



Safety paradoxes

Investigation into an accident with a forklift at
Leeuwarden Air Base
25 April 2022

appetite for sensation

Risk-seeking behaviour in
context of military operations



Unruly behaviour outside
context of military operations

alcohol consumption

Need to leisure and relax



Undesirable behavior

conformism

Camaraderie



Individual responsibility

sub-culture

Closed Society



Receptiveness to
dissenting voices

“Show leadership, choose consciously what aspects to cherish
and what needs adjustment!”

Preface

The Netherlands Defence Safety Inspectorate (*Inspectie Veiligheid Defensie*, or “IVD”) was established in 2018 as an independent Inspectorate for the purpose of improving safety within the Defence organisation and enhancing the organisation’s learning capacity in that regard. The IVD conducts three types of investigation to achieve that goal: system-based, theme-based and incident investigations.

This report concludes the IVD’s investigation into a forklift accident at Leeuwarden Air Base on Monday 25 April 2022. Two F-35 pilots from the Royal Netherlands Air Force were seriously injured on that occasion. The accident occurred on a forklift joyride during after-work drinks. Both pilots required lengthy rehabilitation due to the severity of their injuries. The life-saving actions of people at the scene helped to prevent an even more serious outcome.

The Inspectorate investigated the underlying causes and circumstances in which the accident occurred that evening. It has made several recommendations based on its investigations and expects to be kept informed of their implementation.

The Inspectorate would like to express its gratitude to all parties involved for their constructive co-operation with the investigation. Particular mention should be made of the Air Force member assigned to the investigation team. The same applies to the team’s advisers, Frank Guldenmund (*dr.*) and Victor Roggeveen (*dr.*). Their professionalism, support and commitment were of great help to the investigation. The Inspectorate hopes this report will provide guidance on and tools to shape and implement the necessary improvements to confront safety paradoxes within the organisation.



**The Inspector General for Safety,
Wim Bargerbos**

Table of contents

Synopsis	6
Contemplation and recommendations	9
1 Introduction	11
1.1 What prompted the investigation?	11
1.2 Why did the IVD investigate?	11
1.3 Investigative research question	11
1.4 Research methodology	12
1.5 Scope of the investigation	13
1.6 Other investigations of the accident	13
1.7 Reading guide	13
2 Circumstances	14
2.1 The forklift	14
2.2 The occasion for after-work drinks	15
2.3 The course of events during the after-work drinks	16
2.4 Other circumstances and background information	18
3 Analysis	21
3.1 Behaviour in the run-up to the accident	21
3.2 Explanatory factors	23
3.3 Safety paradoxes and leadership	30
4 Conclusions	34
5 Recommendations	36
Appendices	37
Appendix A Account of the investigation	38
Appendix B Bibliografie	41
Appendix C Abbreviations	43
Appendix D Definitions	44
Appendix E Comments from parties involved	47

Synopsis

On Monday 25 April 2022, two F-35 pilots from 322 Squadron were seriously injured at Leeuwarden Air Base during after-work drinks. A junior pilot drove a forklift in laps around the taxi track and on the grass - sometimes with a passenger on the fork, sometimes around a campfire, sometimes in between those present - on a dare from an older senior colleague. Bystanders filmed the incident on their mobile phones while responding with glee.

After a while, a guard confronted an older and more senior pilot about the pilots' behaviour. The senior pilot then ordered his junior colleague to take the forklift back to where it belonged. As the forklift started heading back, a van came along. The two vehicles circled each other until the forklift tipped over. There were three men on the forklift at the time. Two of them were seriously injured.

A reconstruction of the accident shows that the behaviour of the people directly involved in the accident, as well as the behaviour of bystanders, played a prominent role in the run-up to the accident. This prompted the IVD to formulate the following investigative research question: *What can explain the behaviour of the people directly involved in the accident, as well as the behaviour of bystanders, in the run-up to the accident?* It turns out that a range of factors were involved.

Individual factors

The people directly involved in the accident were young and male. Young men are on average more impulsive and highly confident in their abilities. They also sometimes find it difficult to make proper risk assessments. Fighter pilots argue that they have an appetite for sensation that goes hand in hand with a willingness to take risks. Age, gender and a tendency to seek sensation and risk accordingly increased the probability of the behaviour that took place in the run-up to the accident.

Alcohol consumption is another individual factor. It is embedded in the traditions and rituals of fighter pilot subculture. When consumed in moderation, alcohol makes people more easy-going. Alcohol consumption makes people less able to recognise and assess risks, while making them more self-confident and less aware of their own limitations.

Group factors

According to interviews with those directly involved in the accident, they considered the joyriding to be appropriate behaviour for a party. The lore and tradition of testing the limits at parties is a recurring phenomenon, one that seems to be valued and accepted. Junior airmen hope to gain acceptance by conforming to the norms of the group, the "brotherhood". The desire to become a fully-fledged fighter pilot after a long and arduous training process motivates junior airmen to do whatever it takes to achieve that goal.

The balance of power within the group also played a role. There are two basic principles at play here: status and power. Someone with power can choose whether to meet expectations, whereas someone without power may feel compelled to do so. The senior pilot with a higher status who dares the junior pilot with no status at all is a good example of this.

Organisational culture

Fighter pilots believe they make the difference, that they are the key to the Air Force's success. They see themselves as the "spearhead" of the Air Force. The close-knit nature of the subculture is another characteristic. As a result, there is a relatively high probability that undesirable deviations from the norm will not be identified and corrected in time.

Safety paradoxes

Many of the current and former pilots interviewed treat the behaviour of the people present at the accident, and in particular the factors that contributed to that behaviour, as a given. And from an operational interest perspective, all of these factors undoubtedly play a functional role in certain respects. The events of the evening in question do however provide food for thought, with the incident revealing yet another aspect. There is a potential downside to a pilot's characteristics and skills, in tandem with group dynamics and underlying beliefs: a negative impact on safety. To illustrate this, the Inspectorate converted the seemingly opposite effects of behavioural determinants into a series of safety paradoxes.

Safety paradox no. 1: Risk-seeking behaviour in and outside the military operational context

Fighter pilots are not known to shy away from risk. For the most part, they are young men with an above-average appetite for sensation and willingness to take risks. These characteristics play a functional role in the context of military operations. Outside this context, however, they have the potential to increase the probability of transgressive behaviour.

Safety paradox no. 2: Leisure versus undesirable behaviour

Several fighter pilots said that alcohol helps them relax and share experiences, intense or otherwise, with their fellow fighter pilots. Alcohol lessens their inhibitions about sharing these experiences. Alcohol consumption does however increase the probability of undesirable or unruly behaviour.

Safety paradox no. 3: Camaraderie versus individual responsibility

There is pressure on military personnel, especially fighter pilots, to conform to group norms so they can operate successfully as a group. The positive effect of a high degree of conformism is a sense of camaraderie. By the same token, however, conformism can also make it difficult to disagree with the group and to express this disagreement. This can make it difficult for service members to take individual responsibility.

Safety paradox no. 4: Close-knit group versus receptiveness to dissenting

Fighter pilots have a unique subculture. They see themselves as the key to success, the “spearhead” of the Air Force. This subculture, in which fighter pilots believe that only they can appreciate the experiences they go through, is also very close-knit. However, being so close-knit comes at the expense of receptiveness to dissenting voices, both external and internal.

It is not easy to bring these paradoxical effects into balance with each other. Unwritten, unspoken rules and deeply held beliefs are hard to change. Leadership must show the way in this regard in an organisation like the military, where hierarchy is a deeply held tenet. The process begins in this case in the highest echelons of the Air Force, then works its way down through the lower levels of command to the informal leaders in the workplace. To initiate change, Air Force leadership itself must be receptive to dissenting voices and willing to question its own deeply held beliefs and motivations.

Contemplation and recommendations

Contemplation

Behaviour is the sum total of our actions, of our own accord or in response to what is going on around us. It creates a common frame of reference and leads to group bonding. Group bonding is essential to the successful execution of difficult and dangerous tasks. This is very much the case in the Defence organisation; the individual is part of a group or unit, and the individual's effectiveness and safety depend on that group or unit. It is only logical that the people in the Defence organisation learn to behave according to the norms of the larger organisation. In other words, the behaviour makes the group and the group makes the behaviour.

But what if group formation is still of paramount importance, yet the behaviour associated with it ceases to be socially acceptable? Is it possible to change that behaviour without breaking the group bond? What is needed and who should lead the way? These and other questions were at the forefront of the IVD's investigation into an accident at Leeuwarden Air Base.

This investigation does not apportion blame or guilt, but instead focuses on learning opportunities and safety improvements, in line with the IVD's mission. The Inspectorate has done its best to provide guidance in that respect. It is up to the Air Force to take a stand, to welcome the findings of the report and to link those findings to a tangible perspective for action.

Recommendations

In this study, the IVD has outlined the paradoxes and behavioural determinants that, depending on the degree to which they manifest themselves, have opposite effects on safety. The leadership plays a key role in influencing the balance within the safety paradoxes. The leadership can manage the impact of behavioural determinants: those it wishes to encourage and reinforce, those it wishes to correct, and the core and residual risks it consciously accepts.

The IVD advises the Commander of the Royal Netherlands Air Force to:

1. Lead the way. The highest echelon is the appropriate level at which to steer the distinctive culture of the Air Force and behaviour within the organisation. The specific characteristics and competencies of pilots, group dynamics and underlying beliefs embodied in the organisational culture all come with a downside that is deserving of attention.
2. Leadership should consciously choose those aspects it values and those it wishes to change. Convert this into an Air Force-wide mission that can rely on wide support. Demonstrate commitment and exemplary behaviour and be transparent about expectations, both in and outside the organisation.
3. Take a transparent approach and create space for formal and informal dissent. This includes leaving room for discussion of deeply held beliefs and unwritten rules.

The Inspectorate expects to be kept informed of the implementation of these recommendations.

The Air Force is hardly alone in this respect. There are young and junior military personnel throughout the organisation with a high appetite for sensation and willingness to take risks and a highly developed sense of camaraderie and group bonding who feel they are the “spearhead” of the armed forces.

The IVD advises the Chief of Defence to:

4. Invite the commanders of the operational commands to reflect on the safety paradoxes in their own organisations and to consider the extent to which they have sufficient oversight and control over the associated risks. Perhaps this report will offer guidelines on how to deal with these paradoxes.

1 Introduction

1.1 What prompted the investigation?

Two F-35 pilots in 322 Squadron of the Royal Netherlands Air Force sustained serious injuries at Leeuwarden Air Base on Monday 25 April 2022. This was the result of an accident with a forklift during after-work drinks. The two victims and a third person had taken the vehicle out for a joy ride. The forklift tipped over in the midst of an overly sharp turn. The injuries sustained by both pilots required lengthy rehabilitation. The life-saving actions of people at the scene helped to prevent a more tragic outcome.

1.2 Why did the IVD investigate?

As an employer, the Netherlands Ministry of Defence has the ambition and responsibility to carry out its work effectively, efficiently and safely. The Defence organisation's safety policy therefore aims to manage safety risks as well as possible, to prevent incidents as far as possible and, if something does go wrong, to minimise the damage and harm.¹

The Defence organisation investigates incidents in order to learn from them and to prevent them from recurring. The Defence Safety Inspectorate ("IVD") is responsible for safety-related investigations into the most serious category of incidents, such as the accident at Leeuwarden Air Base.

By investigating, the IVD aims to help make the Defence organisation safer. The main objective of the Inspectorate in presenting this forklift accident report is to clarify the circumstances that could explain, in whole or in part, the behaviour of the people who were present at the accident. The findings presented in this report may help to make the Defence organisation more aware of the factors that influence the behaviour of its personnel, as well as the associated risks. We hope the report will provide guidance on how to learn from the accident and improve safety.

1.3 Investigative research question

The following key question is central to understanding the factors underlying the behaviour of the people who were present before and during the accident:

What can explain the behaviour of the people directly involved in the accident, as well as the behaviour of bystanders, in the run-up to the accident?

¹ Ministry of Defence (2019), *SG Directive 007 Health, Safety and Environment*.

1.4 Research methodology

IVD investigators were on site the day after the accident to interview eyewitnesses and leadership. They were also given access to camera footage of the accident. The investigators used that information to reconstruct the events in the run-up to the accident. It was soon possible to rule out that the forklift had suffered a technical malfunction.

The analysis² showed that the behaviour of the people directly involved in the accident, as well as the behaviour of bystanders, played a central role. Based on its analysis, the Inspectorate opted to focus on how to explain the behaviour of the people involved in the accident and the behaviour of bystanders. The investigators then focused their efforts on answering the investigative research question as thoroughly as possible. The Inspectorate opted to look at that behaviour from three perspectives in an attempt to identify factors of influence. The first perspective, cognitive-psychological, concerns a fighter pilot's individual characteristics. The second perspective, socio-psychological, concerns the social environment or group. The third perspective is that of organisational culture. The IVD also looked at how the various perspectives interact.

To identify the factors and their effect on behaviour, the Inspectorate interviewed the Commander of Air Combat Command (ACC), the Squadron Commander, the people directly involved in the accident and a significant number of bystanders. The Inspectorate also spoke to a weapons instructor, several young and junior fighter pilots (including pilots from other squadrons), a flight psychologist, a flight instructor and three safety officers. In addition, the investigators searched the Air Force's registration systems for the details of previous incidents.

The investigators reviewed the academic literature on the above perspectives to formulate appropriate interview questions and interpret information. The investigators relied on the literature to substantiate the influencing factors and as a frame of reference.

People were interviewed individually. The investigators worked with pre-defined topics to gain an insight into the reasons for the behaviour of the people directly involved in the accident, the behaviour of bystanders, and the underlying beliefs and assumptions.

The investigators then collated the qualitative information from the interviews and other sources into a database and organised it by perspective. The investigators assessed the cause and effect relationship after determining whether a factor was present. Appendix A provides a detailed description of the research methodology.

² Tripod Beta analysis

1.5 Scope of the investigation

This report is an incident investigation, not an academic study. The purpose of the investigation is to explain the behaviour of the people present during the incident. The IVD hopes that the Defence organisation will be able to learn from this. The IVD does not apportion blame or guilt. Statements from interviews are duly noted, but are not traceable to any particular person or position.

1.6 Other investigations of the accident

The accident prompted the Royal Dutch Marechaussee (Military Police) to conduct a criminal investigation. The Netherlands Public Prosecution Service declined to prosecute. The IVD was granted partial access to the official report prepared by the Marechaussee. The Air Force imposed disciplinary measures on those directly involved in the accident based on its own administrative investigation.

1.7 Reading guide

The report begins with a brief description of the situation at the accident site in Chapter 2 (Circumstances). It then gives a more detailed account of the whys and wherefores of the after-work drinks, the subsequent course of events, and the circumstances in which the accident took place. Chapter 3 (Analysis) looks in more detail at the pre-accident behaviour of the people directly involved in the accident and that of bystanders. The report ends with conclusions in Chapter 4, followed by recommendations in Chapter 5.

2 Circumstances

Two F-35 pilots in the Royal Netherlands Air Force sustained serious injuries at Leeuwarden Air Base on Monday 25 April 2022. This was the result of an accident with a forklift during after-work drinks. The forklift tipped over while three people were joyriding it. The driver and the person to the right of the cabin sustained serious injuries. The person standing to the left of the cabin was able to jump off the tumbling forklift in time to avoid injury. The accident occurred on the taxi track in front of the 322 Squadron building, at the aircraft stand (see Figure 3 322 Squadron, aerial view (Google Maps)).

322 Squadron was the first unit in the Netherlands to fly the F-35, which it has done since October 2019. It is the Royal Netherlands Air Force's oldest fighter squadron, having been established in England on 12 June 1943, when it was known as 322 Dutch Squadron Royal Air Force. It is part of the Air Combat Command (ACC), which was still in the process of being formed at the time of the accident. The ACC is an amalgamation of three air force units: the Air Operations Control Station at Nieuw Milligen (AOCS NM), Volkel Air Base and Leeuwarden Air Base. All fighter operations have since been under a single commander.

2.1 The forklift

The forklift, which is owned by a contractor, was parked outside near a shelter at the airbase.³ The key was still in the ignition. The contractor used the forklift for work at the air base during daytime hours. It was a yellow Hyster 1.6 forklift with an basic empty weight of 2,605 kg. The Hyster 1.6 is a limited speed motor vehicle within the meaning of Article 1.1 of the Vehicles Regulations.⁴ The vehicle was in compliance with all statutory requirements and specifications.

A forklift is a vehicle used to transport goods. The risk of collision, falling loads or tipping over is inherent to its use. The Marechaussee found that the technical condition of the forklift had nothing to do with the accident.

³ A shelter is a concrete structure designed to house an aircraft.

⁴ Ministerial Order pursuant to the Road Traffic Act, BWBR0025798, Government Gazette 2009, 81.



Figure 1 Hyster 1.6 (The vehicle in the figure is not the one involved in the accident)

2.2 The occasion for after-work drinks

The Squadron's fighter pilots planned after-work drinks to welcome their colleagues back from Bulgaria. The latter had been guarding the airspace on the eastern flank of the NATO treaty area. All the operational staff of the Squadron (pilots, Operations Division and mission planning staff) were invited.

The interviews reveal that the plan for after-work drinks, which was made on Thursday 21 April, came about after it had been announced that no flights were scheduled for the following Monday and Tuesday (25 and 26 April). This was due to a software update of the aircraft maintenance IT system "ALIS".⁵ It was only the second time that after-work drinks had been organised since the COVID-19 period. A few people already knew about the after-work drinks as of Thursday. One pilot invited his brother. The brother, who did not work for the Ministry of Defence, was supposed to spend the night at the airbase following the after-work drinks. The after-work drinks announcement was made during the Squadron's morning briefing on the Monday in question.

The after-work drinks were held at the Airbase; the military personnel in attendance were in uniform. Several of them had only been part of the Squadron for three weeks, after having completed two years of F-35 training in the US. Others had previously been temporarily assigned to the Squadron. Several members of the Squadron had arranged for overnight lodging at the airbase.

⁵ Automatic Logistics Information System.

2.3 The course of events during the after-work drinks

The IVD relied on camera footage and interviews to reconstruct the run-up to accident. The following timeline shows what happened from the moment the forklift appears on screen until the moment it tips over (20:44 - 20:56). The events and circumstances are described in detail in the following sections.

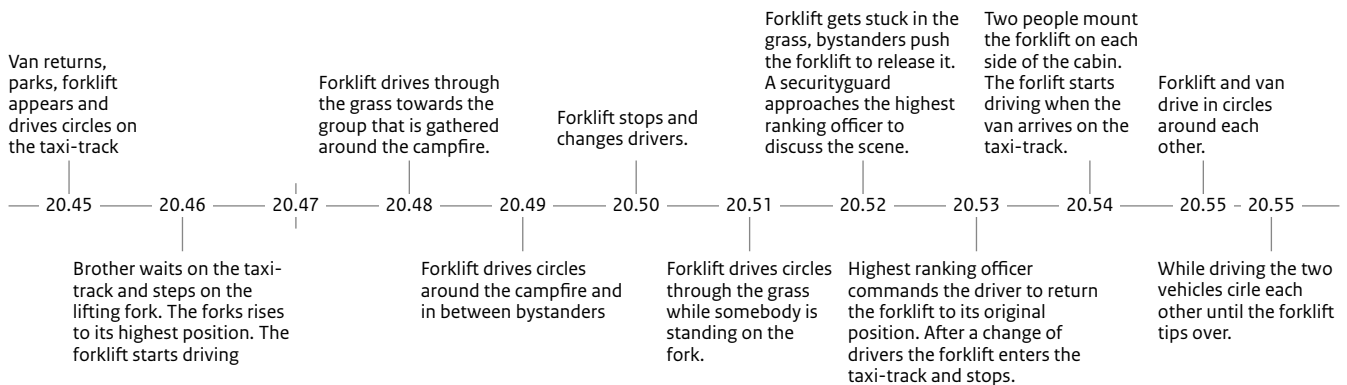


Figure 2 *The period preceding the accident*

After-work drinks started at 17:00 and pizza was delivered at around 18:00. It started inside, with an impromptu initiation moment for the squadron's youngest and junior pilots. Then it moved outside and at about 20:00, a piano was set on fire, a tradition at flying squadron celebrations. A special concrete fire plateau was built for this purpose. A few people left in the course of the evening. At 20:45, when the forklift was fetched, there were still 15 people there. It was dark and dry by then.

Alcohol

Alcohol was consumed during the after-work drinks. The Marechaussee found empty beer bottles in several places, near to the forklift and on the grass around the fire plateau. There were also empty liquor bottles found elsewhere in the grass. The interviews confirm that most of the people who attended the after-work drinks consumed alcohol.

The dare

One of the more senior pilots dared the youngest and junior member of the squadron to take the forklift, which was parked about 200 metres from the squadron building. They drove a PNOD van (Non Operational Service Transport Pool van) to the forklift, the keys of which were in the ignition. The junior pilot, who was authorised to use the vehicle, unlocked the van with his Defence pass.

The joyride

The youngest and most junior pilot started the forklift and drove it along the taxi track to get to the fire plateau outside the crew room. The senior pilot drove the van back to the parking place and then stood amongst the bystanders. One of the people on the taxi track, the brother of a squadron member, allowed himself to be lifted by the forklift about five metres into the air. The junior pilot drove the forklift in circles around the taxi track and across the grass, sometimes with a passenger on the forks, sometimes drifting and skidding over the grass, sometimes circling the burning piano and driving between the party goers.

Camera footage showed a change of driver. A slightly more senior pilot took a seat in the cabin. A person on the forks was also briefly suspended above the flames. Two people came to the rescue and helped free the forklift when it got stuck in the grass. A few bystanders filmed the incident on their mobile phones while responding with glee. The forklift ride lasted about ten minutes.



Figure 3 322 Squadron, aerial view (Google Maps)

Confrontation with an outsider

A guard post was set up in the squadron building to protect classified data. Two military guards were stationed there. As one of the guards left his office, he looked through the windows and saw a forklift riding around. He went outside and confronted the pilot who had earlier dared the youngest junior pilot. The senior pilot then ordered the driver to return the forklift. On returning to the guard post, the guard looked at the security cameras and saw that the forklift was still being driven. As he went back outside to say something, he saw the forklift topple over. He immediately reported the accident and called for help, as per designated procedure.

An aircraft maintenance technician was still at work in the squadron building while the forklift ride was taking place. He thought that the forklift ride was a bad idea because it would result in grass and stones being deposited on the taxi track, which could potentially damage aircraft engines. That led him to use the Air Force's safety incident reporting system to report the incident. The incident report had no effect on events that evening.

Returning the forklift

After being confronted by the guard, the senior pilot ordered the driver to return the forklift. Another junior pilot used someone else's authorised Defence pass to fetch the van. He wanted to drive to the forklift's parking place and bring the forklift driver back to the squadron building. Camera footage shows the forklift, with the young pilot at the wheel, waiting for the van on the taxi track. At the last moment, a pilot and the brother of one of the pilots climbed onto the forklift, holding on to either side of the cabin.

After the van drove up the taxi track to a position behind the forklift, the forklift started to accelerate. At first, the two vehicles drove one behind the other straight down the taxi track towards the forklift's parking place. The forklift made a wide turn at a certain point on the drive back. The camera footage then shows the van and the forklift driving around each other in concentric circles, with the forklift truck driving on the inside circle.

The accident

After a few laps, the forklift driver turned too sharply to the right and the forklift tipped over. The driver and the pilot who was standing next to the cabin on the inner edge of the curve were seriously injured. The pilot's brother, who was next to the cabin on the outer edge of the curve, managed to jump from the forklift as it overturned. The bystanders were not immediately aware of the gravity of the situation. When they realised that people had been injured, the people present administered first aid.

2.4 Other circumstances and background information

Transition to F-35 and ACC

322 Squadron was in transition at the time of the accident but still officially came under Leeuwarden Air Base. On 30 June 2022, Leeuwarden Air Base was incorporated into Air Combat Command (ACC). The squadron members had just been retrained from the F-16 to the F-35. The introduction of new weapons systems and a new organisation requires a lot of time and attention, new procedures and attention to detail. The period of build-up and transition meant that a new way of working, appropriate to the new organisation, had not yet become routine. For example, the squadron had worked two shifts from 07:00 to 23:00 since the introduction of the F-35.

Training and operational activities such as missions, international exercises and deployments abroad continued unabated during the transition. 322 Squadron also provided F-35 training, with a significant coming and going of personnel as a result. 313 Squadron, which is based at Volkel Air Base, started its operations with an initial group of personnel at Leeuwarden to gain experience and build up a sufficient mass of aircraft and personnel before operating independently from Volkel. Leeuwarden was therefore temporarily home to a number of young and junior pilots from 313 Squadron.

Hierarchy/positions within the squadron

322 Squadron has a clear hierarchy that includes various functions and secondary task assignments (Figure 4 322 Squadron organisation chart). The unit is headed by a squadron commander. The squadron is further divided into staff, maintenance, security, ICT and operations (“ops”) sections. Each section has a section head. The ops section consists of an ops cell for support tasks, and “flights” made up of squadron pilots. “Flights” are the equivalent of “platoons” in the army. Each of the four flights is led by a flight commander. Each also has its own tasks and areas of expertise, such as instruction and training, flight safety and standardisation of procedures.

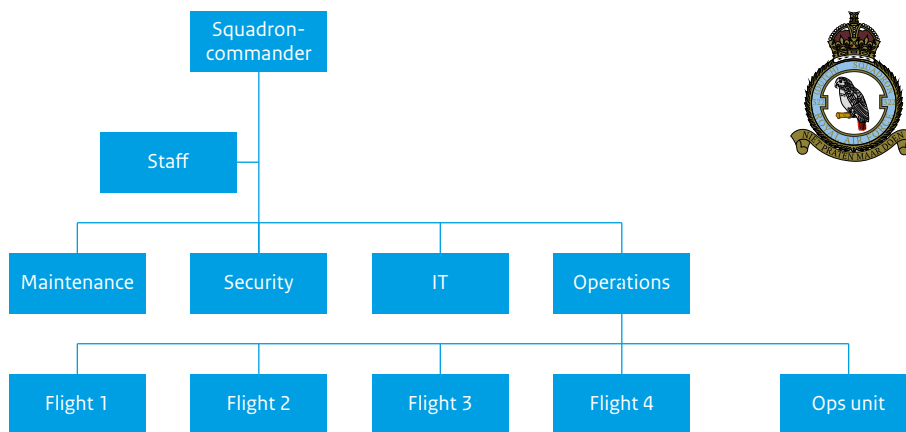


Figure 4 Squadron organisation chart

There are differences in knowledge, experience and training besides the formal hierarchy of the squadron. A junior fighter pilot starts as a wingman (follower) under the guidance of a flight lead (leader) and develops into a senior over the span of his career in the squadron. He is gradually given more responsibility and learns to take on leadership tasks in larger and larger missions involving more and more aircraft at a time. There are also specialist roles such as flight instructor, flight safety specialist and weapons instructor.

Wingman

After initial flight training and conversion training for the F-35, a junior pilot is assigned to a squadron. He first familiarises himself there with the specific weather conditions in the Netherlands and the layout of the airspace. He studies and carries out missions in simulators and aircraft. In the air, the junior pilot is assigned the duties of a wingman, supporting the lead. The duties of a wingman are described in various books and require frequent practise. On the ground, the junior pilots in the squadron are assigned the secondary tasks of managing the squadron’s journal and keeping the crew room supplied with snacks and drinks, soft or otherwise. The junior, inexperienced pilots, including one of the injured, were wingmen or training to become wingmen on the day in question.

Specialisms and experience

There are many training opportunities that a fighter pilot can and should take advantage of over the course of a career. For example, a fighter pilot with sufficient experience can specialise as a flight instructor, flight safety officer or weapons instructor. The interviews revealed that successful completion of weapons instructor training commands the most respect amongst colleagues in the squadron. Few fighter pilots qualify for specialised training of this kind. The interviewees and experts said that weapons instructors are held in higher esteem and have a higher status than other fighter pilots in the squadron, both formally and informally (within the social hierarchy). Young and junior fighter pilots look up to their senior, more experienced colleagues.

The rules of the crew room

Located in the main building of 322 Squadron, the crew room or squadron bar is a place to take a break, have a coffee, or hang out. It is a coffee room by day and a bar by night (during off-duty hours). It is a place for spontaneous, informal and impromptu gatherings, as well as a venue for official after-work drinks and scheduled parties. The crew room is governed by a social hierarchy, with the junior fighter pilots responsible for purchasing the food and drink of their senior colleagues. It is common practice in the squadron to consume alcoholic beverages after work. The interviews show that the pilots, including the leaders, consider the responsible use of alcohol to be mainly a matter of individual responsibility.

Traditions

Parties within the Air Force have their traditions, as do those of 322 Squadron. These include smashing beer bottles and other glass items into a corner of the crew room, the “glass corner”, and the traditional “piano burning”. The piano is burnt on an outdoor concrete plateau at a sufficient distance from the squadron building. The tradition of piano burning at parties appears to have originated with the RAF during the Second World War. After the war, the tradition was adopted in the Netherlands by Dutch pilots who had flown with the RAF. In many countries, shared traditions are kept alive through close cooperation and joint training with the air forces of other nations.

Squadron parties are usually private affairs. The evening in question was originally announced as a “regular” after-work drinks (with pizza), but gradually took on the traditional elements of a squadron party, with an initiation ceremony-element and a piano burning.

Leaders are usually present at after-work drinks

The commander or a deputy is always present at the start of announced activities, such as after-work drinks and parties. This is customary, but not mandatory, in the case of informal after-work drinks. The close bond between pilots means that everyone tries to attend parties and after-work drinks. The fact that no functional superior was present at the beginning of the event in question was exceptional, but explainable. The commander of 322 Squadron was in Bulgaria on a mission. The deputy was unable to attend and the deputy's deputy was on sick-leave.

3 Analysis

Section 3.1 describes the behaviour of the people directly involved in the accident, as well as the behaviour of bystanders, in the run-up to the accident. From its analysis of the pre-accident camera footage and information obtained in the interviews, the Inspectorate has identified certain factors that could go towards explaining the behaviour of the people directly involved in the accident and the behaviour of bystanders. Section 3.2 describes these factors, with the Inspectorate answering the following investigative research question: *What can explain the behaviour of the people directly involved in the accident, as well as the behaviour of bystanders, in the run-up to the accident?* Some of the factors that the Defence organisation would do well to learn from have been expanded into “safety paradoxes” in Section 3.3.

3.1 Behaviour in the run-up to the accident

In addition to the five men directly involved in the accident, there were ten bystanders, seven of whom were men and three of whom were women. They were military support personnel and fighter pilots, both young and more senior, with different specialisms.

Among those directly involved in the accident was the brother of a slightly more senior pilot. Although not a Defence employee, he regularly attended after-work drinks. The fighter pilots had previously included him in the group at parties. According to one of the people involved in the accident, he had even been given a nickname, similar to a “call sign”. The fighter pilot had registered his brother after consulting the “Mayor”, or chairman of the party committee, in accordance with the procedure for receiving non-Defence personnel at an airbase.⁶

The people directly involved in the accident

The people directly involved in the accident are defined as “people whose actions were a direct cause of the accident”. The distinction between those directly involved in and bystanders to the accident is not clear-cut, as both categories contributed to the accident scenario through their actions or encouragement.

The following people have been identified as directly involved in the accident:

1. the senior, more experienced colleague (a weapons instructor) who dared the junior colleague to take the forklift;
2. the young and junior fighter pilot who operated the forklift;
3. the slightly more senior fighter pilot who clung to one side of the cabin;
4. the visiting brother who clung to the other side of the cabin;
5. the junior fighter pilot who operated the PNOD van just before the accident.

⁶ Ministry of Defence (2022), *A 007 Toegangsregeling Defensie*. Norm A/007-20. First and foremost, access is granted to Defence sites on a need-to-be basis, possibly subject to additional authentication procedures, p. 6.

The course of events was determined by several actions taken by those directly involved in the accident before it happened. These actions are listed below.

- Daring the junior fighter pilot to take the forklift;
- accepting the dare;
- bringing the junior pilot to the forklift with a PNOD van;
- using a third party's (a contractor's) forklift without permission;
- operating the forklift (without specific qualifications);
- climbing onto the forks of the forklift;
- operating the forklift with a person on the forks;
- lifting a person on the forks high into the air and operating the forklift in this configuration;
- changing drivers;
- driving in circles on the grass near the fire plateau, around the fire and around bystanders;
- lifting someone on the forks into the air and suspending him over the flames;
- ordering the driver to return the forklift after a confrontation with a guard;
- hanging from either side of the forklift while it was in motion;
- driving the forklift and van in circles around each other.

Bystanders

Bystanders are defined as other people who attended after-work drinks that day. The acts (and omissions) of bystanders in the run-up to the accident can be summarised as follows:

- watching the joyride on the forklift;
- applauding and cheering;
- Pushing the forklift free when it got stuck in the grass;
- ignoring the joyride on the forklift (and carrying on conversations).

Categorising the various actions

The investigators divided the actions into three categories with the most significant causal link to the accident. These are:

- the dare and accepting the dare;
- joyriding with the forklift, and
- bystanders applauding or condoning the behaviour.

Explaining these behaviours is central to the analysis presented in this chapter.

3.2 Explanatory factors

The Inspectorate identified factors to explain the behaviours observed in section 3.1 after having analysed them. This section describes those factors and how they manifested themselves during the accident.

3.2.1 Individual factors

In an attempt to explain why the young and junior fighter pilot accepted the dare to take the forklift and then operate it, the investigators looked at the personality traits of the people directly involved in the accident. Every military pilot needs to possess certain traits and skills to perform this highly specialised work, which is why prospective pilots undergo intensive testing throughout the selection process. In addition to desirable effects, certain traits and skills also produce less desirable ones. The negative effects came to light during the accident, as this section explains.

Traits related to age and gender

Candidates for the position of pilot are usually young. The advantage of this is that they are physically fit. Also, most pilots are male. Anyone over the age of 18 is considered an adult, despite the fact that the human brain continues to develop until at least the age of 25. That is why much of the scientific literature refers to people between the ages of 18 and at least 25 as young adults. Some studies refer to people up to the age of 30 as young adults. The people directly involved in the accident were all under 30. Studies have shown that this combination of age and gender can be associated with, among other things, impulsiveness, relatively high confidence in one's abilities, and difficulty in assessing danger.⁷ The behaviour of the young male fighter pilots and the brother outlined above in section 3.1 reflects these traits. Young adult males are relatively responsive to behaviour exhibited by other males and are more likely to be provoked by the social context (see Group factors in section 3.2.2). Supervision plays a bigger role in the correction of behaviour than it does in the case of young adult females.⁸

The interaction between those directly involved in the accident and others around them played a significant role. The young male fighter pilot did not take the initiative, but accepted the dare of one of the senior fighter pilots to take the forklift. Bystanders also encouraged the airmen with cheers and applause. Some bystanders said in interviews that although they wanted it to stop, they did not intervene (see below: 3.2.2 Group factors). The interviews also revealed that the forklift joyride was inspired by accounts of past parties. The men explained that the forklift joyride just happened; no thought was given to the consequences. They said they had not planned it.

⁷ Young Adult Development Project, MIT.

⁸ Drs. D.A.M. Twisk & A. Stelling. Msc. (2014). *Risicogedrag van jongeren vraagt integrale aanpak*. (R-2014-9 SWOV).

Appetite for sensation: willingness to take risks

Everyone has an appetite for sensation, i.e. the need for new, varied, complex and intense stimuli and experiences, and the willingness to take risks to obtain them. Military personnel, including fighter pilots, generally have an above-average appetite for sensation⁹; they are willing to take - and do not avoid - risks.¹⁰ According to several of the interviewees, not to mention scientific research, this trait is essential if one is to be willing and able to do work of this kind. Pilots must, for example, be able to take decisive action in difficult and life-threatening situations. They must also be able to follow rules, since their lives may depend on it.

The operation of the forklift was intended as a distraction, and people found it “amusing”. The fact that the forklift belonged to a contractor and that military personnel were operating it during after-work drinks did not seem strange to those involved in the accident or to the bystanders. The notion that “something always happens” at parties is a common theme throughout the fighter pilot interviews. An above-average appetite for sensation and a high willingness to take risks may partly explain why the fighter pilots decided to operate the forklift. The scientific literature confirms this.

De invloed van alcohol op cognitieve functies

Alcohol numbs the brain. The more alcohol you drink, the greater the effect. When consumed in moderation, alcohol makes people more easy-going. They experience greater self-confidence and heightened emotions.¹¹

*“Alcohol is often a normal part of the life of a pilot. Happy hours, free beer at gatherings, parties and visits to bars are nothing unusual in the world of aviation. It achieves the desired effects of relaxation and togetherness but does not, unfortunately, always fit in with the other activities in a pilot’s daily routine. Alcohol’s main acute effects are on the central nervous system. It reduces brain activity, despite popular belief to the contrary.”*¹²

The fighter pilots reported that getting together for a drink in the crew room serves an important social function. Several prominent pilots commonly drink alcohol.¹³ It lets them relax and share intense work experiences with colleagues who understand them. This, they say, allows them to learn from and get to know each other better on a personal level. This fosters camaraderie (see “Group norms: camaraderie” in section 3.2.2).

⁹ Daderman, Meurling and Hallman (2001), *Different personality patterns in non-socialized (juvenile delinquents) and socialized (air force pilot recruits) sensation seekers*, European Journal of Personality, 15, 239-252.

¹⁰ Gunnar Breivik, Trond S. Sand & Anders McD Sookermany (2019), *Risk-Taking and sensation Seeking in Military Contexts: A Literature Review*.

¹¹ Source: www.jellinek.nl/informatie-about-alcohol-and-drugs.

¹² Centre for Man and Aviation (CML), Aviation healthcare department (2022), *Handboek Vliegmedisch*, p 44. (in Dutch)

¹³ The IVD opted to use the term “prominent” to describe a small but dominant group with power and status (see 3.2.2, “Group factors, status and power”).

“Our main focus is on the adverse effects of alcohol on military aviation. The acute effects of higher concentrations are obvious to both drinkers and the people around them, and fights will therefore not occur in military aviation when pilots are in this state. At lower concentrations, we see much more subtle effects that the pilot may not even be aware of.”¹⁴

Alcohol consumption makes people less able to recognise and assess risks, while making them more self-confident and less aware of their own limitations. This increases the probability of risky behaviour. Alcohol also significantly increases the probability of error.¹⁵

The interviews, camera footage and photographs show that the people directly involved in the accident were drinking alcohol, as were the bystanders. Alcohol is likely to have affected the behaviour and clouded the judgement of the people directly involved in the accident. Examples include driving the forklift with a person high in the air on the forks and the manoeuvres that caused the forklift to tip over. In addition, alcohol is likely to have affected the risk perception of bystanders, thus decreasing the probability that they would intervene.

Organisational culture also had some impact (see section 3.2.3 Organisational culture). This is supported by interviewees saying that “something always happens” at parties and that drinking a beer “goes with the territory”.

3.2.2 Group factors

The individual factors influencing the behaviour that preceded the accident cannot be dissociated from the social context. In order to understand the dare, the acceptance of the dare, the joyride, and the approval of the joyride, the investigators examined the characteristics and dynamics of the group (“group factors”).

Conforming to group norms¹⁶

People generally want to be part of a group. To achieve this, they conform to group norms. Group norms express how the group expects its members to behave. Some views are strictly enforced, while others are more non-committal. Conformism can be defined as “a change in behaviour or opinion towards a group in response to real or imagined group pressure”.¹⁷ Conformity to group norms - which are usually implicit - is often unconscious; people give it no thought.¹⁸

¹⁴ Centre for Man and Aviation (CML), Aviation healthcare department (2022), Handboek Vliegmedisch. p. 46 (in Dutch).

¹⁵ Military Aviation Authority – The Netherlands. (2018). *Military Aviation Regulations (MAR)*, MAR-GCL3 GM, 12, Alcohol. p. 16.

¹⁶ Oudenhoven & Gutterink (2016), *Groepen aan het werk*, 6.1 Omschrijving en functies van normen, p. 117. (in Dutch).

¹⁷ Conformism is closely related to socialisation, the process by which people are inculcated with the values, norms and other cultural characteristics of their group, whether consciously or unconsciously.

¹⁸ The Netherlands Scientific Council for Government Policy [Wetenschappelijke Raad voor het Regeringsbeleid (WRR)], Tiemeijer, Thomas & Prast (2009), *De menselijke beslisser. Over psychologie van keuze en gedrag*, 7.3 Normen en de groep, p. 145. (Available in Dutch)

The interviews reveal that the people directly involved in the accident felt that the forklift joyride was acceptable party behaviour. Unruly behaviour and testing the limits at squadron parties are well known, accepted and even valued phenomena. Junior pilots are usually supposed to be fun and sociable at parties. If damage does occur, according to the interviewees, it is customary for the people involved to repair the damage or cover the costs themselves.

The junior pilots themselves feel that fitting in and doing things with the group are all part of the deal. They say it is what motivated them to accept the dare and take the forklift out for a ride. They wanted to take part, do what was expected of them, all to realise the dream of becoming a fighter pilot. It should be considered that junior pilots go through a long and arduous training process to achieve their goal. There are no opportunities anything like this outside the Air Force. The junior airmen are strongly motivated and highly dedicated and they fervently desire to be admitted to the group of senior colleagues.¹⁹ The junior pilots conformed to prevailing group norms.

For the senior members of the squadron, it is customary for junior pilots to show their mettle to the group. They have all been through this process themselves. According to the pilots and experts interviewed, it is important that everyone knows who they are dealing with because on missions you need to know each other well enough to trust each other. When the senior, more experienced pilot dared the younger and junior pilot, he was behaving in accordance with prevailing group norms. The experienced pilots said that the pressure to prove oneself used to be much greater. When they were junior pilots themselves, they had to comply with the squadron's strict standards of behaviour when carrying out secondary tasks in the crew room. During the investigation, the Inspectorate heard from fighter pilots who would like to see this change and who sometimes choose to go home earlier anyway.

Bystanders validated the behaviour of the junior pilots and the brother, both actively and passively, by cheering them on during the joyride or by ignoring what was going on. Most of them felt that the behaviour they had observed was consistent with what they had heard about or seen at other parties. The interviewees said that the atmosphere was good. Conformism seems to have influenced the behaviour of bystanders.

Camaraderie

The interviews show that fierce camaraderie, or "brotherhood" as squadron members call it, is vital. The Netherlands Ministry of Defence Code of Conduct concurs: *"Working in the Defence organisation is about solidarity and camaraderie. We go through fire and water for one another. I am a real team player and I help my colleagues when they need it."*²⁰ Camaraderie is characterised by strong bonds and mutual loyalty. It increases the effectiveness of units and therefore the effectiveness of the organisation.

¹⁹ The experienced fighter pilots said that the current generation sees the profession less as a vocation than in times past. The current generation is more interested in a better work/life balance.

²⁰ Netherlands Ministry of Defence (2018), Code of Conduct, point 1, Solidarity.

All interviewees mentioned camaraderie as an essential element necessary for the squadron to function properly. Without camaraderie, according to the interviewees, “we could not get the job done”. The pilots see the crew room as a place to share experiences, to support each other and to deepen camaraderie. Brotherhood is also very important in personal and professional terms, according to one experienced pilot.

Interviewees report that the experiences they have during their work are of such a “unique” and “profound” nature that people outside the squadron cannot understand them. This partly explains why the group is so close-knit (see also 3.2.3 Organisational culture). The group’s close-knit nature, combined with intense mutual loyalty to comrades within their own unit, makes the rules of their own social circle more important than the norms and values of the outside world.²¹

According to squadron members, parties build camaraderie and provide an opportunity to let off steam. Unruly behaviour and its consequences strengthen camaraderie within the squadron, which is why it is valued. From this perspective, it is understandable that bystanders encouraged - or ignored - the people directly involved in the accident. This is discussed in more detail in section 3.2.3 on organisational culture factors.

Another risk associated with bonding and loyalty is groupthink. A group of otherwise highly competent individuals becomes so focused on consensus and unanimity that the quality of group decisions deteriorates and dissenting views are unwelcome.²²

Status and power

To understand social interaction, we need to consider status and power. When individuals interact, there are always two basic principles at stake: status and power.²³ The status-power theory is concerned with fundamental processes of social interaction.²⁴ Someone with power can choose to meet expectations, whereas someone without status and power may feel compelled to do so.

The interviews reveal that junior military personnel believe that the course of their careers depends on their leaders (senior pilots with status and power) within the strict social hierarchy of the group. As a result, they see themselves as having no status or power.

²¹ Gresham S. Sykes & David Matza (1957), *Techniques of Neutralisation: A Theory of Delinquency*, p. 669.

²² Irvin Janis (1972), “a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members’ strivings for unanimity overrides their motivation to realistically appraise alternative courses of action.”

²³ Theodore D. Kemper (2006), *Handbook of the Sociology of Emotions. Power and Status and the Power-Status Theory of Emotions*, pp. 87-113.

²⁴ Theodore D. Kemper (2011), *Status, Power and Ritual Interaction*, Chapter 1, Introduction, p. 3.

Each squadron in the Air Force has its own distinctive emblem. Members of a squadron wear the squadron badge with an emblem embroidered on it. The badge is usually visibly worn on the uniform. A squadron badge is a status symbol, and it is important that junior pilots earn it. It distinguishes pilots from “ordinary” military personnel and informs others that they are fully-fledged members of the squadron.

The squadron badge is earned after going through an obscure initiation process. New pilots have to perform small initiation rituals at various times. For example, they have to take part in a drinking ritual. Newcomers are initially given a miniature version of the squadron badge and earn progressively larger ones at subsequent events. A badge can also be taken away or replaced with a smaller one. One of the junior pilots said he took part in the drinking ritual a couple of times, but just for “practice”. It did not earn him a promotion. There is no fixed number of times a person must take part in the drinking ritual before an official badge is awarded. This goes on until the official initiation ceremony and presentation of the final badge, after which the junior pilot is truly a member of the squadron. The interviews reveal that an element of initiation “spontaneously” emerged in the run-up to the accident.

Another example of a status symbol is the “call sign”: a nickname given to each operational fighter pilot and used in day-to-day interactions with colleagues. A call sign is unique and usually inspired by one’s name, a characteristic, a physical imperfection, or a notable event (e.g. doing something stupid).²⁵ For example, some pilots owe their call sign to something funny, to their unruly behaviour, or to a particular incident. One junior pilot interviewed said that if you want a good call sign you have to prove yourself. It is not uncommon for someone to be given a call sign as a result of something that happened at a party.

Both the call sign and the squadron badge are status indicators. The junior pilots did not yet have call signs or squadron badges, and they depended on their senior colleagues to earn those attributes. The senior pilots had status and, more importantly, the power to bestow it.²⁶

The accident took place when the junior pilots were still in the process of developing and advancing within the squadron. This ramps up the dynamics of a senior pilot (with status) daring a junior one. Senior pilots were present at the after-work drinks, but none of them intervened spontaneously.

It is plausible to assume that status and power played a role in the accident. With this in mind, it is easier to explain the dare, the acceptance of the dare, the joyride on the forklift, and the tolerance and acceptance on the part of the bystanders.

²⁵ C-RNLAF, General Steur (2023), “Op1” television interview, 8 June 2023.

²⁶ Theodore D. Kemper (2011), *Status, Power and Ritual Interaction*, Chapter 2, Status and Power, p. 13.

3.2.3 Organisational culture

Organisational culture is characterised by the fact that the group's assumptions and beliefs are often deeply ingrained and difficult to change. They are to the group or organisation what "personality" or "character" are to the individual. They are conscious or unconscious beliefs that guide daily behaviour. Certain aspects of organisational culture are tangible, such as uniforms with squadron badges, initiation rituals and burning pianos at parties. Other aspects are less tangible, such as camaraderie and loyalty. They are deeply held beliefs that guide the way the members of a group think and behave. They are implicit and obvious only to people who are part of the organisation, and even then often unconsciously.

A unit that has been in existence for any length of time will develop its own subculture or group culture. In this context, the pilots interviewed refer to themselves as "the front line" or "the spearhead of the Air Force", which is referred to in the literature as "operator subculture".²⁷ One argument they use to explain this is that all roles within the organisation are designed to support and enable pilots to carry out their duties. Fighter pilots are the ones who engage in combat and are directly exposed to physical danger while in flight. Fighter pilots play an essential role in mission execution and associate their identity and status with it. There is a perception that fighter pilots are "the key" to the success of the Defence organisation. Many interviewees used the word "intense" to describe the situations in which they carry out their work. According to one interviewee, this is also why fighter pilots need parties to unwind and why this is part of their culture. The pilots interviewed are convinced that outsiders do not understand how intense the experiences they have at work can be. The opinions of outsiders are less important to them than those of members of the group. This fosters a closed culture and group polarisation, with the opinions of individual group members becoming progressively more extreme.²⁸

Stories, lore, traditions and rituals help paint a picture of the culture within a group or organisation. Past parties are a recurring theme throughout the interviews. A senior pilot dares a young and junior pilot to do something "mischievous" (i.e. take and operate the forklift). Bystanders condone that behaviour. Each of these elements was consistent with stories about behaviour at past parties. Some young and junior pilots take these stories as exemplars of how things should be done and what role they should play. The people involved in the accident said that they failed to recognise the risk that culminated in the accident while attending after-work drinks that day.

²⁷ Edgar H. Schein (2010), *Organizational culture and leadership*.

²⁸ Elliot Aronson (2010), *Social Psychology*. p. 273. "Tendency for a group to make decisions that are more extreme than the initial inclination of its members. These more extreme decisions are toward greater risk if individuals' initial tendencies are to be risky and towards greater caution if individuals' initial tendencies are to be cautious."

Whilst the interviewees were unanimous in their opinion that a lot has changed and that things were much worse and more extreme in the past, they also cited recent incidents in which safety guardrails were tested and overstepped. They cited examples of parties where people were injured. The consequences of incidents at the earlier parties were said to have been less severe and less noticeable than the consequences of this accident, however. Those cases were discussed in-house with managers, according to the interviewees, but no concrete lessons were learned or effective measures taken. The Inspectorate failed to find any incident reports in the relevant system. One interviewee thought it likely that nobody would ever have known about the incident in question if nothing serious had happened and the forklift had been returned without incident.

We see group formation and group norms, camaraderie, status and power at play in the accident and the behaviour that preceded it. The picture that emerges is consistent with stories about past parties. The incident confirms that testing and overstepping boundaries at parties is valued in the squadron's subculture. One of the leaders of the group issues a dare and none of the other senior pilots object. According to the pilots, this behaviour creates bonds and can earn junior pilots coveted call signs. With this subculture in mind, the behaviour that preceded the accident can be explained more easily.²⁹

3.3 Safety paradoxes and leadership

The specific characteristics and competencies of pilots, the group dynamics and underlying beliefs embodied in the organisational culture all come with a downside that is deserving of attention. The explanatory factors have opposite effects on safety, depending on the extent to which they manifest themselves. Many of the current and former pilots interviewed are mainly aware of the positive effects in terms of operational effectiveness and much less aware of the negative effects in a broader context. These are two sides of the same coin. In order to provide more insight into this, the Inspectorate presents the positive and negative effects of the explanatory factors in section 3.2 in the form of four safety paradoxes.

²⁹ H. Blumer (1954), *What is wrong with social theory?* *American Sociological Review*, p. 18, 3-10. Organisational culture is used here not as an explanatory concept but as a signalling concept, one that helps to make sense of complex social situations. Consequently, this study has primarily sought to explain organisational culture rather than to explain the accident in terms of organisational culture.

Safety paradox no. 1: Risk-seeking behaviour in and outside the context of military operations (appetite for sensation)

The investigation describes how military personnel - in this case fighter pilots - (especially younger men) have an above-average willingness to take risks and an above-average appetite for sensation. These are necessary qualities to be able and willing to do this kind of work.

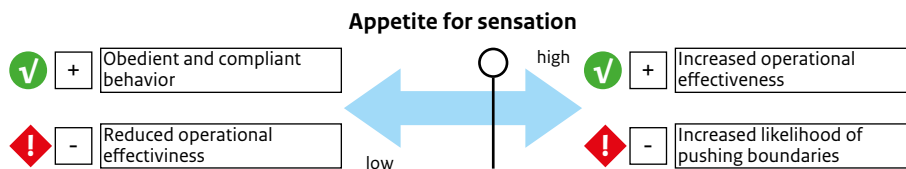


Figure 5 People have an appetite for sensation that can range from low to high, with the corresponding effects seemingly incompatible. In the figure, the slider is set to “high”, where the positive effect is increased operational activity and the negative effect is a greater probability of testing the limits.

A certain appetite for sensation plays a functional role in the context of military operations.³⁰ However, if the appetite for risk and sensation is not kept adequately under control, the probability³¹ of unruly behaviour outside the context of military operations will increase.³²

Safety paradox no. 2: Leisure versus transgressive behaviour (alcohol consumption)

Drinking is a valued element of fighter pilot subculture. The Air Force allows the consumption of alcohol at Defence sites and facilitates this by providing a crew room. Several fighter pilots said that alcohol lets them relax and share experiences, intense or otherwise, with their fellow fighter pilots. Outside the context of military operations, however, it increases the probability of undesirable or unruly behaviour.

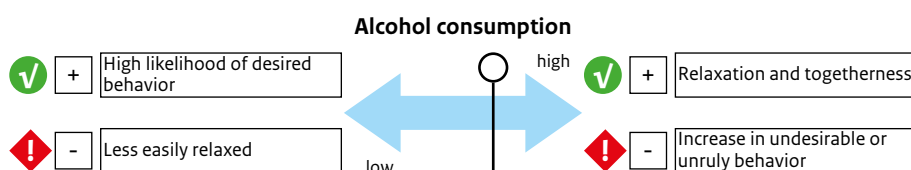


Figure 6 The rate at which people consume alcohol can range from low to high, with the corresponding effects seemingly incompatible. In the figure, the slider is set to “high”, where the positive effect is leisure and togetherness and the negative effect is a greater probability of unruly or undesirable behaviour.

The question is whether the presumed positive effects of alcohol consumption, such as leisure and blowing off steam, outweigh its proven negative effects.

³⁰ General Onno Eichelsheim, Netherlands Chief of Defence (2023), *Transformatiekracht – de leiderschapspodcast*, #, 8 March 2023.

³¹ By opting to use the term “probability”, the IVD indicates that this is not necessarily true of all fighter pilots.

³² M. Zuckerman (2007), *Sensation seeking and risky behaviour*, Chapter 2, pp. 51-72.

Safety paradox no. 3: Camaraderie versus individual responsibility (conformism)

Young and junior pilots and other military personnel are encouraged to conform to group norms for the sake of the group bonding (“camaraderie”) needed to function successfully as a group in an operational capacity. The positive effect of a high degree of conformism is a sense of camaraderie. However, it can also inhibit an individual member of the group from holding and expressing views that differ from those of the group. This effect is reinforced in training situations. Conformism reduces the tendency and ability to think critically about the group to which one belongs or wishes to belong. Anyone who speaks out against the prevailing opinions in the group runs the risk of being ostracised. Junior members of the military may find it difficult, if not impossible, to refrain from conforming. Even senior, experienced colleagues can be prone to conformism.

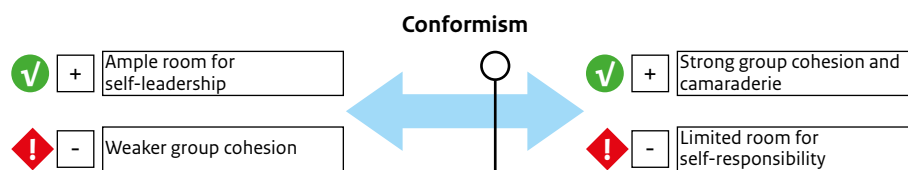


Figure 7 The degree to which people conform to group norms due to group pressure can range from low to high, with the corresponding effects seemingly incompatible. In the figure, the slider is set to “high”, where the positive effect is a high degree of group bonding and camaraderie and the negative effect is limited room for individual responsibility.

Group bonding and conformism are important for organisational effectiveness. However, conformism also compromises the individual responsibility of the independent professional.³³

Safety paradox no. 4: Close-knit group versus receptiveness to dissenting voices (subculture)

Fighter pilots have a unique subculture. They see themselves as the key to success, the “spearhead” of the Air Force. Only fighter pilots understand what fighter pilots go through, so the argument goes. The close-knit nature of the group comes at the expense of the capacity for receptiveness to dissenting voices from outside the group. Highly close-knit groups can be associated with group norms that compromise the safety of people and resources, as the incident illustrates.

³³ Netherlands Ministry of Defence (2022), RNLAF Integrated Policy Statement [Integrale Beleidsverklaring CLSK]: “Each airman is an autonomous professional. He or she is given (and takes) the freedom and responsibility to help run the organisation in the best possible way at all times to work safely and in compliance with laws and regulations. We expect every airman to be aware of the risks of the work to people and the environment and to take appropriate action in the event of unsafe or undesirable situations.”

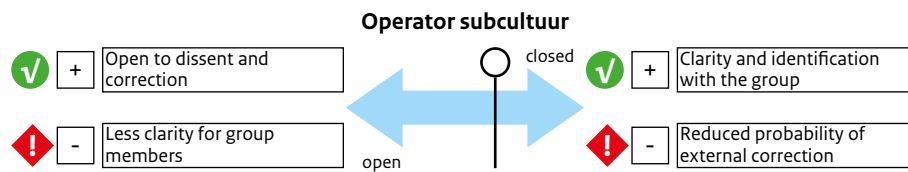


Figure 8 The degree to which an organisational culture is close-knit can range from low to high, with the corresponding effects seemingly incompatible. In the figure, the slider is set to “high”, where the positive effect is clarity and identification with the group and the negative effect is a reduced probability of external correction.

There is a risk of limited space for dissenting external voices because the organisational culture is so close-knit. As a rule, it cannot be taken for granted that space for dissenting voices will be embedded in the processes of organisations and groups with a closed culture.

Leadership

In line with the Netherlands Chief of Defence’s views on leadership, a formal superior will often have more opportunities to make things happen than a non-superior because of the formal superior’s hierarchical position in the organisation. Formal superiors have tasks that cannot be divided among or delegated to non-superiors. For example: safeguarding values and standards, creating a safe and inclusive working environment and facilitating employee participation.³⁴

Hierarchy is a fundamental tenet of the Defence organisation. In the Inspectorate’s view, the role of superiors is a key factor influencing the balance within the safety paradoxes. Leadership must come from the top down.³⁵ The process begins in this case in the highest echelons of the Air Force, then works its way down through the lower levels of command to the informal leaders in the workplace.³⁶ Self-reflection and taking personal responsibility are crucial in this process.³⁷ To initiate change, the Air Force leadership itself must be receptive to dissenting voices and willing to question its own deeply held beliefs and motivations.

³⁴ Netherlands Ministry of Defence (2023), *Defence Vision on Leadership*.

³⁵ Roggeveen, V. (2022), *The influence of leadership on the prevention of safety incidents: on risk reduction, leadership, safety principles and practices*.

³⁶ Sidney Dekker (2014), *The Field Guide to Understanding ‘Human Error’*, 3rd edition. “But...What About The Idiots?”, pp. 8-14.

³⁷ Netherlands Ministry of Defence (2019), *SG Directive 007 Health, Safety and Environment*.

4 Conclusions

On Monday 25 April 2022, two pilots were seriously injured when the forklift they were operating overturned during after-work drinks at 322 Squadron at Leeuwarden Air Base. In its investigation into the circumstances of the accident, the Inspectorate mainly clarified the context that could explain, in whole or in part, the behaviour of the people present. The Inspectorate aims to make the Defence organisation more aware of the factors that influence the behaviour of its personnel, as well as the associated physical and social safety risks.

The behaviour of those directly involved and bystanders in the run-up to the accident can be explained by the interaction of individual, group and organisational culture factors. Individual factors include the above-average appetite for sensation of predominantly young men. Group factors include a strong degree of conformism. The organisational culture factors relate to the very close-knit nature of the fighter pilot subculture. Four factors can have seemingly opposite effects, both positive and negative, which manifested themselves during this incident.

Age, gender, and appetite for sensation

Everyone directly involved in the accident was young and male. Young men are on average more impulsive, highly confident in their own abilities, and find it difficult to make proper risk assessments. These traits contributed to the behaviour in the run-up to the accident. Fighter pilots also have an above-average appetite for sensation and are correspondingly more willing than average to take risks. This functional characteristic of fighter pilots potentially increased the probability of the behaviour that precipitated the incident.

Alcohol

The people directly involved in the accident, as well as the bystanders, had consumed alcohol. Alcohol consumption is customary in fighter pilot subculture, one they say lets them blow off steam and share experiences with one another. But drinking alcohol also encouraged the behaviour that made the incident possible.

Conformism

Young and junior fighter pilots were dared by a senior and more experienced colleague to take a forklift out for a joyride. This caused the incident. Most of the people present saw the joyride as unruly yet appropriate party behaviour. The junior fighter pilots appeared to be sensitive to social stimuli while under the influence of alcohol. They conformed to group norms in order to become part of the group (the “brotherhood”). Group bonding is important for group effectiveness in the context of military operations. Outside this context, such as at after-work drinks, that same group bonding made it difficult for bystanders and those directly involved to express dissent or opposition.

A close-knit group

Fighter pilots are convinced that it is they who are key to the success of the Air Force. They refer to themselves as the “front line” or “spearhead” of the Air Force. Testing the limits at parties is part and parcel of the lore and traditions associated with this organisational culture. In addition to the close-knit brotherhood, there is also a close-knit organisational culture. This means that dissenting voices and thorough consideration of all interests cannot be taken for granted. This characteristic increases the probability that undesirable deviations from the norm will fail to be identified and corrected in time.

Leadership

The forklift incident shows that the specific characteristics and competencies of pilots, combined with group dynamics and underlying beliefs, can have positive effects. However, there is also a downside that deserves the RNLAf's attention because of its negative impact on safety.

It is not easy to strike the right balance within the safety paradoxes outlined above, as it is often a matter of unwritten and unspoken rules as well as deeply held beliefs. In line with the Netherlands Chief of Defence's vision of leadership, superiors have a key role to play here. Leaders at all levels need to examine their own deeply held beliefs and motivations if they wish to initiate lasting change. And they need to be willing to listen to dissenting voices. The process begins in the highest echelons of the Air Force, then works its way down through the lower levels of command to the informal leaders in the workplace.

5 Recommendations

In this study, the IVD has outlined the paradoxes and behavioural determinants that, depending on the degree to which they manifest themselves, have opposite effects on safety. The leadership plays a key role in influencing the balance within the safety paradoxes. The leadership can manage the impact of behavioural determinants: those it wishes to encourage and reinforce, those it wishes to correct, and the core and residual risks it consciously accepts.

The IVD advises the Commander of the Royal Netherlands Air Force to:

1. Lead the way. The highest echelon is the appropriate level at which to steer the distinctive culture of the Air Force and behaviour within the organisation. The specific characteristics and competencies of pilots, group dynamics and underlying beliefs embodied in the organisational culture all come with a downside that is deserving of attention.
2. Leadership should consciously choose those aspects it values and those it wishes to change. Convert this into an Air Force-wide mission that can rely on wide support. Demonstrate commitment and exemplary behaviour and be transparent about expectations, both in and outside the organisation.
3. Take a transparent approach and create space for formal and informal dissent. This includes leaving room for discussion of deeply held beliefs and unwritten rules.

The Inspectorate expects to be kept informed of the implementation of these recommendations.

The Air Force is hardly an exception in this respect. There are young and junior military personnel throughout the organisation with a high appetite for sensation and willingness to take risks and a highly developed sense of camaraderie and group bonding who feel they are the “spearhead” of the armed forces.

The IVD advises the Chief of Defence to:

4. Invite the commanders of the operational commands to reflect on the safety paradoxes in their own organisations and to consider the extent to which they have sufficient oversight and control over the associated risks. Perhaps this report will offer guidelines on how to deal with these paradoxes.

Appendices

Appendix A Account of the investigation

The investigation took place in two phases. The first was an exploratory phase that focused on reconstructing the accident for the purpose of setting out fruitful investigative pathways and generating hypotheses (the hypothesis-generation phase). The IVD also developed its action plan for the investigation in this phase. In the second phase of the investigation, the Inspectorate tested the selected pathways and hypotheses (the hypothesis-testing phase) and drafted the report. The two phases are described in detail below.

1. Orientation phase

The orientation phase had two objectives: to reconstruct the circumstances of the accident and to determine the direction of the investigation. To reconstruct the accident, the IVD went to the site on the day after it occurred. The investigators conducted six interviews with eyewitnesses and supervisors. The investigators could not interview the pilots and the civilian directly involved in the accident during the orientation phase because of the possibility of a criminal investigation by the Ministry of Justice. Security cameras had captured footage of the accident, which the Air Force preserved and shared with the IVD for the purposes of the investigation. The footage allowed investigators to reconstruct the circumstances of the accident.

Based on the reconstruction of the accident and the information obtained from the interviews, the Inspectorate carried out a Tripod Beta analysis. That analysis identified two types of barrier. Barriers related to the behaviour of the people directly involved in the accident (daring the pilot to take the forklift, the decision to take the forklift, having fun with the forklift) and barriers related to the behaviour of bystanders (intervention that was either non-existent, ineffective or too late). On this basis, the Inspectorate decided to focus its investigative research questions on explaining, as far as possible, the behaviour of those directly involved in the accident and the behaviour of bystanders. The underlying assumption was that the behaviour of those directly involved in the accident and the behaviour of bystanders was rational or understandable from the perspective of their level of knowledge, the context, and the assumptions they made.

The investigators conducted follow-up interviews with experts, including experts by experience, from the fighter pilot community and the behavioural sciences. In addition, the investigators reviewed the literature on similar incidents and issues. The Inspectorate also held a brainstorming session to generate hypotheses to explain the observed behaviour. These activities led to the identification of pilot characteristics (cognitive-psychological/individual perspective), group characteristics (socio-psychological perspective, including leadership) and characteristics of the culture within the fighter pilot community (organisational culture perspective, including leadership) as possible explanations for the accident.

The results of the orientation phase provided input for the action plan of the investigation. The activities in the action plan (investigation phase) are described below.

2. Investigation phase

With the results of the orientation phase, the IVD formulated the main question that needed to be answered:

What can explain the behaviour of the people directly involved in the accident, as well as the behaviour of bystanders, in the run-up to the accident?

The investigators broke down the main question into the following sub-questions:

- What individual and behavioural factors played a role in the onset of the accident (cognitive-psychological perspective)?
- What socio-environmental factors played a role in the onset of the accident (socio-psychological perspective)?
- What organisational culture factors played a role in the onset of the accident (organisational culture perspective)?
- Which factors, through their reinforcing interaction, contributed to the onset of the accident?
- Are there any lessons to be learned from the investigation?
- If so, what are they?

Information gathering

To answer the main question, the Inspectorate reviewed and analysed the relevant literature on each perspective. Based on the literature (see footnotes for references) and the hypotheses identified, the investigators broke down the main question into sub-questions. This list of sub-questions formed the basis for the in-depth interviews and further literature review. The investigators conducted in-depth interviews with the people directly involved in the accident, a significant number of bystanders, the squadron commander, the ACC commander, a pilot psychologist and safety officials. In addition to the pre-planned semi-structured questionnaire, the interview gave the interviewees the space to share with the researchers other insights or information that fell outside the perspectives. This was to avoid the risk of tunnel vision.

Data analysis

Excel – The investigators analysed the data using an Excel spreadsheet. The spreadsheet displayed the interviewees and the literature (rows) and the questions/factors (columns). This was used to show the (summarised) responses provided by the interviewees and the literature. The Excel spreadsheet gave the Inspectorate the overview it needed to determine the overall impression arising from a question/factor based on all interviews and other sources of information.

Evidence tables – Evidence tables were used to determine whether a particular factor contributed to the accident. Evidence tables are based on the principle of a factor’s “presence” and “effect”. To determine whether a factor contributed to the accident, the factor must have been present (“presence”) and, if present, it must have plausibly influenced the accident (“effect”). In accordance with this principle, the evidence table summarises: 1) the evidence for (positive evidence) and against (negative evidence) the presence of a particular factor and 2) the evidence for and against the influence of that factor on the accident. Using the evidence table, the investigators determined whether a factor had contributed to the accident.

Analysis sessions – The Inspectorate conducted analysis and line of reasoning sessions based on the information obtained from the Excel spreadsheet, the literature and other accumulated knowledge. These sessions focused on the overall picture that emerged from the explanations for the accident. The investigators shared information and knowledge during these sessions. The sessions provided insight into which potential explanations or factors still lacked positive or negative evidence, and assisted the Inspectorate in drafting a line of reasoning for its report.

Dissenting voices

The Inspectorate arranged to hear dissenting voices from outside the project team (both inside and outside the IVD) at various points in the process to counter influencing biases such as hindsight bias, confirmation bias and information bias. The Inspectorate consulted Air Force experts and experts in methodology, psychology and organisational culture.

Appendix B Bibliografie

- Aronson, E. (2010). Group polarisation. *Social Psychology*, 273.
- Authority, M. A. (2018). 12. Alcohol. In MLA, MAR-GCL3 GM (p. p.16).
- Baarle, E. v. (2018). *Ethics education in the military*. Breda.
- Blumer, H. (1954). What is wrong with social theory? *American Sociological Review*, 18.
- Centrum voor Mens en Luchtvaart. (2022). *Handboek Vliegmedisch*. In A. LGZ, Handboek Vliegmedisch (p. 46). Soesterberg.
- CLSK. (2022). *Integrale Beleidsverklaring CLSK*.
- CLSK. (2022, 11 28). *Voorschrift Bedrijfsvoering CLSK, Begrippenkader- Overicht*.
- De hersenstichting. (2023, augustus). Retrieved from dehersenstichting.nl: <https://www.hersenstichting.nl/de-hersenen/ontwikkeling-van-de-hersenen/puberhersen/>
- Dekker, S. (2011). Complexity, control and influence. In *Drift into failure* (p. 171).
- Dekker, S. (2014). But.....What about the idiots? In *The Field Guide to Understanding 'Human Error', 3th edition* (pp. 8-14).
- Directie Veiligheid. (2019, 10 1). *SG Aanwijzing-007, Veiligheid, Gezondheids Milieu bij Defensie*.
- Drs. D.A.M. Twisk & A. Stelling Msc. (2014). *Risicogedrag van jongeren vraagt integrale aanpak*. R-2014-9 SWOV. SWOV.
- Drs. K. van de n Heuvel, L. K. (2023). *Visie Leiderschap Defensie*. Breda: ECLD.
- Eichelsheim, G. (2023, maart 8). *Transformatiekracht - de leiderschapspodcast*. (W. Kwaks, Interviewer)
- Giebels), C. S. (2018). *Onderzoek naar een sociale veilige werkomgeving bij Defensie*.
- Grutterink, V. o. (2016). *Groepen aan het werk, 7e druk*. Groningen: Noordhof Uitgevers.
- Gunnar Breivik, T. S. (2029). Risk-Taking and Sensation Seeking in Military Context: A Literature Review. *SAGE Open*.
- Haan, E. H. (2014). *De schaduwkant van leiderschap*.
- Jellinek Kliniek. (2023). *Informatie*. Retrieved from www.jellinek.nl: <http://www.jellinek.nl/informatie>
- Kaptein, M. (2022). *A paradox of ethics: Why people in good organizations sometimes do bad things*. Rotterdam: Springer.
- Kemper, T. D. (2006). Power and Status and the Power-Status Theory of Emotions. In T. D. Kemper, *Handbook of the Sociology of Emotions* (pp. 87-113).
- Kemper, T. D. (2011). Chapter 1. Introduction. In T. D. Kemper, *Status, Power and Ritual Interaction* (p. 3).
- Kemper, T. D. (2011). Chapter 2. Status and Power. In T. D. Kemper, *Status, Power and Ritual Interaction* (p. 13).
- Massachusetts Institute of Technology. (2022). *Young Adult Development*. Retrieved from hr.mit.edu: <https://hr.mit.edu/static/worklife/youngadult/changes.html>
- Matza, G. M. (1957). Techniques of neutralisation: A theory of delinquency. *American Sociological Review*, 664-670.

- Ministerie van Defensie. (2019, 04 26). *Gedragsregels Defensie. Gedragsregels Defensie Sociale Veiligheid & Integriteit*.
- Roggeveen, V. (2022). *Proefschrift: The influence of leadership on the prevention of safety incidents*. Den Helder: Victor Roggeveen.
- Schein, E. H. (2010). *Organizational Culture and Leadership 4th edition*. San Fransisco, CA: Jossey-Bass.
- Snook, S. A. (2000). *Friendly Fire*. New Jersey: Princeton University Press.
- Steur, C.-L. C. (2023, 06 8). (Op1, Interviewer)
- van Dale. (2023). *Woordenboek*.
- Vries, B.-g. b. (Jaargang 184 nummer 5- 2015). Kameraden of collega's? *Militaire Spectator*, 250-251.
- Wetenschappelijke Raad voor het Regeringsbeleid. (2009). *De menselijke beslisser*. Amsterdam: Amsterdam University Press.
- Zucherman, M. (2007). Chapter 2. In M. Zucherman, *Sensation seeking and risky behavior* (pp. 51-72).

Appendix C Abbreviations

ACC	Air Combat Command
CHOD	Netherlands Chief of Defence
RNLAF	Royal Netherlands Air Force
C-ACC	ACC Commander
C-RNLAF	Commander of the Royal Netherlands Air Force
ECLD	Defence Centre of Expertise for Leadership Development
IVD	Defence Safety Inspectorate
NATO	North Atlantic Treaty Organisation
Ops	Operations
PNOD	Non Operational Service Transport Pool

Appendix D Definitions

Confirmation bias

The tendency to seek out, interpret and remember information in a way that is consistent with existing values, opinions or beliefs.

Conformism

A change in behaviour or opinion towards a group in response to real or imagined group pressure.³⁸

Enculturation

The formal or informal transmission of informal, self-explanatory rules of an organisational culture.

Hindsight bias

A general tendency to regard unexpected past events as predictable.

Incident

An event that could cause the death or injury of one or more people or could damage property or harm the environment.³⁹

Information bias

A systematic bias in the relationship between a determinant and an outcome due to the use of incorrect information about the determinant or the outcome (or both).

Netherlands Ministry of Defence Code of Conduct⁴⁰

Defence is an organisation with a unique mission in often difficult and sometimes dangerous circumstances. The Ministry of Defence Code of Conduct contains the fundamental values that govern how Defence expects its people to behave towards one another, towards others and deal with the resources and authorities entrusted to them. These values apply to everyone – in the workplace, in barracks, on deployment, and at the top of the organisation.⁴¹ The aim is for everyone to be familiar with the Code of Conduct and to act accordingly. This means knowing and being able to apply the four core values of solidarity, safety, trust and responsibility in their daily work. To achieve this, the leadership must ensure that the Code of Conduct is embedded in the organisation and reflected in relevant processes, education and training.

The code of conduct constitutes the foundation of what the Defence organisation means by “integrity”, i.e. treating each other (and others) with respect, taking into account the rights and interests and wishes of all involved.

³⁸ Conformism is closely related to socialisation, the process by which people are inculcated with the values, norms and other cultural characteristics of their group, whether consciously or unconsciously.

³⁹ Netherlands Ministry of Defence (2019), *SG Directive 007 Health, Safety and Environment*.

⁴⁰ Netherlands Ministry of Defence (2018), *Netherlands Ministry of Defence Code of Conduct*.

⁴¹ Integrity policy, Feb. 2019, 4.1 Heads of the defence elements, p. 14.

Groupthink

A group of otherwise highly competent individuals becomes so focused on consensus and unanimity that the quality of group decisions deteriorates.⁴²

Group polarisation

The opinions of group members become more extreme than the initial inclination of its members.⁴³

Leadership (Defence Centre of Expertise for Leadership Development)

Leadership is that which occurs between individuals in a certain context from the moment at which one person starts leading and another person starts following in order to achieve a shared goal.⁴⁴

Accident

An accident is an event that has caused the death or injury of one or more people or damaged property or harmed the environment.⁴⁵

Organisational culture

Organisational culture consists of a pattern of shared basic assumptions that have been learned by the group as it faced external and internal challenges. Because these assumptions have been successful, they are considered valid. The cultural values are passed on to new members of the group as the right way to see, think and feel about these problems.⁴⁶

Risk

Risk is a hazard that can manifest itself in a scenario with undesirable effects on people, resources and the environment, and thus on the organisation and its objectives. A risk is often expressed as a combination of the consequences of an event (including changes in circumstance) and the associated probability of the event occurring. Risks can pertain to different levels and processes.⁴⁷

SG Directive 007: Health, Safety and Environment

The Ministry of Defence's obligations as an employer, as well as a number of obligations under the Occupational Health and Safety Act, are set out in SG Directive 007 "Health, Safety and Environment" (HSE), a safety management system designed to identify and analyse risks and, where necessary, take action to ensure safe business operations.

⁴² Irvin Janis. (1972). 'a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity overrides their motivation to realistically appraise alternative courses of action'.

⁴³ Elliot Aronson. (2010). Social Psychology. p 273. 'Tendency for a group to make decisions that are more extreme than the initial inclination of its members. These more extreme decisions are toward greater risk if individuals' initial tendencies are to be risky and towards greater caution if individuals' initial tendencies are to be cautious'.

⁴⁴ Netherlands Ministry of Defence (ECLD), (2023), *Defence Vision on Leadership*.

⁴⁵ Netherlands Ministry of Defence (2019), *SG Directive 007 Health, Safety and Environment*.

⁴⁶ Edgar H. Schein (2010), *Organizational culture and leadership*.

⁴⁷ Netherlands Ministry of Defence (2019), *SG Directive 007 Health, Safety and Environment*.

Risk management is one of the core processes in the safety policy of the Ministry of Defence. Leaders at all levels must be aware of safety risks and vulnerabilities so that they can prevent them or reduce them to an acceptable level.⁴⁸ The same applies to social safety risks.

Appetite for sensation

The need for new, varied, complex and intense stimuli and experiences, and the willingness to take risks to obtain them.

Tripod Beta

A method for analysing accidents that defines accidents as the result of the failure or non-existence of barriers (risk management measures). Risks fail because of the context in which people act. The context, in turn, is a consequence of the underlying factors (characteristics of the system).

Incident

The umbrella term for unsafe situations, incidents and accidents.⁴⁹

⁴⁸ Ministry of Defence (2019), *SG Directive 007: Health, Safety and Environment, Chapter 1, Introduction, 1.2 Core HSE management processes*.

⁴⁹ Netherlands Ministry of Defence (2019), *SG Directive 007 Health, Safety and Environment*.

Appendix E Comments from parties involved

A draft version of this report was submitted for review to the parties involved to check for factual inaccuracies. The Inspectorate has incorporated all responses in the final version of the report. The responses are not listed separately.

Document details

Defence Safety Inspectorate

Visiting address:
Majoor Jan Linzel Complex
Brasserskade 227a
2497 NX The Hague

Postal address:
PO Box 90701
2509 LS The Hague
MPC 58B

www.ivd.nl

December 2023