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Tactical leaders' and collaborative organizations' non-technical skills during major road tunnel incidents – An iterative focus group study

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ABSTRACT

Introduction: Leadership during major incidents has been described as challenging and dependent on the non-technical skills of leaders. The complex tunnel environment contributes to an even more challenging incident response. Hence, this study aims to identify elements of non-technical skills when leading collaborative road-tunnel incident responses.

Methods: The study was conducted using four focus group discussions with tactical leaders from the rescue services, emergency medical services, police, and collaborative organizations from the emergency dispatch center and road-traffic control center. The data was analyzed using a non-technical skills taxonomy.

Results: Twelve non-technical skill elements emerged. Abilities to gather, sort, and proactively share relevant information and dispatch the correct resources were described. Additionally, abilities to prioritize actions and cooperate to establish a shared operational picture were found. Abilities to adjust leadership to the tunnel environment and conditions and assess the severity of the incident to make decisions were also described.

Conclusion: When managing a road-tunnel incident response, tactical leaders utilizes a range of non-technical skills. The elements of these skills were found to be specific both to the tunnel environment and the collaborative nature of the response. Further studies into and development of these skills are needed to facilitate a timely response and minimize potential risks to personnel or evacuees in future tunnel incident responses.

1. Introduction

Being a tactical leader during major incidents has been assessed as challenging [1]. It has been reported that tactical leaders are only proactive to a limited extent in sharing information between organizations, lack situational awareness, and mainly coordinate practical issues and immediate tasks with other organizations [2,3]. These limitations and challenges are linked to non-technical skills, rather than technical skills (e.g. being able to operate a radio or use specific tools). Non-technical skills are typically defined as depending on social, cognitive, and personal resources [4], and have been developed and investigated within time-critical contexts, such as aviation [4], and emergency organizational settings [5,6]. From the context of teams working with large-scale emergencies such as floods or wildfires, Hayes, Bearman, Butler and Owen [7] report that non-technical skills include communication, coordination, cooperation, leadership, situation awareness, decision-making and coping, stress and fatigue management, complementing technical skills to enable safe and efficient team performance.

The context of this study is the road-tunnel environment, in which severe incidents may occur [8]. The confined space that constitutes a road tunnel may limit the responding emergency organizations' access to the incident site due to traffic queues, long distances, or dangerous conditions such as limited visibility due to the smoke from fires [9,10]. The tunnel environment may create difficulties for tactical leaders and collaborative organizations to visualize the incident site or reach the injured, and they must lead and establish collaboration from a distance [11]. Thus, to accommodate these challenges, tactical leaders may need the ability to make modifications to the emergency organizations' work procedures.

Previous tunnel studies have often focused on technical and safety issues [8], but incident responses undertaken in such dynamic and uncertain contexts require tactical leaders and collaborative organizations to use a broad range of competences, including non-technical skills [7]. Few studies have investigated the collaborative perspectives of tunnel

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incident responses [8]. In addition, it has been found that the rescue services are considered to have the primary responsibility for the response, and while the relationship between the rescue services and police leaders was considered to be that of equals, the emergency medical services (EMS) leader was considered an outsider [12]. This is despite the fact that, in Sweden, these organizations have equal legal responsibilities for leading within their organizations and collaborating across organizations [13]. While non-technical skills are accepted as generic across high-risk occupations, the elements and behavioral markers of non-technical skills may vary [4]. Flin, O'Connor and Crichton [4] therefore suggested that it would be inappropriate to copy the non-technical skills taxonomy from one context to another without proper identification of which skills influence safe and efficient performance within a specific context. Thus, this study aims to identify elements of non-technical skills when leading collaborative road-tunnel incident responses.

2. Methods

2.1. Setting

In Sweden, there are both single and twin tube tunnels, with the latter being most common. The Swedish Transport Administration (STA) governs most road tunnels. One of the STA's sub-organizations, the road-traffic control center (RTCC) oversees the traffic and environment in these tunnels. The emergency dispatch center (EDC) receives and acts on emergency calls made to the national emergency number (112) in Sweden, by informing and dispatching the responding organizations to reported incidents [14]. The tactical leaders of the responding organizations (rescue services, EMS and police) operate under different legislations [15]. Moreover, the management structures differs between the organizations that could impact the collaboration. For example, the police and rescue services have senior commanders, while the EMS has fewer command levels [16].

2.2. Participants and data collection

The participants in this study were purposely recruited from a conglomerate of organizations involved in road tunnel rescues in southern Sweden. The participants were individually informed about the study through email and invited to participate, to which they gave a verbal informed consent.

The participants in the study (Table 1) all have a tactical management role (rescue services, police, EMS), or are collaborative organizations with initial information about the incident and the tunnel infrastructure, and dispatchers of resources (RTCC and EDC). In total there were nine participants in the focus groups, six males and three females (see Table 1). They all had extensive work experience within their organizations. All organizations were represented at each focus group, except from sessions I and IV where the police service was unable to attend.

Four online focus groups [17] were conducted during spring 2021. Each session lasted for 4–4.5 h, with two 20–30 min breaks. Focus groups with representatives from all organizations likely to be involved in tunnel incidents were conducted in order to encourage the participants to share and discuss their experiences of road-tunnel responses and exercises from a collaborative stance. The focus groups were iteratively designed, with the content for each session being constructed on the basis of knowledge gained from previous sessions, altering experiences, conceptual, and practical elements (Table 1). The agenda for each focus group was sent to the participants one week in advance, together with a short summary of the previous focus group. Each session was led by one moderator and one administrator from the research team.

Table 1
Description of the focus groups.

Session	Subject	Activities	Participants*	Participant ID**
I	Challenges and needs for collaborative response	Sharing and creating knowledge, priorities, and actions, based on open questions	2 EMS 1 RTCC 2 EDC 1 Rescue services	A, B C D, E F
II	Time-effectiveness: identifying most important tasks and critical moments	Case-based discussion and best-practice during the initial 20 min of response	2 EMS 1 RTCC 2 EDC 1 Rescue services 1 Police	A, B C D, E G H
III	Situational awareness	Identifying practical use of concepts in "Busby Theory of Situational Awareness in MCI"[18]	2 EMS 1 RTCC 2 EDC 1 Rescue services 1 Police	A, B C D, E F H
IV	Information management	Practical scenario work: collecting, managing, and sharing information during the first 20 min of a response	2 EMS 1 RTCC 1 EDC 1 Rescue services	A, B C D I

* EMS (emergency medical services), RTCC (road traffic control center), EDC (emergency dispatch center), MCI (mass casualty incident).
** The participant ID (A-I) specifies which participants were part of which focus group.

2.3. Data analysis

The four focus groups performed in Swedish were recorded and transcribed verbatim. The transcripts (in total 159 pages) were read by all authors, and sections that by first impression was related to the aim were selected (96 pages). Thereafter, all authors were involved in the preliminary sorting of excerpts into the main categories of non-technical skills as identified by Hayes, Bearman, Butler and Owen, 2020 [7]. This process was influenced by a deductive content analysis [19]. This preliminary sorting was discussed and sections not related to the aim were excluded (leaving 64 pages of text). The remaining sections was the final sorting which were reviewed for content, and different sub-categories were created within its bounds, following the principles of inductive content analysis [19]. These sub-categories were tunnel-specific non-technical skill elements for each of the main categories. The first author then condensed the still large amount of text of the sub-categories while maintaining the content. All steps was discussed and reviewed by all authors in an iterative process. The final quotations was translated into English.

2.4. Ethical considerations

Research ethics approval for interview studies with personnel regarding their profession is not required according to Swedish legislation [20]. This study adheres to the Declaration of Helsinki [21]. The participants received written and verbal information outlining the aim and methods of the study, and were informed that their data would be treated confidentially and they could withdraw their participation at any time. The participants all gave verbal informed consent to participate.

3. Results

The results of this study (Table 2) presents the non-technical skill elements for leading road tunnel-incident responses.

3.1. Communication

3.1.1. Gathering and sorting initial information from different sources

When a tunnel incident occurs, the RTCC and EDC are the first organizations to receive information about it through CCTV (closed-circuit television) footage and information from callers. The initial gathering and sorting of information by the RTCC and EDC was discussed as crucial for how the incident is indexed (i.e. information sorted according to chief complaint or incident type) and how the other participants initially set their resources for the response. However, the RTCC described they quickly needed to translate their internal codes for tube and lane information to make it understandable for their collaborating organizations. This process was considered stressful during incidents, and at the same time important to counteract potential misunderstandings.

The participants strived to gather and sort relevant information by managing various communication systems (i.e. using multiple communication devices to scan intra- and interorganizational communication channels) simultaneously. The ability to handle the information flow within various systems was described as particularly crucial in tunnel environments due to the distances and possible difficulties in seeing the incident site. If they were unable to manage the information flow, they described it may lead to congested interorganizational communication channels. This in turn was described as having a negative effect on the possibilities for the first arriving unit at the incident site to use the external communication channels to share information. Intense information flow was also considered by the participants to lead to that they may choose to share relevant information solely on their internal communication channels.

3.1.2. Proactively sharing relevant initial information

The participants discussed the importance of being able to proactively share information about the tunnel incident and their initial actions with each other, in order to organize their response jointly. For the EDC and RTCC, this was largely based on identifying which information is important for the other participants, such as communicating how the tunnel has been closed and the best access routes.

When the first unit from the emergency organizations arrives at the incident site, they discuss how to proactively share information that is important for all the organizations to organize their incident response, such as the number of injured. Not all tactical leaders receive the same information; for example, only the rescue services described they have access to CCTV footage from the tunnel. Thus, the participants discussed management of the information they receive from their own personnel and other organizations in order to know what to proactively share with each other. Not sharing information was considered to possibly cause delays in the response; for example, by leading to hesitation about entering the tunnel.

Table 2
Non-technical skill categories and elements for road tunnel incidents.

Non-technical skills category	Non-technical skill element
Communication	Gathering and sorting initial information from different sources
	Proactively sharing relevant initial information
Coordination	Dispatching the correct resources
	Readjusting to a dynamic situation
Cooperation	Prioritizing actions to save lives
	Cooperating to establish a shared operational picture
Leadership	Leading from a distance
	Adjusting leadership to the tunnel environment
Situation awareness	Assessing the severity of the incident
	Adjusting to the current conditions in the tunnel
Decision-making	Making decisions to facilitate the incident response
	Making decisions about management of the tunnel

3.2. Coordination

3.2.1. Dispatching the correct resources

The participants discussed the fact that receiving limited information about the type and severity of an incident, including the number of injured, could mean that their ability to dispatch the correct resources is compromised. The police stated that in such a case they may dispatch too many units, in order to be prepared for any eventuality. Furthermore, the rescue services described they utilize specific tunnel response protocols so as to be able to dispatch the correct resources, which the other organizations do not have. The EMS suggested that response protocols could support their ability to establish a response and alleviate their initial resource shortages. The EDC further described how they tried to grasp the actual need for resources during a major incident, and simultaneously coordinate resources in other incidents:

> *I have to ascertain the number of resources we have available at the scene. What is the actual need at the incident site? And [I need to] have a continuous dialog as the incident may draw focus away from everything else, and ensure the continuity of EMS in the rest of the region, and maybe ask for more resources at the beginning of the call. (EDC, focus group 2)*

3.2.2. Readjusting to a dynamic situation

The participants discussed their need to change strategies depending on how the incident develops, e.g. a car crash evolving into a fire. However, the participants' descriptions indicated that their ability to readjust differs. For example, the EMS participants described that their organization typically have a high work load during normal operation. Therefore, they perceived that during a major incident in a tunnel the EMS organization would have a limited ability to initially send a lot of resources, compared to the other organizations. Thus, the EMS participants described they will need the collaborating organizations' knowledge and abilities to support in triage and provide care in case of a mass casualty incident. Furthermore, the participants considered that predefined plans could reduce their ability to readjust their response once it was set in motion. The rescue services explained that it was specifically challenging to reroute vehicles in the tunnel environment:

> *When we receive new information that a fire has started, we have completely different tactics to work to. It's not so simple to redirect vehicles that are in the wrong location. (Rescue services, focus group 4)*

3.3. Cooperation

3.3.1. Prioritizing actions to save lives

The participants discussed the importance of being able to collaboratively identify what should be prioritized initially to establish the response. To lead the response towards life-saving tasks, they discussed the need to be able to identify when to step outside organization-specific tasks to help each other; for example, providing first aid before the EMS arrives. However, the participants identified situations where there was a lack of consensus about what is most important, which may have a negative influence on the incident response. Thus, the participants needed to manage competing interests. For example, the EMS wanted to evacuate people via a specific emergency exit, while the rescue services wanted to perform their incident response using the same emergency exit. This caused a conflict of interests, illustrated in this dialogue:

> *EMS: If they [the rescue services subordinate leader] had been close by, I would have asked them to take the injured people to the unaffected tube through emergency exit no 7.*

Rescue services: At the same time it was from emergency exit no 7 that I had asked the rescue services to undertake their response towards the vehicle, so we would collide, people would be coming out that way at the same time as we were establishing ourselves to be able to conduct our response that way. (focus group 4)

3.3.2. Cooperating to establish a shared operational picture

The participants described that a shared operational picture of the incident was a foundation for further actions. Cooperation was described as valuable here; for example, when the organizations had different understandings of where in the tunnel the incident was located. Hence, failing to establish a shared operational picture due to diverging responsibilities was discussed to potentially have negative consequences for the response. During a real incident, it was described that this had led to the RTCC not starting with an adequate action plan.

Because of that misunderstanding with positioning, the RTCC did not have time to close the tunnel, because they were not aware that this was a tunnel fire. Thus, the road barriers remained open and the tunnel was still open when our units arrived… We wanted a closed tunnel from the beginning, because of indications of fire. (Rescue services, focus group 3)

During the same incident, it was described that a potentially dangerous situation emerged when the rescue services moved their blocking vehicles to resume traffic flow without coordinating with the other organizations. The traffic flow was resumed despite the fact that there were walking evacuees in the tunnel. Thus, the participants emphasized the need to cooperate about when to resume traffic flow after an incident due to the different timeframes of when their organization-specific tasks were performed, and to anticipate the reactions of tunnel users to prevent further incidents.

3.4. Leadership

3.4.1. Leading from a distance

The participants described that the tunnel environment required the ability to lead from a distance using mobile phones and radios and to adjust their organizations' management strategies, such as using subordinate leaders. However, the rescue services considered using subordinate leaders to be challenging because the management structures of the emergency organizations are not compatible. The EMS confirmed this by stating that they are not used to expanding their management structure. The participants stated that the subordinate leaders on-site have the best overview of the incident site for the moment. However, the participants described needing the ability to create prerequisites for the personnel working in the tunnel and to plan for potential developments of the incident and incident response.

We think about different things, operating in seconds and minutes in the tunnel, while management may have to think 10–60 min ahead. Because, if we think about the same things all the time, we mess up our management structure. (Rescue services, focus group 4)

3.4.2. Adjusting leadership to the tunnel environment

The rescue services considered incident response plans to be helpful when adjusting their leadership structures to the tunnel environment. They also stated that they try to find similarities with other types of environment; such as fires in high-rise buildings, with the aim of creating clearer expectations and simplifying the management of the incident. Both the EMS and police have standardized procedures, but the police recognized that using a general standardized procedure may not support their ability to manage a tunnel incident, given the specific environment and rapidly changing nature of such incidents.

3.5. Situation awareness

3.5.1. Assessing the severity of the incident

The participants considered their ability to assess the severity of an incident based on CCTV footage to be limited, because the resolution is too low to assess whether someone is injured. However, the total number of vehicles and people in each tube can usually be determined. Nevertheless, the RTCC argued that CCTV footage cannot replace real observers at an incident site to gain an understanding of the incident and how it is developing.

The participants from the emergency organizations discussed the importance of being able to predict the number of injured based on the initial information provided by the EDC and RTCC. The emergency organizations emphasized that the lack of firsthand information made it difficult to properly assess risks in order to avoid driving into a dangerous situation. Furthermore, both the EMS and the police stated that risk assessments relied heavily on the rescue services' ability to assess risks, due to them being more experienced in leading and working in tunnel environments and to collaborate with the RTCC.

Perhaps it's more difficult to get an initial sense of the incident. For example, if you're heading towards an incident involving a bus that's lying across a ditch. There you can perhaps get more visual information. I think it inhibited them during the exercise, that they had a wall between them and the incident site. (EMS, focus group 2)

3.5.2. Adjusting to the current conditions in the tunnel

The participants described their need to adjust their management strategies to match the evolving incident. For example, they described they may need to adjust to the fact that dangerous goods may be transported through some of the tunnels, and that older tunnels may lack comprehensive CCTV coverage or cannot be closed quickly. Furthermore, the RTCC stated that the time of day will determine how much traffic will be involved and how they assesses the situation and its potential development.

It depends. Now this happened after 9 a.m., which is a bit quieter than if it had happened at 7 a.m. Then there would have been much more traffic. But you always look behind the incident: where are the queues, how far back do they go and where is the traffic, which opportunities do you have? (RTCC, focus group 4)

3.6. Decision-making

3.6.1. Making decisions to facilitate the incident response

The participants discussed the importance of making decisions, within their own organization and across organizations, that facilitate the establishment of an incident response. For example, the EMS stated they need to make decisions, which may be influenced by the tunnel environment, in order to quickly access and care for the injured, and transport them to hospital. The other organizations discussed they needed to be aware of these decisions to be able to plan the incident response as a whole. Otherwise, the incident response may be delayed. Another example is that the participants considered that the rescue services ability to regulate the tunnel's ventilation and lighting in order to limit the spread of smoke, is a foundation for all the onsite organizations' work and safety.

The ventilation is always started at the lowest setting until we have an understanding about what and how. Because, if you increase the ventilation to the highest setting, you may create a welding flame. Then there's a risk that you'll spread the fire further. (RTCC, focus group 4)

3.6.2. Making decisions about management of the tunnel

When an incident occurs, the involved organizations discussed their ability to decide if both tunnel tubes are to be closed, based on diverging

motives. If the incident involves dangerous goods (e.g. chemicals) or a fire, the participants stated that both tunnel tubes need to be closed immediately. However, in other scenarios, such as car crashes, where this decision is not a given, the participants presented differing opinions that reflected their different responsibilities and issues. The EMS generally considered that a total tunnel closure was best in order to maintain accessibility to the injured. The RTCC and rescue services stated that the unaffected tunnel tube could remain open a while longer to ensure that these organizations could reach the tunnel, otherwise there may be queues in both directions, which will make it difficult to reach the incident site. The RTCC also had to consider the financial aspects of closing the tunnel and the movements of the diverted tunnel users. However, the participants also discussed the importance of having the ability to consider the traffic situation and the need for logistics to transport the injured from the incident scene in the tunnel.

4. Discussion

This study has identified elements of non-technical skills when leading road-tunnel incident responses in collaboration. The focus of this discussion is on three main results, summarized from the resulting non-technical skill elements of this study. The specific elements of non-technical skills illustrated that tactical leading in road tunnels is dependent on: 1) the initial information provided by the EDC and RTCC, 2) capacities of leading from a distance, and 3) adjusting to the prioritizations and needs of the collaborating organizations.

These results demonstrate that establishment and tactical leading of a tunnel response is dependent on the identification, interpretation and communication of initial information by the EDC and RTCC. Other studies [11,22] have also identified the EDC and RTCC importance in identifying and relaying key information to collaborative organizations in road tunnel incidents. This study also identified a need to translate and interpret the information received to limit the possibility of misunderstandings between the organizations; for example, about where the incident is located. The issue of translations has been previously discussed in the context of emergency organizations, where different terminologies, abbreviations, and agency-specific terms may cause misunderstandings [23]. Another difficulty identified in this study relates to the participants' inability to manage the information load across various communication channels. Similarly, in the context of underground mines, it has been stated that communication channels have become overloaded, resulting in valuable information being lost [24]. Thus, it is particularly important to practice the ability to manage information in tunnel incident responses, with exercises involving the leaders of not only the emergency organizations but also the collaborative organizations.

The second main result is that tactical leading involves leading from a distance. Others [9,10] have reported on the challenges of leading from a distance, meaning incidents when one is not able to use visual information to control the incident and there is a distance to the operational personnel. The participants in this study discussed adopting different strategies to manage this, such as delegating operational decisions to subordinate leaders while they focus on more long-term tactical decisions. This redirection of attention is somewhat different from the findings of another study [13], which stated that the leaders usually underprioritize collaboration and prioritize intra-organizational decision-making. The participants in this study may still be interested primarily in their own organization's perspectives, but they insisted on their ability to consider tactical decisions rather than operational ones because of the distance to the incident site and the complexity of the tunnel environment. However, delegating operational tasks to subordinate leaders carries the risk of losing control over how the tasks are completed and only gaining a partial view of how the incident response is being performed, as reported in another study [25]. Thus, in this study, the leaders considered plans to be helpful for controlling the uncertainty of an incident and streamlining incident response. However, counter-intuitively, the same plans may complicate incident response; for example, by limiting the ability to readjust to an evolving scenario. Other studies [1,26] have reported that plans are important documents when building an emergency response, but setting hopes too high can lead to a false sense of security because plans may not be comprehensive or may be inapplicable in a particular situation. A fundamental element of non-technical skill is that leaders need to be flexible [2], and to improvise during ad-hoc collaborations [25]. In this study, although plans were considered helpful, there were also examples of the tactical leaders needing to readjust their actions in order to lead from a distance. Thus, in order for the tactical leaders to be able to lead from a distance in collaboration, they need to further develop joint management structures and to practice plans in different tunnel scenarios.

The third result is the participants' need to adjust to the prioritizations of the other organizations. The participants needed to negotiate about which actions should be prioritized, as exemplified by the different needs of the rescue services and EMS to use the same emergency exit. Another issue included negotiating whether or not to close the tunnel, which was perceived by the participants to have different consequences, both positive and negative. Thus, others [22,27] have stressed the need to set a joint agenda by identifying priorities, formulating tactics for the incident response, and negotiating to solve problems. However, in this study, the participants provided an example of where they had failed to coordinate about when to resume traffic flow. This was because they had worked mainly within their own organizational structure, which had negative consequences for the safety of evacuees. This is a typical leadership problem, as reported by other authors [2,3], where organizations do not coordinate to gain a holistic view of an incident, but instead rely on their own organizations. If the organizations' leaders do not have a shared vision and understanding related to the incident response, this will significantly hinder interorganizational collaboration [28,29]. Thus, the participants' non-technical skills could be improved by learning about each other's responsibilities and life-saving priorities during incident response. This would enable them to consider and be responsive to the other organizations' perspectives and negotiate in an informed way to make timely decisions.

5. Methodological considerations

In this study, leadership during incident response in road tunnels was problematized in several ways during the four focus groups. Thus, the participants were able to nuance their understanding of the topic from several dimensions in relation to the other participants. Leaders from approximately the same catchment area participated in the focus groups. This means that they had similar references to specific tunnels, tunnel exercises, and incidents. Even though other contexts might provide other tunnel constructions and management structures, the findings related to non-technical skill elements could be considered general, and thus transferrable. The fact that the focus groups were conducted online may have limited the discussions; being in the same room may potentially have resulted in more in-depth discussions [30]. Further, while the length of the focus groups gave plenty of room for rich discussions, it may also contribute to fatigue, especially since the sessions were conducted online. Hopefully, the breaks helped the participants to stay focused and provided them time for reflection.

Using the theoretical framework developed by Hayes, Bearman, Butler and Owen [7] facilitated visualization of the inter-personal non-technical skills elements of the team of leaders involved in tunnel incident responses. The theoretical framework was tested in the context of Swedish road tunnels involving participants from several professions. The focus on the collaborative aspects of non-technical skills, rather than individual aspects, led to there being no discussions on stress and fatigue management, which has been considered important for managing major incident responses [31], thus it could be valuable to include this aspect in future studies.

6. Conclusion

When leading a road-tunnel incident response, the 12 identified non-technical skill elements and three main results need to be taken into further consideration. The summarized main results illustrate that the non-technical skill elements are interrelated, and also that the non-technical skill elements are largely an interorganizational concern. Non-technical skill elements that were crucial for tunnel environments specifically were the leaders' dependence on the information provided by the EDC and RTCC, leading from a distance, and adjusting their prioritizations in negotiation with the other organizations. These non-technical skill elements were revealed to be challenging and thus need to be further developed in order to facilitate a timely response and avoid potential risks to personnel or evacuees. Thus, these results indicate that further studies should investigate how non-technical skills could be developed in education, training, or joint forums to facilitate leadership during tunnel responses.

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CRediT authorship contribution statement

Sofia Karlsson: Conceptualization, Formal analysis, Investigation , Project administration , Writing – original draft. **Lina Gyllencreutz:** Conceptualization, Formal analysis, Investigation, Project administration, Writing – review & editing. **Johan Hylander:** Conceptualization, Formal analysis, Investigation, Project administration, Writing – review & editing. **Annika Eklund:** Conceptualization, Formal analysis, Investigation, Project administration, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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