access than the care plans. The substitutes expressed their interest in this sheet to management. The permanent care assistants know that everything is noted and can better target what they pass on orally. For example, one care assistant confided that when he was tired of explaining, he suggested that the substitute read the sheet and ask him questions. Another, coming back after several months of sick leave, appreciated having this enriched sheet available for his return. The care assistants are offered new ways to pass on or get information. STOL have been created. Both permanent staff and substitutes mobilize them in their activity, thereby expanding their SOL.
- In another unit, the care assistants added a note that “two care assistants are required” for some residents. This written formalisation was intended to improve coordination when teams lack peer support. Several weeks later, it seems that the difficulties persist, and that they had not taken advantage of this possibility. Indeed, when the work collective is deteriorated, this new resource is not sufficient to promote exchanges and coordination. STOL created doesn't allow the development of SOL in this kind of situation.

### *Discussion/perspectives*

Analysing the questionnaire results allowed us to assess several dimensions of the care assistants' perceived STOL. Low levels of STOL may indicate a higher risk of developing MSDs. The qualitative analysis shows similarities between the perceived and actual STOL. Using this type of questionnaire as a means of preliminary analysis therefore seems worthwhile (Bodin et al., forthcoming). Moreover, the quantitative results provided a valuable tool for conveying the reality to decision-makers and guiding the intervention (Prunier-Poulmaire & Gadbois, 2005). In addition, initial qualitative investigations in the workplace would complement the perceived STOL indicators based on the specificities of the studied sector. Indeed, the qualitative analysis supplements the quantitative analysis (Volkoff, 2010). It reveals other dimensions that influence the care assistants' activity, in particular the STOL offered by the resident. It also shows how STOL is linked to the possibilities for regulation, those that are actually used and under what conditions. The mixed diagnosis could then guide the intervention towards building STOL that is favourable to regulations, revealing potential levers of action.

The care assistants' and management's analysis of real work situations allowed them to create new STOL. Based on actual work, this collective construction has facilitated the appropriation of some of them and has allowed for the development of SOL for certain care assistants. It even seems to have allowed care assistants to act on the process of configuring work situations and thereby increase their power to act (Coutarel et al., 2015). However, in one of the teams, care assistants did not take up some of the STOL created because of difficulties to build a work collective (Caroly, 2010). Our research needs to further investigate the links between the work collective, STOL, and the care assistant's creation of SOL.

These initial results suggest that it would be interesting to study the STOL in care homes for the elderly in order to help design an organisation structure to increase care assistants' influence on their work situation, and sustainably prevent MSDs.

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