CONTEXTUAL ASSUMPTION	NUMBER OF DATA SOURCES	NUMBERS OF QUOTES FROM DATA
1. Staff cuts	9	14
2. Staff turnover	1	1
3. Change in management	12	18
4. Parallel change process	**23**	**52**
5. Previous good experiences with similar interventions (in terms of process or content)	1	1
6. Existing culture of participation/proactivity	**24**	**61**
7. Motivation for participation in the steering group	23	36
8. Resources (time, economy, mental energy, staff meetings, "the right staff")	**85**	**197**
9. Existing structure of the working environment organization	2	3

Table 2 Contextual aspects present in the data material.

MECHANISMS IDENTIFIED FOR IMPLEMENTATION

From the aforementioned three key contextual aspects, we looked for patterns in how these were connected with the implementation degree, using a realist evaluation approach. This resulted in three main mechanisms leading to high implementation of the intervention. Using the concept of mechanisms from Dalkin and colleagues (2015) (*Mechanism (program resources) + Context + Mechanism (Participant reasoning) = Outcome*), we describe below for each mechanism how a central program resource was introduced into a specific context that led participants to a specific reasoning about the intervention—and how this reasoning results in high or low implementation (our outcome, which was given as the cases were selected according to their high or low implementation degree). In the end (in **Table 3**), we summarize the contextual aspects and mechanisms of the four cases with high and low implementation degree.

CONTEXT-MECHANISM-OUTCOME-CONFIGURATION FOR MECHANISM I: PRIORITIZATION OF VIOLENCE PREVENTION

A central resource of the intervention program was that it created a frame for prioritization of violence prevention and support for handling episodes of violence at the top-management, line management, and employee level. This part of the mechanism, however, was activated only in contexts where there were actual resources available. This means that, in departments where there was no, for instance, extra time available due to high workload, it was difficult to initiate new actions for violence prevention. "The ceiling effect case" was a case where this program resource (prioritize violence prevention through focused and assigned activities) met a context of high levels of resources (stable staff, stable line manager,

mental resources). This elicited a reasoning that this intervention program could help work with something that seemed important for the work unit (work environment improvements, diminishing violence, and threats). The line manager expressed the reasoning about the intervention program in this way:

> Line manager Helen: [...] as I know my staff, I do not think we will meet resistance to change. They are very open-minded especially, when we approach them with the intention to improve their work environment (Case 1: "The ceiling effect case", interview with line manager pre-intervention).

This positive reasoning about the intervention was part of their motivation for conducting the steering group meetings and making action plans followed up by actual action, all leading to a high degree of implementation. On the contrary, in the "the demanding case" the program resources (prioritizing violence prevention through focused and assigned activities) clashed with a low-resource context (insufficient staffing, competing change processes, high quantitative demands). On several levels, they experienced that such a lack of resources obstructed the possibility of prioritizing violence prevention activities. In the leadership seminar, the top manager complained about the cutbacks they had experienced and how this made prioritizing violence preventive activities difficult. In light of this situation, the management and staff welcomed the intervention for the chance it gave to the full staff to gather to discuss violence prevention. Still, both employees and the line manager experienced that insufficient staffing and high workload were preventing them from prioritizing the action plans in between the intervention activities. This became visible in the steering group meetings, wherein the line manager and the employees found it impossible to find room in the work

	PSYCHIATRIC WARDS	PRISONS (BOTH DETENTIONS)
High imple-men-tation degree	**Case 1: The ceiling effect case** **Implementation degree: 88%**	**Case 3: The ambitious case** **Implementation degree: 99%**
	Contextual characteristics: • (4) * Parallel change processes providing new resources • (6) Strong culture of participation and proactivity • (8) High level of resources • (9) Systematism in existing Work Environment Organization (WEO) and quality work	**Contextual characteristics:** • (4) Parallel resource demanding change processes of merger, change in management and change in shift system, sanctioned by the work environment authorities • (6) weak degree of employee participation and proactivity • (8) Recent increase in resources from very poor to less poor (staffing, sickness absence, economy) • (9) Systematism in existing WEO but not in quality work
	Mechanisms (Strength): • Experienced prioritization and support (Medium) • Synergetic effects with other projects (Strong) • Fit with existing way of working (Strong)	**Mechanisms (strength):** • Experienced prioritization and support (Medium)
Low imple-men-tation degree	**Case 2: The repelling case** **Implementation degree: 22%**	**Case 4: The demanding case** **Implementation degree: 46%**
	Contextual characteristics: • (4) Mix of parallel resourceful (Safewards, safety briefing) and demanding (recent merger, change in management) change processes • (6) Strong culture of participation and proactivity • (8) Low levels of resources: sickness absence, turnover • (9) Systematism in existing WEO and quality work	**Contextual characteristics:** • (4) Resource demanding parallel change process: sanctioned by the work environment authorities, acute severe episodes of violence from gang members • (6) Weak culture of participation and proactivity • (8) Low levels of resources: high level of sickness absence, change in number and types of inmates and in work tasks led to experienced time pressure and experienced staff cuts • (9) No systematism in existing WEO and quality work
	Mechanisms (strength): • Fit with existing way of working (Medium) • Synergetic effects with other projects (Weak)	**Mechanisms (strength):** • No mechanisms were activated in this case due to a context woth lack of resources

Table 3 Overview of contextual characteristics and mechanisms present in the four cases.
 *These numbers refer to the context factor presented in Table 1.

schedule for the violence preventive action plan they were working on. In a field note, the researcher describes this situation as follows:

> In relation to their work with the action plans, Adam says that their department is one of the most understaffed—"did you note that down?" [he said]. The group cannot find time during the day where they can down prioritize anything else to find time for [their action plan] [...] They go through all the possibilities for freeing up time [...] : getting help from other departments or reducing the inmates' opportunities to go to the fitness-room, but they end up with the conclusion that this would create more conflicts than the action plan could prevent (Case 4: "The demanding case", Field note, 1st steering group meeting).

As a result, the participants from this department developed a hopeless attitude towards the intervention, as they concluded that almost nothing could be done given their current staffing situation. The department

failed to hold the two last steering group meetings and ended up with a lower implementation degree.

CONTEXT-MECHANISM-OUTCOME-CONFIGURATION FOR MECHANISM II: SYNERGETIC EFFECTS WITH OTHER PROJECTS—BUILDING ON WHAT IS ALREADY THERE

In "the ceiling effect case", we also found a mechanism for implementation that consists of a synergy between the intervention introduced by our research project and other already existing projects in the work unit. More specifically, this unit benefitted from the work that had already been done with related projects aimed to reduce coercion, such as the introduction of safety briefings. The program resource that formed part of this mechanism was the tailored element of the intervention. Specifically, the seminar and the steering group meetings provided a frame for collaboration and gave the work units the possibility to speak about violence prevention and initiate action plans on what they deemed fit for their current situation. In the ceiling effect case, there was a context

of several parallel projects on the reduction of coercion. These projects were decided politically, and therefore the work unit was obligated to implement them. Although these projects were seen as good initiatives with something to offer in terms of new and better ways of approaching the care work, employees and their line manager felt pressured to make many changes in a limited time frame. At the same time, they felt that the parallel projects focused mainly on patient safety and less on employee safety. A decisive part of the context in this unit was also that they had an experienced line manager with a good overview of all the projects the unit had to engage in. This context, in combination with the program resource of a tailored/open intervention, led to a situation where the unit was able to combine all the projects in the Violence Prevention Intervention, with the common goal of improving both employee and patient safety. This is also illustrated in the field notes from the management seminar:

> The line management (and the management team above) had a lot of focus on reducing constraints. However, they did not see this as a problem with regard to implementing the Integrated Violence Prevention Intervention project, as both activities were related. The line manager herself suggested that it would be important to highlight this overlap in order to be able to prioritize both (in the regular working day). This approach meant that the action plans for the prevention of violence and threats could constructively be integrated with existing measures for the reduction of coercion (Case 1: "The ceiling effect case", field note, leadership seminar).

This synergetic effect facilitated the implementation process, because, as the line manager pointed out, it increased the prioritization of the intervention activities. From the interviews pre- and post-intervention with the line manager it was clear that she played a central role in creating such synergy and protecting the employees from the tasks related to documentation of the different projects. In this way, it was possible to combine a number of issues they had to deal with, which led to the experience of being very effective; namely, that the project actually saved them time instead of deducting time from other important tasks.

In contrast, the opposite situation was found in "the ambitious case" that can be seen as a negative example of the "synergetic effects with other projects" mechanism. In this work unit, the intervention met a context characterized by *competing* change processes, that is, other changes that also demanded resources. These included a merger that occurred in the six

months prior to the beginning of the intervention, ten different middle managers in the previous ten years, and a new shift work management system that reduced flexibility in the employees' planning of working hours. In addition, during the last month of the intervention, the work unit was sanctioned by the work environment authorities for too high time pressure and inadequate prevention of risks of violence and threats. Together, all these events demanded a lot of mental resources and reduced employees' motivation for getting involved in new activities. This is illustrated by the following excerpts from a post-intervention interview:

> Prison officer Jack: [...] It is as if the good intentions can't keep up with reality, right? You launch a project and then you lose two colleagues. And then we have to figure out new solutions[...] Things change all the time. So, all the things you agree on, you might have to start all over again with new people (Case 3: "The ambitious case", interview with employees not in steering group, post-intervention).

In contrast to "the ceiling effect case", in the "ambitious case" there was no synergy with other projects but a lack of mental resources to engage in the intervention, despite a line manager that was determined to improve their violence preventive practices.

CONTEXT-MECHANISM-OUTCOME CONFIGURATION FOR MECHANISM III: INTERVENTION FITS WITH EXISTING WAYS OF WORKING

The last mechanism identified was activated by the key contextual aspect: Existing culture of participation/ proactivity. In the psychiatric ward that we named "the ceiling effect case", the hospital was already very proactive and used to work with principles of LEAN Management. Therefore, they knew how to work collaboratively in a systematic way, and they were able to integrate the program resource (the "idea-bank" of good preventive ideas from the employee seminar) into their existing practice of participation and proactivity. This is illustrated in the line managers' reflections about the intervention project:

> [...] It has not been substantially different to the way they [employees in this department] normally work. In general, they are good at generating new ideas together and talk about how to solve a problem. We are very solution oriented. If we come across something [...] where we think we could improve something, then we are fast to test out new solutions. I think we are permeated with this PDCA model (Plan-Do-Check-Act model of