

The modern military leader as sensemaker on the battlefield

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Abstract

The study on which this article reports, addressed the problem with which modern military leaders on the battlefield are faced in assisting the soldier at basic level to make sense of what is happening. In this study, the term ‘sensemaker’ implied a process of individual and group sensemaking that forms the basis for meaning-making in the volatile, unpredictable, complex and ambiguous (VUCA) world within which soldiers are functioning. The authors postulate a best-fit world view for military leaders in this military leadership sensemaking and meaning-making nexus. They coined ‘social constructivism in complexity’ where the military leader acts as a guide for soldiers through a sensemaking process. This process is graphically represented, and requires a toolkit to assist military leaders in working as sensemakers on the battlefield. The article concludes with recommendations to military psychologists and military educators who have to make policy changes to develop and implement such a toolkit for sensemaking on the battlefield.

“War is the most complex thing that humans do”

– Donald Stoker (Cassidy, 2019, introductory section).

Introduction

There is general consensus in the contemporary military leadership and military psychology literature that individuals and groups in the modern battlefield are faced with more complexity and ambiguity than in the past (Bester & O’Neil, 2022; Cassidy, 2019; Kott, 2018; Lele, 2019; McChrystal et al., 2018; Miller, 2019; Mukherjee & Kumar, 2020; Symonds, 2018). Tilman and Jacoby (2020) note that this complexity and ambiguity imply more dangerous contexts, especially for the soldier on the battlefield when considering that evolution has tended to make individuals risk-averse, by either being impulsive or reluctant to act, focusing on fending off dangers.

The first individuals confronted with ambiguous situations will be the soldiers at the most basic level. Campbell (2012) emphasises that sensemaking by leaders at this level assists their subordinates in reducing ambiguity and deriving meaning from events in military operations. This is confirmed by Inbar et al. (1989) who observed more than 30 years ago that the attitude of the military commander influences not only the affected soldier but also the responses of other soldiers in the unit. Ahuja and Kumar (2020) mention the significance of leadership when saying that leadership remains the most important consideration that can turn the path of a conflicting situation and change losses into victory, irrespective of the type of operation. It is therefore not surprising that Bartone (2006) states that leaders play a role in how experiences of subordinates are interpreted.

It follows from the above that the modern military leader will be at the point of impact; hence, drawing attention to his or her role in sensemaking on the modern battlefield. In support, Kernic (2017) notes that, in the face of death, leadership plays a crucial role in reinforcing and strengthening a certain social and political order for sensemaking, especially at the collective level. Veldsman and Johnson (2016) also mention individual sensemaking and meaning-giving by leaders to themselves as part of what they refer to as ‘a strategic value chain perspective on leadership’ as an organisational capability intervention. This implies that sensemaking and meaning-making are part and parcel of the entire chain of activities that leaders should do to deliver the product or service they are responsible to deliver. In the case of the military, that would, for example, be to defeat the enemy and win the war or battle.

From the above it is clear that there are three core elements present along a time continuum when dealing with military leaders and their subordinates on the modern battlefield. The first element is complexity or chaos; the second is leadership and its subordinates; and lastly, individual and collective sensemaking in this military context, also referred to as the social construction of reality (see Veldsman & Johnson, 2016), based on what the soldiers have experienced and are likely to experience in future. These core elements are involved in the short term through immediate achievement of military objectives, as well as in long-term health and sustainability of performance for both the individual and functional team.

The study reported here thus found sensemaking during military operations to be a problem with which modern military leadership is faced during military operations at individual and group level and this study will provide practical advice and suggestions for developing a sensemaking toolkit for military leaders. To achieve the aim of describing sensemaking on the modern battlefield, non-empirical research was conducted, which started with clarifying two concepts, namely ‘sensemaking’ and ‘meaning-making’, followed by a brief conceptualisation of the battlefield. The battlefield is described as a manifestation of the changed character of warfare. This conceptualisation includes the typical events with which soldiers may be confronted, and the impact that the changed nature of warfare will have on them. This will address a world view within the leadership domain, namely complexity or chaos (Veldsman, 2016a). This is followed by the social construction of reality, which manifests in the context of a world view of social constructivism. From an analysis of these two world views (i.e. a world view of chaos and complexity and social

constructivism), a world view of social constructivism in complexity is postulated as the best-fit world view for the modern battlefield. The discussion that follows briefly refers to modern military leadership and links it with sensemaking and meaning-making. Based on an analysis of the existing literature, sensemaking as part of this best-fit world view of social constructivism in complexity is postulated, which is then integrated with the military workplace (i.e. the military context). The focus then shifts to the function of the modern military leader as sensemaker in terms of the world view of social constructivism in complexity. The process of sensemaking in social constructivism is postulated to act as guide for developing a toolkit to direct military leaders in sensemaking on the modern battlefield. The article is concluded with recommendations to military psychologists and military educators who have to make policy changes to ensure that the recommendations can be implemented.

Concept clarification

Various authors (see Barnes et al., 2011; Bartone, 1994, 2006; Bartone et al., 2008; Peterson et al., 2011) refer to either sensemaking or meaning-making or both. These are two separate, but interrelated concepts, and it is important for the reader to understand their meaning and the relationship between these concepts. Furthermore, it is important to define these concepts to prevent misunderstanding. Mezirow (as cited by Law et al., 2007) suggests that if one wants to make meaning of an event on the battlefield, one first needs to make sense of an experience. One therefore needs to define sensemaking, as it is related to the outer world one experiences before defining meaning-making, as the latter is related to one's inner world, according to Gurteen (2016).

Sensemaking defined

At its core, sensemaking is about the interpretation of patterns of information from the external world (Gurteen, 2016). From an overview of the literature (see Barren & Scott, 2010; Blijnaut, 2020; Herberg & Torgersen, 2021; Stern, 2017), one can conclude that sensemaking is not only about interpretation through the sharing of information and the interpretation of patterns, but also about an adequate interpretation of what is experienced as a complex, dynamic, ambiguous and even chaotic situation. Mostert (2020) argues that sensemaking is not only about what has happened but also about considering possible futures. A commander is, for example, involved in sensemaking when he or she interprets higher-level instructions, orders and directives. On a cognitive level, this implies that what is being understood is logical, and on an emotional level, it means that one cares about the situation (Sagy et al., 2015). Recent research on resilience by Herberg and Torgersen (2021) underscores the role of emotions in sensemaking as these can be a source of fear, dread, anxiety, worry and insecurity. Sensemaking is thus more than developing a picture of what is happening. It also entails understanding and communicating the implications from vantage point of the affected individual or group to give them a sense of meaningfulness in terms of whether it is worthy of engagement, coping and commitment. Without sensemaking, soldiers are likely to be confused. Sensemaking is thus a prerequisite for and part of the process of meaning-making for man in general and more specifically the soldier on the battlefield.

Meaning-making defined

According to Kegan (cited in Law et al., 2007), meaning-making is a complex primary human action that takes place at three levels of interaction. Relating to an incident on the battlefield, the first level is the physical, or what is referred to as the perceptual and cognitive level, which is about grasping the concrete experience and changing internally based on the incident; hence, the concept of sensemaking as alluded to above. This is intricately linked to a second level related to creating meaning from the incident in order to ensure future survival. The last level happens when subordinates and leaders interact with others to create meaning at the group or social level.

Bush et al. (2013) note that issues of meaning and identity surface on an individual and/or group level during times of change and transition. Meaning-making is about personal meaning of what the individual senses or knows through own interpretation and social meaning, which refers to the social construction negotiated between the participants in various social settings, for example on the battlefield (see Stelter, 2013).

From the above, it is thus clear that sensemaking and meaning-making are theoretically two different concepts, and that sensemaking precedes meaning-making, but in practice, both are part of a logically integrated and often indistinguishable process (see Weick, 1995). Furthermore, meaning-making or 'reframing' is a logical next step from the process of sensemaking, which culminates in shared purpose and understanding, commitment and control (see Weick, 1995). In the context of this article, when reference is made to the leader as sensemaker, it refers to where the leader facilitates the process where subordinates make sense and attribute meaning to a situation experienced on the battlefield. To understand the role of the modern military leader in sensemaking and the ensuing meaning-making, one first has to get a view on the modern battlefield and the changed nature of warfare.

The changed nature of warfare: A world view of chaos or complexity

Fowler (2019) refers to the opinion that the character of war is changing. He highlights that advancement in technology and changes in operational approaches, where states (such as Russia) increasingly use unconventional warfare to gain an asymmetric advantage over their opponents, contributing to the changing nature of war. Consequently, an increasing number of aspects contribute to this changing nature of war, providing states with additional warfighting options, thereby increasing chaos and complexity in the battlespace.

This opinion is supported by a number of authors (see Bartone, 2006; Lampton et al., 2003; Steinberg & Kornguth, 2009; Van Dyk, 2016) who refer to the changing nature of war and operations – from linear conventional operations to asymmetric warfare – and the fact that these operations often take place in environments where the enemy is hidden among the local population. These types of operations frequently take place in enclosed surroundings where visibility is limited, such as urban areas, tunnels, jungles and thick bush or shanty towns. Because of its design and nature, modern communication and navigation equipment does not always work as effectively in enclosed conditions where visibility is limited, as in open areas, with a resultant increase in ambiguity and

uncertainty. Furthermore, the necessity to carry heavy equipment, such as body armour, interacts with the reality of doing so in physical extremes, which may include extremes of temperature – hot or cold – humidity and altitude, and smoke stressors. The ambiguity and fluidity of these operations place not only physical demands on personnel, but also increased cognitive and social demands. Blignaut (2020) illustrates the causes of these demands well when she refers to dealing with the Covid-19 world. Blignaut (2020) emphasises that dealing with the Covid-19 world is about dealing with unknown and even unknowable entities where one cannot discern cause-and-effect relationships. Applied to the modern battlespace, soldiers have to navigate a non-linear battlespace where seemingly insignificant events can trigger disproportionate system-wide unintended consequences. For this reason, references are often made to the cognitive domain of warfare, as suggested by Ottewell (2020). However, a detailed discussion of this aspect was beyond the scope of this study.

Similar to this position is the view held by the United States Marine Corps (US Marine Corps, 1997, pp. 12–13), as defined in its document, *Warfighting*:

War is an extreme trial of moral and physical strength and stamina. Any view of the nature of war could hardly be accurate or complete without consideration of the effects of danger, fear, exhaustion and privation on those who must do the fighting.

Furthermore, McNab (2016) calls war, with specific reference to the modern battlespace, as the ‘ultimate extreme environment’, and describes it in terms of the strenuous demands on the will of man. In his description of the modern battlespace, he highlights factors that would characterise this environment, such as unpredictability and periods of prolonged boredom intermixed with brief periods of sudden, shocking terror and violence. One could also include uncertainty, especially when the enemy is part of the broader population when one cannot differentiate friend from foe.

Research by Colman et al. (2013) in the forestry fire-fighting environment makes similar observations on the constant physical and cognitive demands placed on forestry workers by the complexity, unpredictability, variability and consequential working conditions. Again, identical to asymmetric military operations, there are no linear solutions, and the environment necessitates constant cognitive adaptations.

The views mentioned above of the modern battlefield are brought together by Van Dyk (2016), who describes it as a chaotic, intense, and highly destructive and complex theatre. Therefore, one can expect that the modern battlefield will be characterised by advanced technology, hyper-mobility, unconceivable destructive firepower and numerous cognitive challenges in making decisions, thus putting pressure on the military leader to assist his or her subordinates to make sense from events.

As illustrated by the literature, the nature of war and extreme situations contribute to creating a systemic or organic world view where reality is formed by the interconnected whole of reciprocally influencing, interacting variables characterised by continuing resolution of dynamic opposing tension (Veldsman, 2016a). These tensions are resolved

through self-organisation, typically manifesting in dynamic patterns of interaction. These patterns are governed by underlying organising rules and can be either a virtuous or a vicious cycle of interaction. As a result, reality moves through successive states of chaos, representing either the breakdown of a pattern (and order) or the emergence of a pattern (order). In the military context, various authors (Herberg & Torgersen, 2021, p. 2; Lindsay, 2020, p. 3; Nuciari, 2021, p. 6; Rosinha et al., 2020, p. 165) refer to it as a “VUCA world”, deriving the acronym from volatile, unpredictable, complex, and ambiguous. Thus, within this VUCA environment, the function of the military leader is to reframe the reality of chaos to create sense and meaning for him or herself and his or her subordinates. This will firstly be in the short term to achieve mission results and secondly in the long term to ensure sustainable effectiveness and mental health. The successful leader would thus be the one that can progress through these successive states of chaos and create meaning for both him- or herself and his or her subordinates. On the other hand, the unsuccessful leader is the one that allows chaos to overwhelm the existing reality and does not create new patterns and meaning.

Despite changes in the social and physical environment in which war occurs, Matthews (2020) observes that human nature has not changed and as much as complexity, chaos and uncertainty are part of war and extreme environments and have an influence on the role players functioning in this VUCA world, there is simultaneously another world view where the individual or the group socially constructs reality based on what they experience in this chaotic and complex world.

The social construction of reality: A world view of social constructivism

Veldsman (2016a) states that when one refers to the social construction of reality, it typically means that one follows a social constructivist (symbolic interpretive) view with respect to the understanding of the world in which the military leader and his or her subordinates function. Veldsman (2016a) emphasises that reality is co-created and enacted by people in their shared, communicated meanings; it is for example expressed in language, artefacts, and symbols. Reality is co-created by the military leader and his or her followers in their interactions, which include dialogue during which they ascribe shared meaning and purpose to reality. They then internalise these co-created norms, beliefs, language, symbols, and values, after which these are sanctioned externally; hence, a concurrent world view to complexity or chaos is created.

These concurrent world views of complexity/chaos and social constructivism then fuse into a single view of the world that Veldsman (2016a) refers to as a *best-fit world view*.

Best-fit world view: Social constructivism in complexity

The authors subsequently postulate a hybrid world view that can be described as ‘social constructivism in complexity’, where the individual – or as part of a larger group (section, platoon, battalion, etc.) – best understands the world as a place where reality forms an interconnected whole with dynamic opposing tensions between the various variables and where individuals, individually or collectively, co-create their reality through interactions

in the form of dialogue. Reality is thus co-created through the combination of external events and individual and collective sensemaking. Consequently, interactions ascribe a shared meaning and purpose to reality in the wake of dynamic interactions in the context in which they function. These dynamic patterns of interaction are formed with limited underlying rules forming either virtuous or vicious cycles of interaction, where shared meaning and purpose are expressed in language, beliefs, artefacts, norms, values and symbols. Reality furthermore becomes a combination of an interconnected whole consisting of social constructivism and a world of complexity and chaos, where the people’s co-created language, beliefs, artefacts, norms, values, and symbols are stated publicly. Figure 1 was developed by the authors to illustrate how the combination of social constructivism and a world of chaos and complexity provides the best-fit world view of social constructivism in complexity and shows the different world views merging into social constructivism in complexity.

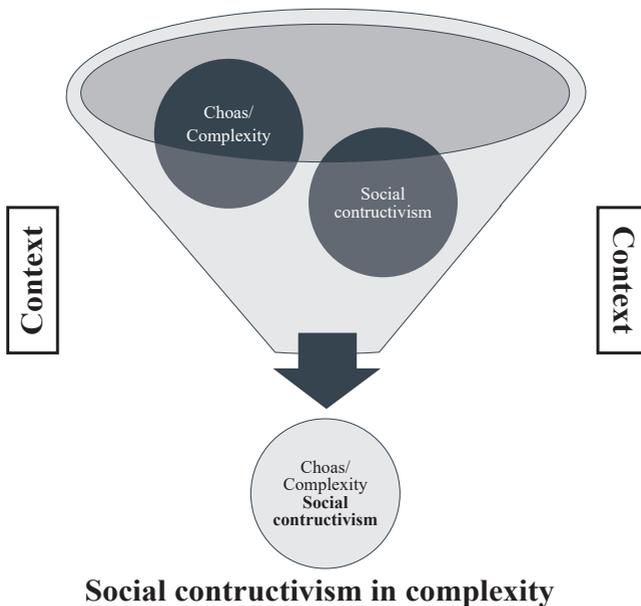


Figure 1: Best-fit world view: Social constructivism in complexity

It is in this world that the military leader plays a significant role in an intervention that contributes to the sensemaking and meaning-making by soldiers individually and collectively. Leadership thus becomes an important “linking pin” or “node in a network” (McChrystal et al., 2018, p. 399) between soldiers and the reality within which they have to function as far as sensemaking and meaning-making are concerned. One can then postulate that modern military leadership will be different from the conventional view of leadership (as will be detailed below), and must be in touch with the interpreted reality of all the relevant role players; thus, a realistic form of leadership.

Modern military leadership: The military leadership, sensemaking and meaning-making nexus

In essence, modern military leadership refers to leadership within the best-fit world view, which is referred to as social constructivism in complexity. As seen in Figure 2, this implies that someone in a leadership position helps sensemaking through his or her subordinates' social construction of reality based on this best-fit world view. For the military leader, sensemaking is thus more than developing a picture of what is happening; it also encompasses understanding and communicating the implications from the vantage point of the military leader and from the viewpoint of his or her subordinates. Because of the disruptive nature of events on the battlefield, one can expect that the situation would be emotionally charged and subordinates (or followers) would look up to leaders to help them understand the meaning of what has happened and then place it in a broader perspective (Stern, 2017). Getting to make meaning of a situation or event implies in the first instance sensemaking, which is the focus of this article.

From an overview of the military leadership literature, an expanded definition of military leadership by McChrystal et al. (2018, p. 397) surfaced, which links closely to this discussion on sensemaking: "leadership is a complex system of relationships between leaders and followers, in a particular context, that provide meaning for members".

As seen in Figure 2, this leads to meaning-making (which implies sensemaking first) where the leaders focus not only on understanding the operational challenges, but also on the way in which their subordinates perceive and understand these (Stern, 2017). Meaning-making or 'reframing' is therefore a logical outcome of the process of sensemaking, which leads to shared understanding, commitment and control between leaders and subordinates in extreme situations. Furthermore, Rosinha et al. (2020) show that the ability to find meaning and purpose is viewed as one of the cognitive styles associated with resilience. Figure 2 below was created by McChrystal et al. (2018, p. 397) to illustrate the relationship between the leaders and their followers in relation to the particular context.

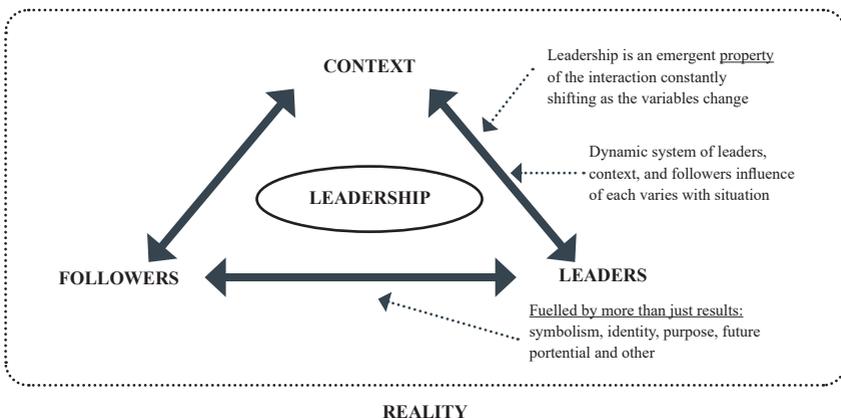


Figure 2: Leadership in reality

Figure 2 above suggests that leadership is contextual and dynamic and an emergent property of a complex system where the focus is placed on the symbolism of leadership, meaning and the future potential that leaders see in their system (McChrystal et al., 2018). At different times, meaning will therefore imply different things. Sometimes it may take the form of driving and achieving results, and at other times, it might take the form of achieving some sense of understanding, suggesting that sensemaking will be a vital component in the system that supports collectiveness. This entails a very appropriate conceptualisation of leadership for sensemaking in complexity.

Sensemaking from social constructivism in complexity

The process of sensemaking, as part of the social construction of reality from chaos, involves several distinct but interrelated actions that, at times, involve the leader as an individual, but at the same time include his or her team collectively. Before these actions, illustrated in Figure 3 below, are discussed, it is important to consider the following observations from the literature about the role of the leader:

- Sensemaking in teams is part of the responsibility of the team leader but is always a collective and interactive process (Kolditz, 2007).
- All individuals involved in the process are exposed to chaos, uncertainty and volatility, and simultaneously make sense of the situation based on their perception of occurrence and their self-perception (Bartone, 1994).
- The leader plays a crucial role to guide the team to develop a shared purpose and action plans that will lead to immediate mission achievement and long-term team effectiveness (Bartone, 1994; Kolditz, 2007).
- The leader sets the tone of the perception that is formed of the situation and the direction that the team will follow – either towards or away from mission accomplishment, depending on how the leader frames the expected outcome of mission success (Bartone, 1994).
- The leader always sets the tone of the way that the situation is perceived but does not necessarily need to have the solution (Kolditz, 2007).

Soldiers typically function in environments that are characterised by chaos, ambiguity and volatility (see Nuciari, 2021). This is the world view of complexity or chaos referred to above, and is represented by the darker shaded area in Figure 3 below. Concurrently, soldiers make sense of what is happening and what has happened to them, represented by the light shaded area, referred to as the ‘world view of social constructivism’. The best-fit world view would then be social constructivism in complexity, which in this case would be the two indicated world views superimposed on one another as illustrated in Figure 2 above.

As depicted in Figure 3, effective performance by individuals and teams or other military-relevant entities in the best-fit world view can be measured against two related outcomes, each with its own timeframe.

- The first outcome is the achievement of immediate mission objectives within an immediate and short-term time frame; thus, from the occurrence of the event to the first two or three days after the event.
- The second outcome has a medium- to long-term time frame, and entails the long-term ability of the team to sustain mission achievement while maintaining team effectiveness, despite physical and mental fatigue; hence, demonstrating mental toughness. The medium- to long-term outcomes usually refer to four days and longer after the event of which individuals and teams need to make sense.

In general, the duration of the short, medium and long term will depend on the anticipated duration of the operation, and is about ensuring sustainability of the mission and mental health. It is therefore difficult to specify a timeline in terms of hours, days or months.

Within the superimposed world view of social constructivism in complexity, the manifesting world view of the affected soldiers will direct them towards creating conditions where they can design action plans to reach their immediate short-term goal or mission, including personal survival. However, they also have a medium- to long-term goal, which is to continue achieving mission success and sustainment, despite the physical and especially mental fatigue involved in mission achievement; thus, confirming the requirement of some form of emotional robustness. In this instance, the purpose of sensemaking is to enable the leader as an individual and as the leader of a team to achieve immediate mission success, but at the same time, long-term sustainability of team effectiveness in an environment characterised by uncertainty. In order to make sense and to help his or her subordinates with sensemaking, the leader needs to follow certain steps or phases that, in the short term, will enable immediate mission success but that will simultaneously build and develop individual and team agency, resilience and hardiness, which will enable sustained long-term mission accomplishment. ‘Resilience’ refers to the ability to return adaptively to baseline functioning (O’Leary & Ickovicks, as cited in Ahuja & Kumar, 2020). ‘Hardiness’, as a factor of resilience, is viewed as a protective factor against, for example, burnout (Bartone et al., 2022). Hardiness will therefore contribute to the resilience required to cope with stress on the battlefield.

Individual leader understanding and sensemaking of situation

As depicted in Figure 3, the first step for any leader functioning in an environment of chaos, ambiguity and volatility is to gain an understanding or perception of what is happening in the particular situation; thus, making sense of the situation on an individual level. Keeshan and Chetty (2016) emphasise that, in the first instance, leaders need to understand the specific context (situation) and the people within it. The figure depicts the process of sensemaking as part of social constructivism in complexity. It is important to note that meaning-making follows sensemaking. When mention is made of the military leader as sensemaker, both processes of sensemaking and meaning-making are included.

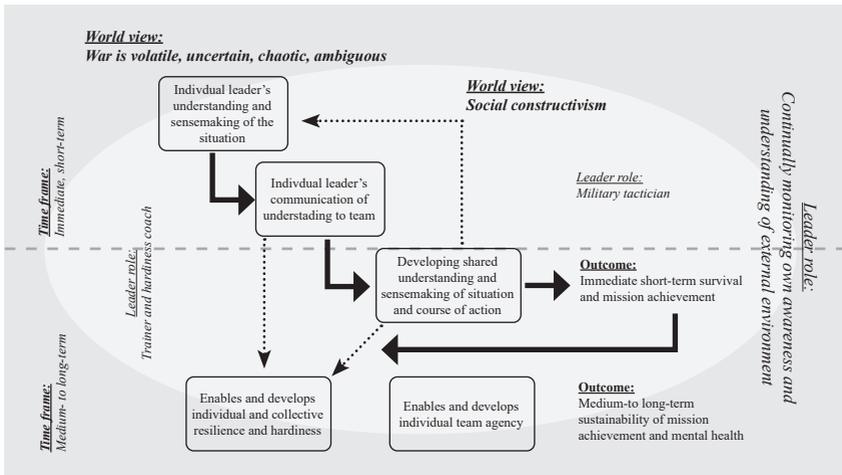


Figure 3: The process of sensemaking as part of social constructivism in complexity

Source: Researchers' own compilation

One's perception of situations is central to the way in which one forms or constructs one's reality (see Saberwal, 1996). Furthermore, one's perception of a situation and one's own abilities to deal with the demands of a situation determine to what extent one will experience either debilitating stress or enhanced confidence (see Huebschmann & Sheets, 2020; Keech et al., 2018). Therefore, two concepts are important for the leader to manage: perception and self-perception.

'Perception' refers to the cognitive processing of any sensory information in order to make sense of that information (Bar-On, 2001; Feldman, 2001; Galotti, 2008; Goldstein, 2011). In other words, the way in which any sensory information is identified, organised and interpreted to form new concepts links it to existing concepts and an understanding of the information presented or the environment. However, perception is not just the passive reception of information; it is rather an interactive process between the individual and the environment, mostly influenced by the recipient's learning, memory, experiences, expectation, attention and his or her interaction with other people. One can thus postulate that perception is formed throughout one's life in the experiences one has, based on the values that one develops, firstly in one's childhood but also later as adult, as well as the type of communities to which one is exposed. Furthermore, factors such as education, employment, socio-economic position and life-stages all play a part in forming one's perceptions.

Perception can be split into two broad cognitive processes (see Dehn, 2014; Galotti, 2008; Goldstein, 2011). The first entails receiving, analysis and processing of the sensory input (visual, auditory, smell, taste, touch), in order to link these inputs to existing concepts. The second comprises processing and transforming of the concepts that relate to someone's

ideas, past experiences and expectations (or knowledge) into concepts that are either new or which confirm the existing concepts the individual already has. This second process is what humans consciously know as sensemaking.

Perception can be defined as the way in which an individual (or team) views and reacts to information in the environment based on his or her learning, memory, experiences, expectations and attention. As seen in Figure 3, the role of the leader is to manage his or her own perceptions of situations as well as those of his or her subordinates constantly through self-awareness, self-motivation, self-regulation and reframing.

During this part of the process, the leader needs to find patterns in insight collected from multiple perspectives, which are likely to cause uncertainty. This is then followed by a process of continuously reviewing potential solutions or scenarios to determine the best approach for a particular context. This could include the development of best, worst and middle-case scenarios to be able to extrapolate from the existing information to formulate a prognosis (see CFI Team, 2022; Gospodarowicz & O'Sullivan, 2003). This will then contribute to the leader developing a narrative in terms of what is happening, and this will become a continually iterative process for understanding any unfamiliar situation (Keeshan & Chetty, 2016). These actions will assist the military leader as sensemaker to break out of a so-called 'reactive mode' into what Stern (2017) refers to as a more 'proactive mode of responsiveness'. This narrative then becomes the leaders' story, and from this story, he or she can then assist others to make sense; thus, becoming the sensemaker. In this regard, Veldsman and Johnson (2016, p. 4) say:

Through the stories they construct and share, leaders make sense of and give meaning to their leadership experiences, for themselves and others ... leadership experiences are transformed into information; information into knowledge; and knowledge into wisdom.

Although partly alluded to previously, the next step in the process is for the leader to communicate his or her understanding to the team or subordinates. This will assist the team to achieve immediate short-term survival and mission success.

Individual leader's communication of understanding to team

As the individual team members are already aware of the situation and have developed their own perception and understanding of the situation at this stage, this step is important. Furthermore, considering the hierarchical nature of military teams, subordinates look to the leader for guidance and an indication of acceptable behaviour. By using clear, unambiguous and honest communication, the leader creates trust and also reframes the situation in a manner that can either create hope (if the story and outcome of their experiences are hopeful) or despair (if the leader's story reflects hopelessness). Through the example of positive sensemaking and the coaching of individual and collective sensemaking in the team, the leader achieves trust and certainty.

In this process, the leader is not only managing the perception of reality, but is also working on the reframing, nurturing and enhancement of individual self-perceptions.

'Self-perception' (see Galotti, 2008; Goldstein, 2011) refers to the perception that individuals have of themselves. Like perception, self-perception is based on the learning, memory, experiences and expectations that a person has developed throughout the course of his or her life. From a performance point of view, 'self-perception' refers to the way in which individuals see their own abilities and limitations, and it has a significant effect on their perceived ability to deal with the demands or stressors in any given situation.

One's perception of stressors determines the level of anxiety or stress one would experience and, consequently, the level of activation. Another factor that has an influence is the relative importance that one attaches to the outcome of a situation. If the outcome is extremely important to an individual, this will increase the level of anxiety and activation. If the person has a perception that he or she can control the situation and has sufficient ability to deal with the situation, it will probably lead to eustress ('good stress') and the individual's performance will be enhanced. If the outcome is not especially important, chances are that the individual might experience low levels of activation. However, if the outcome is important, but the individual's perception is that he or she does not have sufficient ability to deal with the stressors, the level of anxiety and activation would probably lead to distress and inferior performance (see Weersing et al., 2012).

The effect of stress would therefore depend on the individual's actual and perceived capacity to cope with the relevant stressors, as well as the level of physiological and psychological readiness to do so. However, the way a person views (or perceives) situations and stressors determines to a considerable extent how he or she will react to such stressors. Should the person have a positive view of the relevant stressor (or his or her ability to deal with it effectively), he or she is likely to exhibit an attitude of learned optimism (or hardiness) (see Bartone, 1994). Should the individual have a negative perception of the situation (or his or her ability to deal with the stressors) he or she might experience an attitude of learned helplessness (see Bartone, 1994; Kiehne et al., 2011).

The above highlights the importance of perception and self-perception. The way people observe and interpret their environment and themselves determines their reactions at cognitive, physiological (affective) and behavioural level (Van den Bos et al., 2003). It also determines how such person would perform in a situation to overcome stressors. This leads to the next step, which is developing shared understanding and sensemaking of the situation and the development of courses of action.

Developing shared understanding and sensemaking of the situation and development of a course of action

In situations of uncertainty, people seek structure and a way forward for two reasons. The first is to mitigate the emotional discomfort that uncertainty brings (Naghieh et al., 2015). Secondly, this structure and way forward provide one with the certainty that there are actions – of which some can become automatic – that can be taken to deal with the situation (Wood & Quinn, 2005). The authors are of the opinion that this is where the value of leadership in general, especially leadership in extreme situations, lies – the ability to make sense by providing structure through sensemaking. The leader needs to facilitate a

common and shared understanding among team members about the way forward. This can be done through discussions, brainstorming, providing a clear plan or a combination of different techniques. However, the most important outcome from the leader's interaction with his or her subordinates should be a clear course of action indicating the way forward that is understood and supported by the whole team. In this instance the leader's role is that of military tactician to ensure short-term survival and mission achievement.

Collective sensemaking also has its advantages. Bartone (1994, 2005) suggests that collective sensemaking contributes to cohesiveness, which implies an element of social support. In military groups, this social cohesiveness contributes to health and performance when under stress, as has been proved by various research projects in the past (see Siebold, 2007; Van't Wout & van Dyk, 2015).

Referring to the abuse of prisoners in the Abu Ghraib prison in Iraq where United States personnel were involved in long-term abuse and violations of Iraqi prisoners, Bartone (2005) supports the need for positive meaning in military operations. To avoid situations such as in the Abu Ghraib prison and to ensure the long-term sustainability of individual and team effectiveness as well as mental health, it is important to develop individual and collective resilience or hardiness. In this the leader plays a key role as trainer and hardiness coach.

Consequently, as seen in Figure 3, when sensemaking that leads to mission success is repeated by the leader through deliberate coaching and positive personal behaviour (as depicted by the dotted line), this starts to build individual and team resilience and hardiness through the learning that takes place (as depicted by the dashed lines). Through this process, the leader and team individually and collectively are able to make sense of a situation or environment that is characterised by chaos and uncertainty, thereby increasing their chances of surviving and achieving mission success in the short term. The leader is thus key in providing direction to the process of sensemaking and could have a considerable influence on the management of perceptions held by the team about the situation. Through the creation and management of team perceptions, the leader is directing the team to create sense, structure and a new reality (see Conradie, 2016). To achieve the sustainability of mission achievement and mental health, the next step would be to enable and develop individual and collective resilience and hardiness.

Enabling and developing individual and collective resilience and hardiness

Although immediate mission accomplishment is highly desirable, for the majority of leaders and teams, goal or mission achievement is not a once-off short-term occurrence. When considering this continuous deployment and redeployment of soldiers, it is worthwhile to take note of the following quotation from Weick (1995, pp. 60–61):

[T]hen what is necessary? The answer is, something that preserves plausibility and coherence, something that is reasonable and memorable, something that embodies past experience and expectations, something which resonates with

other people, something that can be constructed retrospectively but also can be used prospectively, something that captures both feeling and thought, something that allows for embellishment to fit current oddities, something that is fun to contrast. In short, what is necessary in sense-making is a delightful story.

Bartone (1994) further notes that the increase in the operational tempo for high-risk teams heightens the risk of individual and collective stress, which in turn could have a negative effect on individual, team and organisational effectiveness. Furthermore, prolonged exposure to stress may lead to burnout with its resultant negative influence on mental health and performance (Bartone et al., 2022; Blatnik & Tušak, 2018); thus, emphasising the importance of military leaders developing and enhancing the individual and collective resilience and hardiness of their teams. Although the two concepts are often used interchangeably, there are clear differences. ‘Resilience’ and ‘resiliency’ (see Kreuckel et al., 2020; Maddi et al., 2012; Peterson et al., 2011) refer to the plasticity of the individual, team or system and the ability to adapt to stress in order to deal effectively with the situation and then return to baseline functioning afterwards. ‘Resilience’ therefore refers to a state rather than the more stable personality-trait concepts of grit and hardiness that contribute to resilience and resiliency (see Bartone, 1994; Kowalski & Schermer, 2018; Smith, 2020). Whereas resilience can be seen as the relationship or manner in which the individual interacts with the external environment, hardiness mostly refers to the internal make-up of the individual that allows him or her to be resilient in the face of adversity (see Ledesma, 2014).

‘Hardiness’ (see Bartone, 2006; Bartone et al., 2008; Carston & Gardner, 2009; Feldman, 2001; Kreuckel et al., 2020; Maddi et al., 2012; Peterson et al., 2011) refers to an attitude that is based on an individual’s self-belief that he or she has the capacity or perceived capacity to cope with the demands or stressors of the situation and to choose effective coping strategies. An overview of hardiness literature (see Bartone, 2006; Bartone et al., 2022; Maddi et al., 2012; Peterson et al., 2011) postulates that hardiness is a collection of attitudes based on the following three concepts that are interrelated and in combination predict the second-order factor of hardiness:

- **Commitment** refers to the belief and self-perception that an individual’s life has meaning and purpose. This is strongly related to a belief that one’s life has purpose and that engaging in activities with community, family and work has positive meaning. It is the opposite of alienation.
- **Control** refers to the self-perception or belief that one can change or influence the outcome of situations, especially stressful situations. People who believe in their own ability to control situations do not become helpless or passive in the face of difficulty or challenges but take action to control the situation. An important distinction to make here is that people with a keen sense of control might not always be able to control the actual situation, but still believe that they can control their own reaction to the challenge. The opposite of control is powerlessness.

- **Challenge**, the opposite of a need for security, refers to the way in which people choose to make sense of or ‘frame’ their situation where they approach difficult situations as a challenge rather than a threat. Individuals who score high on hardiness do not deny the presence of difficulties or problems, but rather place these in a positive ‘frame’. This allows the individual to identify the actual problem but also to reinforce the belief that it can be overcome.

The above then confirms the key role military leaders have to play in ensuring meaning and purpose, control over the outcome of the situation, and an appropriate frame for their subordinates to make sense of what has happened, or is happening to them. Furthermore, an element of hardiness is the ability to make a distinction between those elements of a situation that the individual can control and those that cannot be controlled. By focusing on what can be controlled, individuals can prioritise their efforts and not waste time and effort on what cannot be changed. Besides, this allows the individual to learn from previous stressful situations to determine what would be the most appropriate response to a challenging or stressful event. In other words, by allowing individuals to determine where to focus their energy, hardiness allows them to make sense or reframe the situation. This allows the individual to choose the most appropriate response or set of responses to the situation. The value of hardiness is its positive effect on adaptive behaviour, resilience and performance, especially in highly stressful and potentially dangerous situations (see Hachaturova, 2013; Liu et al., 2022).

The importance of enabling and developing hardiness and resiliency at individual and team level was evident from the literature. The essence of both resilience and hardiness is the way individuals make sense of the situation, and this forms or strengthens their perception of what is happening. In this way, the leader’s role is that of trainer and hardiness coach, which could exert influence constantly on both individual and team level. From the literature it seemed safe to say that leaders of teams that function in high-risk environments are in a unique position to influence individual and team resilience and hardiness through personal example, regular ‘reframing’, regular training and exposure to extreme situations, followed by feedback and debriefings. The positive effects of the development of individual and team resilience and hardiness can be observed when individuals and teams have confidence in their ability to construct models to deal with adversity to ensure mission accomplishment (Fraher, 2011; Kolditz, 2007; Kreuckel et al., 2020; Maddi et al., 2012; Peterson, 2011). This confidence contributes to the ultimate step in the process of sensemaking, which is the enablement and development of individual and team agency.

Enablement and development of individual and team agency

It is worthy to note the observation by Peterson et al. (2011) that by fulfilling the role of sensemaker, leaders will provide their subordinates with the cognitive and emotional tools to make sense of operational experiences, to change their perception of the situation and to take personal responsibility for the effective management of the situation. This in turn leads to individual and team agency, where both the individual and the team assume responsibility for and control of their actions and effective functioning. Individuals

have the self-perception that what they do is meaningful, and that they have control and the ability to deal with difficulties and adversity. Adversity and difficulties are seen as opportunities to test skills and abilities and to grow on an individual and collective level. As a team, individuals take responsibility for one another and the achievement of team goals. Through growth in individual and team competence trust is cultivated, and confidence in their own abilities and those of team increases. From the current study, it was clear that this will then enable a cyclic process of sensemaking and mission accomplishment. Although success breeds success, it can also breed complacency unless the leader continually scans the effectiveness of the team. The role of leaders is to monitor their own awareness and understanding of the external environment continually, to ensure that they remain aware of changes in the environment that would necessitate a reappraisal and reframing of their own perception of reality as well as the perception of their subordinates in this regard.

Towards a military leader toolkit for sensemaking in the military context

Since time immemorial, the military have functioned in an environment that is characterised by risk, danger and adversity (Barnes et al., 2011; Kolditz, 2007). This has always been an accepted part of the job. In addition, the military must function in an environment that has become increasingly volatile, uncertain, ambiguous and complex. Military leaders willingly function in an environment of chaos and possible injuries or death and are often required to send their subordinates into situations of certain injury or death (Bering, 2011). The paradox is that military leaders are willing to risk the lives of their subordinates, people who are closer to them than family, but who are in fact strangers. Soldiers do so because of their purpose to protect those who cannot protect themselves. Grenier (1993, p. F3) captures this purpose accurately when he quotes George Orwell: “people sleep peacefully in their beds at night only because rough men stand ready to do violence on their behalf”.

This requires leaders to instil in their subordinates confidence and resilience in their own abilities and collectively in those of the teams to succeed in sometimes impossible conditions, but most importantly, the purpose will ensure that they are willing to do so (see University of Akron, 2014). Various matters relating to military leaders themselves, their subordinates and their own sensemaking on both an individual and collective level were mentioned above.

On a practical level, it is important to develop a toolkit for the military leader to deal with issues relating to sensemaking on the modern battlefield. A good point of departure for developing such toolkit would be the three functions of the military leader identified in Figure 3 above. The three functions (military tactician, trainer and hardiness coach, and reality checker) are so intertwined and interlinked that it is almost impossible to distinguish them in leadership behaviours. However, the outcomes are clearly distinct from one another, although these outcomes are again intertwined and interlinked. The first role is that of the **military tactician** who has to make sense of the tactical military situation in order to generate plausible courses of action that will enable the team to achieve its mission. The second role is that of **trainer** and **hardiness coach**. In this case, the trainer

or coach has to maintain the psychological wellbeing and resilience of subordinates. The third is that of **reality checker**, and here the leader should continuously monitor his or her own awareness and understanding of the external environment. The outcomes of all three roles are important for mission success, and the actions taken by the leader to fulfil the roles have a simultaneous effect on all three. If too much emphasis is placed on one role and the others are neglected, it will have a negative influence on all three in the long run. It is therefore important for the military leader to strike a balance between sensemaking as tactician and playing the meaning-making role at the same time. The aim is to strengthen commitment and a sense of control, and to provide purpose while continuously monitoring his or her own awareness (self-awareness) and understanding. The modern military leader as sensemaker on the battlefield must therefore have a balanced approach in terms of sensemaking and meaning-making.

Sensemaking as military tactician

Based on their experience in the private sector, Keeshan and Chetty (2016, p. 623) refer to equipping leaders with a perception toolkit that enable them to “suspend judgement and evaluate what is truly there, rather than relying on one’s own unconscious bias”.

In this way, the leader’s so-called “de-personalised” and “monolithic” interpretation is changed into individual stories and leads to key insights through using the senses (seeing, feeling, hearing and smelling) to understand the occurrence deeply after searching for patterns emerging from his or her observations and conversations (Keeshan & Chetty, 2016, p. 623). Sensemaking therefore starts in the perceiving stage already. One way in which the military train leaders to achieve this is through appreciation and problem-solving models such as GROUND¹⁰ (SA Army, 2008), OODA¹¹ (Oshin, 2019) and RPD¹² (Bushey & Forsyth, 2006), which assist the leaders, especially at tactical level, to structure information. When using these models, military leaders have a model within which they can place or structure the latest information.

Next, after garnering new insights from a better perception of the context, the leader has to deal with what was in the current study referred to as the ‘sensemaking dilemma’. This dilemma is about ways to bring the different interpretations of the context together in a coherent whole characterised by an underlying system, or what Keeshan and Chetty (2016, p. 624) refer to as “hidden scaffolding”, which governs norms, rules, incentives and behaviour. In overcoming the sensemaking dilemma, it would be important to identify how the system works, why things happen in the system as they do in that context and, lastly, what action would be needed to make sense from the system.

Keeshan and Chetty (2016, pp. 622, 624) emphasise that it is in the first instance difficult to overcome one’s inherent “confirmation bias”, which is the tendency to jump to conclusions based on a superficial understanding of the situation. It is, however, through continuous reflection and practice that a military leader will begin to perceive events and actions that may disprove engrained mental models. In this instance, the military leader needs to ask questions of the people in the context to determine the what, how, who and why of things that have happened. For example, the military leader should ask –

- What stood out as unusual from the expectations and what unique trends were found in how people acted (whether there was a discrepancy between what people said and what they did)?
- What were the interrelationships and/or interdependencies between people and institutions?
- Who was involved in the incident and/or who was responsible or affected and who was involved in the decisions made?
- How did the incident happen and how did the larger context shape people's actions?¹³
- Which logical steps should have been taken?
- What were the interrelationships and/or interdependencies between people and institutions?
- Lastly, military leaders should ask themselves whether they should move away from traditional thinking or not.

It is important that these questions be asked without any judgement on the side of the military leader. This will assist in gaining in-depth insight in how things work in an unfamiliar setting. This in turn will assist military leaders to circumvent default thinking and jumping to conclusions. It will also prevent them from allowing personal biases or old mental models to affect their sensemaking. It is important that they generate multiple hypotheses that might explain the phenomenon at hand. These hypotheses need to be tested (considered) based on collateral information, whether from testing these with various stakeholders or from seeking confirmation in the greater ecosystem in that particular context (see Keeshan & Chetty, 2016).

As seen in Figure 3, the immediate outcome of sensemaking is being able to create understanding directly at the tactical level. The role of the leader as military tactician is not only to make sense of the tactical situation, but also to communicate the understanding clearly to the rest of the team. Depending on the situation, the leader then needs to facilitate a process where mutual understanding of the situation as well as the critical mission success factors that will ensure the immediate achievement of the mission is reached. When used within the existing appreciation, problem-solving and planning models will empower the military leader and the team to develop this meaning into executable action plans that will enable the team to achieve tactical mission success. The focus of the leader is therefore not just personal sensemaking and understanding of the situation, but also communicating this to the team and ensuring mutual understanding of the course of action that will achieve immediate mission success. This leads to a second role of the military leader, namely that of trainer and hardiness coach.

Sensemaking as trainer and hardiness coach

The second role of the leader as a sensemaker is that of trainer and hardiness coach to ensure the development of individual and collective resilience and agency, which in turn will enable long-term mental health and sustainable efficiency for both the leader and

his or her subordinates. As seen in Figure 3, this role is intertwined with the achievement of both immediate and long-term outcomes. Before, during and after operations, leaders are continually teaching, training and coaching their subordinates for future operations. They do this through their personal example, through the training that they provide, through self-reflection and team debriefings, through feedback and by creating a learning environment, and by enforcing the values of individual and team agency. Building confidence in individual and team competence through training and lessons learned leads to self-efficacy and strengthens the individual and collective sense of purpose, sense of control and commitment to overcome challenges.

Continually monitoring own awareness and understanding of external environment

There is a third role that the military leader has to fulfil, namely continually monitoring his or her own awareness and understanding of what is happening in the external environment. This contributes to what can be referred to as ‘continuous personal awareness of the situation internal and external to the leader’. This is about maintaining ongoing awareness to affirm the leader’s initial interpretation and sensemaking of the situation or event that occurred, and to make changes if necessary (see Keeshan & Chetty, 2016).

These roles can therefore be the point of departure for developing the proposed toolkit for military leaders to assist with sensemaking on the battlefield for both military leaders themselves and for the teams that they are leading.

The next section concludes this discussion by presenting recommendations for addressing sensemaking on the modern battlefield.

Recommendations and conclusion

Social constructivism in complexity seems to be the best-fit world view from which the military leader can address the identified problem of sensemaking during military operations in a VUCA world. The basic assumptions, heuristics and mental models that worked in the past in other contexts will therefore have to be adapted to develop a sensemaking toolkit for use by military leaders on the modern battlefield.

The abovementioned suggests what Veldsman (2016b, p. 585) refers to as “new angles to leadership development”. This suggests new stages to be considered for leadership development, such as developing processes for perceiving and sensemaking in the role of both the military tactician and of the trainer and hardiness coach, while continually monitoring own awareness and understanding of the external environment. In the development of these roles, a number of recommendations are made by the authors.

The first part of the sensemaking toolkit should be to create awareness of the above mentioned three roles among military leaders. Furthermore, the sensemaking toolkit should include tactical appreciation and sensemaking models such as GROUND, OODA and RDP. In addition, to use these models as tactical tools, military leaders should be aware of the link between these sensemaking models on the one hand, and sensemaking

and practice on the other, and should internalise these models during training to develop various courses of action. Leaders must be able to structure information, especially in a VUCA world, where they can learn and practice using Keeshan and Chetty's (2016) 'hidden scaffolding' alluded to above. They should know how to integrate their analysis of how these systems work into one system of systems (Mitre, n.d.), understand why things happen in the system, identify possible actions, and take those actions based on situational awareness. Continuous reflection and practice of these aspects in the toolbox should include communicating their interpretation of the world to their subordinates to contribute to sensemaking and meaning-making.

For their role as hardiness coaches focusing on their subordinates' psychological wellbeing and readiness, military leaders should develop a theoretical foundation for understanding hardiness and ways to function as a trainer and/or coach in hardiness. The current study found that the theoretical foundation can be supplemented with, among other things, cognitive skills training, self-awareness training and situational awareness training. This will require what Keeshan and Chetty (2016, p. 619) refer to as the "rewiring" of the human brain. Tilman and Jacoby (2020) see this as human beings' natural inclination to avoid risk by either being impulsive or reluctant to act.

As mentioned above, most militaries school and train their leaders formally in military appreciation, problem-solving and planning models. However, the assumption is that the leaders have developed the cognitive and neurological skills that underlie the successful application of the military models sufficiently. The assumption is that critical thinking skills are developed at school and will continue to develop throughout the leader's career. However, this is often not the case. To ensure that military leaders are also critical and effective thinkers, it is suggested that critical thinking skills training programmes be developed and incorporated into the curriculums of functional military courses. Training staff should be empowered to ensure that the development of critical thinking skills forms part of the assessed outcomes of successful course completion.

Where cognitive skills training is provided, it often takes place in 'ideal' conditions, such as classroom settings. This does not teach leaders to apply their perceptive, cognitive processing and self-regulation skills in extreme situations where these matter, as observed by Bester and O'Neil (2022). It is therefore recommended that the development and training of leaders for the role of military tacticians should include classroom training to establish the skill, as well as the application thereof in extreme situations, followed by feedback to ensure that the skills can be applied in extreme situations. In this regard, a trainee can be appointed as a leader for a simulation exercise preceded by sleep deprivation and physical exercise. During the training exercise, leaders should have to deal with various scenarios that would affect their subordinates negatively. These scenarios may include loss of personnel, fake news, and experiencing problems at home, with which the appointed leader will have to deal to ensure that the mission objectives are achieved. Feedback will include how the leader fulfilled the role of sensemaker.

The function and role of sensemaking is ideally suited for mission command where authority for decision-making and the responsibility to act are delegated to the lowest

levels (Shamir, 2011), but would require the concept, process and techniques of sensemaking to be included in mission command training.

Self-awareness training integrated with situational awareness training for leaders is critical to make leaders aware of their own behaviour, reactions and cognitive processes – especially in extreme situations. This will enable them to prepare themselves better for leadership in extreme situations but also enable them, especially when combined with coaching skills, to understand and influence the perceptions of their subordinates. Situational awareness training will assist leaders with continuous awareness and interpretation of events in the external environment.

It is recommended that performance enhancement strategies that include sensemaking, reframing and hardiness training be developed and implemented for all leadership training, especially for the combat and combat support entities. This will strengthen the resilience of leaders but will also empower them to develop hardiness and resilience in their subordinates.

It is important to note that sensemaking facilitated by the military leader is not static or unidimensional, but rather a process of mutual construction and reconstruction of an event based on mutual social interactions between individuals, their leaders as well as contextual factors. It is recommended that coaching and mentoring be used for continuous leadership development in the future to address sensemaking as part of the lifelong learning programmes in military organisations. The sensemaking process depicted in Figure 3 above is a humble proposed process, but it may be used as a point of departure.

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Endnotes

- ⁷ Piet Bester grew up on a farm in the Orange Free State. After matriculation, he did national service (conscription). Piet joined the South African Defence Force, attended the South African Military Academy, obtained various degrees, and completed the University of Johannesburg's Doctoral Programme: Leadership in Performance and Change. He is also a registered Industrial Psychologist and completed various military courses, including the Joint Senior Command and Staff Programme and Security and Defence Studies Programme, including a Post Graduate Diploma in the Management of Security at the University of the Witwatersrand. Piet is currently a senior lecturer at the University of Stellenbosch's Faculty of Military Science. His research interests include leadership, integrity, performance enhancement, test construction, and national security.
- ⁸ Johnny O'Neil is an industrial psychologist and deputy director of the SA Army Assessment Centre of the Military Psychological Institute in Pretoria. He holds a D. Phill degree in Sport Psychology from the University of Pretoria, and a master's degree in Industrial Psychology from the University of the Free State. He also recently completed a postgraduate diploma in Disaster Risk Management from the Northwest University in Potchefstroom. He has 26 years' experience in the military environment, both as psychologist and officer in the Infantry. His passion is performance enhancement and leadership performance in high-risk environments. He is married and have two wonderful children.
- ⁹ The concept of a leader as linking pin was developed by Rensis Likert who viewed supervisors or managers as the linking pin within the organisation with the dual task of supporting unity and creating a sense of belonging within the group they represent and supervise (Likert, 1967). In this context, the leader is the linking pin between the two worlds becoming one and supporting the subordinate(s) in making sense of reality.
- ¹⁰ GROUND is an acronym for a low-level tactical appreciation model used in the SANDF. It refers to a given picture, route, observation, under cover, negotiability and distance (see SA Army, 2008).
- ¹¹ OODA is an acronym for a decision-making model used by militaries worldwide and refers to observe, orient, decide and act (see Oshin, 2019).
- ¹² RPD is a planning model used in some North Atlantic Treaty Organisation (NATO) countries. It is used for problem-solving and is referred to as the recognition-primed decision model (see Bushey & Forsyth, 2006).
- ¹³ Ultimately, the military leader will discover that a particular context is surrounded by a larger eco-system that contributes to overall understanding.