UNPACKING THE UPPER ECHELON'S COGNITIVE BLACK BOX: A QUALITATIVE STUDY OF SELECTIVE ATTENTION AND DECISION MAKING IN SENIOR EXECUTIVES

by

Jon M. Hart

Liberty University

A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

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ABSTRACT

In today's volatile, uncertain, complex, and ambiguous world, senior executives face a myriad of difficult decisions. These decisions are often accompanied by a barrage of stimuli, which can complicate decision-making processes. To traverse these challenges, those in the upper echelons of leadership must manage their selective attention well, make clear sense of unfolding events, and act upon them in ways that maximize organization outcomes. However, there is a gap in research around how the upper echelons of leadership manage their selective attention in high-stimuli decision scenarios. This qualitative grounded theory research addresses this gap by studying the cognitive processes used by senior military executives to manage their limited attentional resources in such environments. Data was collected via semi-structured interviews of a purposive and snowball sampled group of 18 recently retired senior military officers who held key strategic positions during their time in service. Interviews were transcribed, coded using open and axial techniques, and analyzed to develop a grounded theory of how the upper echelons of leadership navigate information-saturated, high-stimuli environments and manage their limited attentional resources when making high-consequence decisions. Findings show that executives rely heavily on the team of people around them while taking steps to create mental space, and then doing the best they can to gather and prioritize information, given time constraints. This model suggests the top management teams play a central role in helping senior executives manage their limited attention, which can shape how senior executives are chosen and developed.

Keywords: Upper echelon theory, executive cognition, decision-making, VUCA, sensemaking, selective attention, grounded theory, top management teams.

Dedication

This dissertation is dedicated to my family. Their patient and loving support was essential to the success and completion of this work. Also, to my wife Melissa—my best friend and most trusted partner—for standing by my side and always taking such great care of me. “Many women have done excellently, but you surpass them all” (Proverbs 31:29).

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

The world that senior executives lead in is becoming more and more volatile, complex, and ambiguous (Baran & Woznyj, 2021). One needs only to revisit world events from the past three to four years to see just how real this is—Coronavirus (COVID-19) pandemic, racial injustice protests across the U.S., school shootings, market crashes (and rises), extreme weather events, and a war in Europe. Today's senior executives must navigate decision spaces that are constant and rapidly unfolding while risking grave consequences (Intezari & Pauleen, 2018; Merendino & Sarens, 2020) with the potential to cause irreparable damage to companies and careers (Mannor et al., 2016) or threaten the outright survival of an organization (Merendino & Sarens, 2020). The very nature of this environment makes it challenging to navigate and make decisions in—experience and education are no longer adequate. In the words of Intezari and Pauleen (2018), "given the turbulence and complexity of the world, certainty and truth are not guaranteed solely by knowledge" (p. 336).

This environment also places a high-level of stress and anxiety on senior organizational leaders. Executives "engage in a dizzying array of tasks, contend with ambiguity and incomplete information, and encounter far more stimuli than they can adequately process" (Mannor et al., 2016, p. 1968). Nearly all executive decisions are being made under time constraints, forcing quick or hasty decisions, and negatively impacting decision quality (Haque et al., 2017; Merendino & Sarens, 2020). This can become overwhelming for executives. Therefore, it is important to understand the cognitive processes used by those in the upper echelons of leadership to navigate such

environments while sorting through the many stimuli that bombard them as they make hard decisions.

Surprisingly, this is a topic that is not well covered in the current body of research literature. Certainly, there are many quantitative and qualitative studies exploring decision-making in general. However, there is still a gap in the literature around understanding the senior executive's cognitive black box and how executives deal with information saturation when they are unsure of what information is relevant or irrelevant to the problem at hand (Neely et al., 2020; Butler et al., 2016; Mannor et al., 2016; Sperber & Linder, 2018). Neely et al. (2020), specifically highlighted calls to understand what information executives look for, attend to, and deem important (i.e., selective attention), and challenged researchers to investigate "how and why executives focus on certain kinds of information in the sensemaking and sensegiving processes" (p. 1037). There is particularly a gap in qualitative research (Pratt & Bonnacio, 2016; Scholtz et al., 2020) exploring these specific phenomena. This qualitative research seeks to close this gap by presenting a grounded theory that sheds light on the cognitive processes senior military leaders use to manage their limited attention in high-stimuli environments to make high-consequence decisions.

Background

The environment that senior executives operate in today has been characterized as volatile, uncertain, complex, and ambiguous (VUCA; April & Chimenya, 2019; Baran & Woznyj, 2021). This term was created by the U.S. military to try and best describe the unpredictable nature of the environment leaders must navigate (Baran & Woznyj, 2021).

While the term has made its way into leadership circles well beyond a military context, it is important to maintain focus on the four distinct words that comprise the term and reject the tendency to reduce its meaning. April and Chimenya (2019) add definition to the term's important components, reminding that *volatility* refers to situations that are "unstable and unpredictable," *uncertainty* refers to a lack of knowledge or probability on specific outcomes, *complexity* references the "many interconnected parts and variables," and *ambiguity* refers to a lack of clarity or the presence of multiple interpretations (p. 15). Each of these VUCA realities complicate the role of senior executive and introduce risks into senior executive decisions (Severgnini et al., 2019).

Effective leaders cannot sidestep or ignore these risks, however, and must factor for them while making decisions that threaten grave consequences. As Mannor et al. (2016) identify, executive missteps can have lasting consequences to both their organization and their personal well-being. Similarly, Intezari and Pauleen (2018) remind that management decision-making has a direct and significant impact on organizational outcomes such as performance. In times of crisis, executive decision-making is one of the critical factors to how an organization responds (Merendino & Sarens, 2020). Within VUCA environments decisions are often made under high pressure, with severe time constraints (Mannor et al., 2016; Haque et al., 2017; Merendino & Sarens, 2020), and include intense interactions and communication with other relevant individuals (Simsek et al., 2018). These insights almost make the words of Haque et al. (2016) seem like an understatement, "In today's increasingly high velocity business environment, quality decision making is incredibly important" (p. 112).

For these reasons, Baran and Woznyj (2021) recommend leaders incorporate VUCA realities into their strategic planning and leadership paradigms. Leaders should implement rational decision-making processes to minimize risks and maximize positive organization outcomes (Severgnini et al., 2019). Fortunately, there is a lot of research on decision-making that informs this process. However, there is still much to be learned on how leaders at the top of organizations (i.e., in the upper echelons) make sense of the world around them and navigate decisions of great consequence or of real difference to their organizations (Laureiro-Martinez, 2014; Samimi et al., 2020). Neely et al. (2020), and many others (Hambrick, 2007; Butler et al., 2016; Mannor et al., 2016; Sperber & Linder, 2018), draw attention to this long-known gap in understanding the executive's cognitive black box—i.e., "the psychological and social processes by which executive profiles are converted into strategic choice" (Hambrick, 2007, p. 337). Neely et al.'s (2020) research highlighted the continued gap and recommend researchers investigate "how and why executives focus on certain kinds of information in the sensemaking and sensegiving processes" (p. 1037).

The challenge is that VUCA environments typically introduce a barrage of stimuli (i.e., information, emails, texts, phone calls, news feeds, meetings, reports, etc.) that must be dealt with early on or before decision-making processes can begin (Mannor et al., 2016). This onslaught of stimuli expands the boundaries of where the decision-making process in VUCA environments begins and is where the literature reveals another critical gap. Not enough is known, qualitatively, about the cognitive processes senior executives use to sort through the myriad of stimuli they are presented with as they navigate hard decisions while providing strategic leadership to their organizations. In fact, a review of

literature found little to no research that examines this problem through a qualitative lens. This is not overly surprising given Pratt and Bonnacio (2016) and Scholtz et al. (2020) identified a shallow pool of qualitative research in the industrial organizational psychology field. This proposed research seeks to close this gap by qualitatively studying how executives manage their limited attention to make decisions in high-stimuli environments, building upon a theoretical foundation of upper echelon theory (UET), sensemaking, decision-making, and attention management.

From a biblical perspective, it should not be surprising that the world is becoming more and more VUCA. The Grand Narrative—perfect creation, destruction and perversion of that creation through sin, and ultimate restoration toward a more perfect state—reminds that creation will continue to unravel until it can be fully restored by God (Wolters, 2005). Leaders should avoid conforming to these patterns (*English Standard Version [ESV]*, 2001, Rom. 12:2) and find their role in restoring clarity and order to VUCA environments (*ESV*, 2001, Rom. 12:6-8). When trying to make sense of ambiguous and rapidly unfolding events while managing one's limited attention, leaders can look at teachings from Proverbs 2 to find wise counsel. Additionally, Proverbs 4:25-27 instructs the leader to, "Let your eyes look directly forward, and your gaze be straight before you. Ponder the path of your feet; then all your ways will be sure. Do not swerve to the right or to the left; turn your foot away from evil" (*ESV*, 2001). In the increasingly VUCA world (Intezari & Pauleen, 2018; Baran & Woznyj, 2021) this instruction is critically important.

Problem Statement

The upper echelons of leadership must navigate information-saturated and high-stimuli roles while providing steady and strategic leadership to their organizations (Mannor et al., 2016; Simsek et al., 2018; Samimi et al., 2020). They are forced to make many strategic, high-consequence decisions on a near-daily basis, drawing on cognitive skills, experience, and intuition to make sense of the difficult situations they face (Haque et al., 2017; Hoskisson et al., 2017; Merendino & Sarens, 2020; Lucena & Popadiuk, 2020). The increasingly VUCA world saturates them with information and stimuli (Intezari & Pauleen, 2018; Baran & Woznyj, 2021) and challenges their ability to optimize decision outcomes (Murphy et al., 2016; Hur et al., 2019; Uhrecký et al., 2020). Leaders must manage their limited attentional resources to triage, prioritize, and sort through a myriad of stimuli as a precursor to decision-making, leveraging sensemaking in the process—a cognitive process generally labeled the executive's black box (Hambrick, 2007, Heyler et al., 2016; Neely et al., 2020).

Many studies have attempted to unpack this black box, but there is still a wide and recognized gap in the literature (Wang et al., 2016; Sperber & Linder, 2018; Neely et al., 2020). Neely et al. (2020) identified a lack of research on the upper echelons' cognition processes, specifically highlighting calls to understand what information executives look for, attend to, and deem important (i.e., selective attention), and challenged researchers to investigate "how and why executives focus on certain kinds of information in the sensemaking and sensegiving processes" (p. 1037). Further, much of the research around attention management focuses on task irrelevant distractors when the task at hand is known (for examples, see Cochrane et al., 2020; Jo et al., 2021; and Li et al., 2018) leaving a gap in understanding how executives deal with information saturation when

they are unsure of what information is relevant or irrelevant to the problem at hand. Little or no qualitative research could be found addressing these gaps. More research is needed to understand how the upper echelons manage their limited attention in high-stimuli environments to make high-consequence decisions.

Military leaders are uniquely experienced to inform this research, given their frequent exposure to high-consequential and high-stimuli events, and necessity to lead through them. This population has been the source of prior qualitative studies on both sensemaking and decision making, but none shine light on the cognitive processes senior military leaders use to manage their limited attention while navigating high-stimuli environments (see for examples, Heyler et al., 2016; de Graff et al., 2019; King & Snowden, 2020). By studying the cognitive black box of those in the upper echelons of military leadership, great insight can be gained into how senior executives navigate information-saturated, high-stimuli environments and act upon situations that are volatile, uncertain, complex, and ambiguous.

Purpose of the Study

The purpose of this qualitative grounded theory study is to understand how senior military leaders manage their limited attention in high-stimuli environments to make high-consequence decisions.

Research Question

RQ 1: In high stimuli environments, how do senior military leaders manage their limited attention as a part of their decision-making process?

Assumptions and Limitations of the Study

There is one key assumption that impacts this research—that the leaders being interviewed were able to accurately articulate their experiences with the cognitive processes under study. This group of leaders have been leading and making high-consequence decisions for 25-30 years or more. It might be difficult for them to articulate the cognitive processes they use to manage their attention as a part of their well-honed decision-making processes. As described by Abatecola et al. (2018), leaders exposed to frequent and risky decisions often develop mental shortcuts (i.e., heuristics) and filter information unconsciously and automatically. Further, given the target population was retired military, some may be too far removed from their experiences to provide reliable insights.

This study is also not without its limitations and challenges. One primary limitation that should be noted is the limited generalizability and transferability due to the chosen methodology (Creswell & Poth, 2018; Camic, 2021) and population (DeGraff et al., 2019; Banks et al., 2020; Heyler et al., 2016). Qualitative methods offer a deep textural understanding of the explored phenomenon. However, given the small sample size it can sometimes be difficult to generalize to larger populations. Creswell and Poth (2018) offer some ways to mitigate this, focusing on collection methodologies that will increase validity and transferability. Camic (2021) highlights additional perspectives of generalizability and suggests new avenues for pursuing qualitative research integrity—such as phenomenological allegiance and better data collection procedures—that improves generalizability (and objectivity).

Additionally, the factors that affect how military leaders approach and navigate decisions can sometimes be very different than the average executive (i.e., life and death outcomes with seconds or minutes to decide). Similar to concerns raised by other researchers (see DeGraff et al., 2019; Banks et al., 2020; Heyler et al., 2016), the use of military members as participants might limit the populations to which these findings can be generalized. Nonetheless, there are still deep insights to be gained by studying these phenomena in qualitative ways with retired senior military officers.

Theoretical Foundations of the Study

The primary theoretical foundation for this research is the upper echelon theory (UET). Based on the early work of Donald Hambrick (see Hambrick, 2007), UET is now recognized as a core tenant of strategic management theory (Bagis, 2020; Neely et al., 2020). Central to UET is the idea that executives' experiences, values, and personalities all shape the way they make sense of and act upon the situations they face (Hambrick, 2007; Mannor et al., 2016; Wang et al., 2016; Neely et al., 2020; Samimi et al., 2020). The executives translate their understanding of the world around them through actions and strategic choices (i.e., decisions), which shape the organization and its activities (Hoskisson et al., 2017; Boone et al., 2019).

Core components of the UET are sensemaking and decision-making, which also inform the theoretical foundation for this research. Sensemaking can be defined as the process of interpreting and ascribing meaning to the events that happen around us to generate understanding and facilitate action (Weick et al., 2005; Brown et al., 2015; Kilskar et al., 2020; Schildt et al., 2020). Decision making is most typically discussed as

a process (Severgnini et al., 2019; Lucena & Popadiuk, 2020; Fromer & Shenhav, 2022) where decision-makers are generating and choosing among alternatives (Jackson et al., 2017; Intezari & Pauleen, 2018).

Given the focus on high-stimuli and VUCA environments, selective attention is an additional, and centrally important foundation to this study. Selective attention is the process that assigns limited attentional resources to task-relevant stimuli while ignoring irrelevant stimuli (Stevens & Bavelier, 2012; Laureiro-Martinez, 2014; Murphy et al., 2016; Cochrane et al., 2020; Jo et al., 2021). Attentional control is what allows a person to stay focused on task-relevant information while ignoring task-irrelevant information and distractions (Laureiro-Martinez, 2014; Murphy et al., 2016). Both selective attention and control of that attention are impacted by perceptual load and cognitive control.

A biblical foundation for these ideas can be traced to Proverbs 2:1-15 (*English Standard Version [ESV]*, 2001). These passages contain teaching on the value of wisdom and understanding, instructing us to "seek it like silver, and search for it as for hidden treasures" (*ESV*, 2001, Prov. 2:4). Additionally, regarding managing our attention, Proverbs 4:25-27 reminds us to keep our gaze before us and, "Ponder the path of your feet; then all your ways will be sure. Do not swerve to the right or to the left; turn your foot away from evil" (*ESV*, 2001).

The Bible provides several examples of leaders who find themselves in volatile situations requiring they manage their limited attention while navigating decisions. Job, for example, faced a great test when he lost his wealth, family (i.e., children), and health and the people around him tempted him to turn from his faith in God (see *ESV*, 2001, Job). However, Job held onto his belief in God's sovereignty and God restored his

position. Similarly, King David faced a great trial when his son challenged him for the throne (see *ESV*, 2001, 2 Sam 13-19). David had to flee, rally an army, and face his son in battle before being restored to his rightful position. All the while, David took refuge in the Lord while making sense of what was happening. While the Bible does not provide details on the cognitive processes these men used, both Job and David displayed strong and unwavering faith in God's sovereignty and give strong example of how leaders manage their attention in such VUCA situations.

Definition of Terms

The following is a list of definitions of terms that are used in this study.

Black Box – The cognitive processes that direct and shape executive behaviors (Hambrick, 2007; Neely et al., 2020).

Upper Echelon – Those in the highest levels of leadership within an organization; can be an individual top executive (i.e., the chief executive officer, CEO) or a top management team (Hambrick, 2007).

VUCA – Volatile, uncertain, complex, and ambiguous; *volatility* refers to situations that are "unstable and unpredictable," *uncertainty* refers to a lack of knowledge or probability on specific outcomes, *complexity* references the "many interconnected parts and variables," and *ambiguity* refers to a lack of clarity or the presence of multiple interpretations (April & Chimenya, 2019, p. 15).

Significance of the Study

This research fills an important gap in the literature around selective attention, sensemaking, and decision-making. There have been many calls for more research into the upper echelon's cognitive black box (Butler et al., 2016; Mannor et al., 2016; Neely et al., 2020; Heyler et al., 2016; Wang et al., 2016; Sperber & Linder, 2018). This research provides a deep qualitative examination of the cognitive processes senior executives use to manage their attention and act upon situations that are VUCA. This is an area that is not fully addressed in current research literature, especially in qualitative ways. Further, this research expands our understanding of selective attention by moving beyond research focused primarily on well-defined tasks with known information gaps and into areas where both the task and the relevancy of information are unknown.

Practically, this research may prove helpful to organization human resources management and development functions as well as executive recruiters and executive teams. For example, the cognitive insights this research provides can inform executive selection and development strategies by shedding light on the advanced thinking skills needed to successfully navigate challenging, information-saturated roles. Recruiters can begin screening and testing for these skills while internal development programs can begin nurturing them in potential future executives. For those currently occupying executive roles, this research may additionally provide insights that help improve strategic decision-making and attention management skills.

Summary

As described in this chapter, those in the upper echelons of leadership must make decisions within challenging VUCA environments. These environments bombard them

with information and stimuli which must be dealt with as an early part of the decision-making process. Further, the consequences of bad decisions can be great and costly, both to the individual and the organization. Therefore, it is important to understand the complex cognitive processes in play as executives sort through the myriad of stimuli on their way to making sense of the events unfolding around them and directing the actions of their organization. The next chapter will review what is known and still unknown about these phenomena in the literature and provide a framework to work from based on the literature review. This qualitative research reduces the gap in what is unknown and contributes to a wide body of research around decision-making and selective attention, by creating a grounded theory of the cognitive processes senior military leaders use to manage their limited attention in high-stimuli environments to make high-consequence decisions.

CHAPTER 2: LITERATURE REVIEW

Overview

The focus of this literature review is to provide a clear sense of what is known, and unknown, about psychological phenomena relevant to how those in the upper echelons of leadership navigate information-saturated, high-stimuli environments and act upon situations that are volatile, uncertain, complex, and ambiguous. This chapter will first provide details on how the literature review was conducted, outlining the criteria used for locating and including relevant research. Next, this chapter will present an overview of what is known about the psychological constructs pertinent to the research aims—upper echelon theory, decision-making, sensemaking, and selective attention—but will include some corollary sub-topics that help round out understanding of each phenomenon (e.g., perceptual load theory and cognitive control). Then, a framework of psychological processes for decision-making in high stimuli environments will be presented along with a deeper review of several qualitative research articles that address aspects of the framework. Finally, a biblical foundation for the research is presented.

Description of Search Strategy

A search of Liberty University's Jerry Falwell Library online database (EBSCOhost) was used as the primary method for identifying relevant literature for this review. This method was supplemented with searches of Google Scholar when a lack of content presented. The search focused primarily on identifying journal articles within the past five years containing one of the following key words: *decision-making, decision-making theory, decision-making in crisis, upper echelon theory, cognitive control,*

attention management, selective attention, perceptual load theory, load theory, sensemaking and *VUCA.* Key words were sometimes combined to sharpen the search results (e.g., *decision-making + selective attention,* etc.) and were occasionally paired with other relevant words (i.e., *executive, leadership, senior leader, qualitative,* or *military*) to narrow in on those articles most relevant to this dissertation topic. The scope for each search was then widened beyond the five-year limit to find more seminal works on each topic. Articles deemed irrelevant were eliminated from this review (for example, searches for the term "load theory" returned several articles focused on engineering and power load theories). To identify relevant biblical literature, a study of the book of Proverbs was conducted, leveraging a targeted scripture search using the words *wisdom, clarity,* and *uncertainty*. This same method was employed to identify relevant scriptures that nest this topic within the Grand Narrative framework presented by Wolters (2005).

Review of Literature

The environment that senior executives operate in today has been characterized as volatile, uncertain, complex, and ambiguous (VUCA; Mannor et al., 2016; Intezari & Pauleen, 2018; Merendino & Sarens, 2020; Baran & Woznyj, 2021). Within these VUCA environments, leaders must navigate decisions that threaten grave consequences (Mannor et al., 2016; Intezari & Pauleen, 2018; Merendino & Sarens, 2020), are often high pressure and time constrained (Mannor et al., 2016; Haque et al., 2017; Merendino & Sarens, 2020), and include intense interactions and communication (Simsek et al., 2018). Given uncertainty is a form of risk (Severgnini et al., 2019), leaders should incorporate VUCA realities into their strategic planning paradigms (Baran & Woznyj, 2021) and use

rational decision-making to minimize risks and maximize positive organization outcomes (Severgnini et al., 2019).

There is a deep well of literature on decision-making that informs this process. However, there is still much to be learned about how leaders at the top of organizations (i.e., in the upper echelons) make sense of the world around them (Neely et al., 2020) and navigate decisions of great consequence or of real difference to their organizations (Maureiro-Martinez, 2014; Samimi et al., 2020). The challenge is that VUCA environments typically introduce a barrage of stimuli (i.e., information, emails, texts, phone calls, news feeds, meetings, reports, etc.) that must be dealt with before decision-making processes can begin (Mannor et al., 2016). This is where the literature reveals a gap. The reviewed research does not fully examine the cognitive processes senior executives use to sort through the myriad of stimuli they are presented with as a precursor to decision-making processes (Neely et al., 2020; Butler et al., 2016; Mannor et al., 2016; Sperber & Linder, 2018). My proposed research seeks to fill this gap by exploring how senior military leaders navigate high-stimuli environments and manage their limited attention to make high-consequence decisions and builds upon a theoretical foundation of upper echelon theory (UET), sensemaking, decision-making, and attention management.

Upper Echelon Theory

Strategic leadership deals with leadership from those at the top of organization leadership echelons. Samimi et al. (2020) defines strategic leadership as "the functions performed by individuals at the top levels of an organization (CEOs, TMT members, Directors, General Managers) that are intended to have strategic consequences for the firm" (p. 3). Leaders at this level of organizations have an outsized impact on

organizational outcomes and their relative influence seems to be increasing more and more (Boone et al., 2019; Neely et al., 2020). Because of the important role they play, there is a psychological theory dedicated to understanding how this select group of senior leaders make sense of and act on the situations they face—the upper echelon theory (UET).

The UET has been called "one of the most influential perspectives in the strategic management literature" (Neely et al., 2020, p. 1030) and a micro-foundation to strategic management theory (Bagis, 2020). The theory derives from the foundational work of Donald Hambrick (see Hambrick, 2007), but has been widely researched and studied since the 1980s. The core idea of UET is that executives' experiences, values, and personalities shape the way they make sense of and act upon the situations they face (Hambrick, 2007; Mannor et al., 2016; Wang et al., 2016; Neely et al., 2020; Samimi et al., 2020). Executives translate their understanding through actions and strategic choices, which shape the organization and its activities (Hoskisson et al., 2017; Boone et al., 2019).

Research in UET involves two primary approaches, emphasizing either the top leader (for example, the chief executive officer, CEO) or the top management team (TMT; Jeong & Harrison, 2017) and occasionally both (Georgakakis et al., 2017). Whether focused on TMT or CEO, research on UET is particularly relevant to my research since the attributes of those in the upper echelons of organizations directly impact how they make sense of and act on the events unfolding around them. Some research suggests various attributes of the TMT as better predictors of organization success (Heavy & Simsek, 2017; Wu et al., 2017; Boone et al., 2019). However, most

UET literature focuses on CEOs' attributes such as demographics (Li et al., 2021), experience, personality, values, leadership behaviors, social ties, attention, perception, cognition (Bromiley & Rau, 2016), temporal focus (Gamache & McNamara, 2019), perceived social class origins (Kish-Gephart & Campbell, 2015), celebrity status (Lovelace et al., 2018), and goal orientations (Pryor et al., 2021).

Despite what is known, there is still a recognized gap in literature around the executive's cognitive black box. Hambrick (2007) called this the "well-known black box problem" (p. 335). Research conducted by Neely et al. (2020) identified the continued existence of this research gap and suggested this gap "limits the conceptual, and especially the practical, contributions of the theory" (p. 1033). They offer the specific research question "How and why do executives focus on different types of information in the sensemaking and sensegiving processes?" (p. 1037). Their review, along with other supporting assertions, make it clear the upper echelon's cognitive black box needs to be unpacked more to help us understand how these executives make sense of the VUCA world around them (Butler et al., 2016; Mannor et al., 2017; Neely et al., 2020; Wang et al., 2016; Sperber & Linder, 2018).

Sensemaking

As noted above, there are two core cognitive components to UET—how leaders *make sense of* and *act upon* the events unfolding around them. Before shifting attention to what the literature says about how senior executives act upon situations, it is important to understand what the literature says about how those in the upper echelons make sense of the world around them. The psychological term for this process is sensemaking.

Sensemaking is a core component of UET and can be defined as the process of interpreting and ascribing meaning to the events that happen around us to generate understanding and facilitate action (Weick et al., 2005; Brown et al., 2015; Kilskar et al., 2020; Schildt et al., 2020). Sensemaking is important in VUCA environments, with some defining it as a process uniquely suited to help leaders reach an understanding of ambiguous, novel, or confusing events (April & Chimenya, 2019; Brown et al., 2015). Zhang and Soergel (2020) liken the process to knowledge construction, placing it in the same realm as learning. Similarly, Kalkman (2019) provides an important reminder that the product of sensemaking is a constructed understanding of reality and may not be reflective of actual reality.

The sensemaking process typically starts when a leader is faced with something unexpected (de Graff et al., 2019) or is subjected to chaos (Weick et al., 2005), but can also be emotionally driven (Maitlis et al., 2003). The process can be impacted by context, language, identity, cognitive frameworks, emotion, politics, and technology (Kilskar et al., 2020), event intensity (de Graff et al., 2019), and executives' mental models (Holmlund et al., 2016). Despite what is known, the actual cognitive process of sensemaking is not well understood, a fact highlighted by Parry (2003) and over 15 years later by Kilskar et al. (2019). Researchers continue to disagree on the exact process (see Weick et al., 2005; Schildt et al., 2020; de Graff et al., 2019); however, the stickier model seems to center on seven different sensemaking tactics: dealing with emotions, recognizing the circumstances, seeking outside help, questioning own and others' judgment, anticipating consequences of actions, analyzing own personal motivations, and considering the effects of actions on others (de Graff et al., 2019; Parry, 2003).

Several researchers have drawn attention to the closely knit relationship between sensemaking and decision-making, with Brown et al. (2015) best stating that these two processes are intertwined in "complicated" ways (p. 271). This idea is supported by the contrasting notions of Baran and Scott (2010) and Ancona (2012), who disagree on whether sensemaking is nested within decision-making or vice versa. Referring to the early definition from Weick (2005) and our preferred definition above, I believe it is best to understand sensemaking as a cognitive process that takes place prior to the decision-making process and as a preparatory step to *facilitate action*.

Decision Making

There is a deep well of literature around decision making theory at all levels of leadership. Decisions made by those in the upper echelons are typically characterized as strategic decisions, which can have a real and significant impact to organizations (Laureiro-Martinez, 2014). Kahneman et al. (2019) describe strategic decisions as inherently evaluative judgments that "tend to involve the distillation of complexity into a single path forward" (p. 67). Given the outsized impact leaders at the top have on organization outcomes (Boone et al., 2019), it is important for the upper echelons to use structured decision-making processes, when possible, to improve decision outcomes (Kahneman et al., 2019).

Decision making is most typically discussed as a process (Severgnini et al., 2019; Lucena & Popadiuk, 2020; Fromer & Shenhav, 2022) where decision-makers are generating and choosing among alternatives (Jackson et al., 2017; Intezari & Pauleen, 2018). Jackson et al. (2017) states this most clearly in describing decision-making as "the process by which courses of actions are constructed and chosen to be initiated" (p. 209).

Decision-making processes have links to learning (Aidman et al., 2019; Al-Dabbagh, 2020) and can be rational or intuitive and vary in degree of structure and formality (Severgnini et al., 2019; Lucena & Popadiuk, 2020). There is a wide range and diversity of decision-making models described throughout literature, from the highly structured and formal Military Decision Making Model (Banks et al., 2020) to the very unstructured and informal models that draw heavily on intuition or tacit knowledge (Lucena & Popadiuk, 2020).

Regardless of approach, many factors can impact decision quality. Individual factors such as fatigue (Aidman et al., 2019; Uhrecký et al., 2020), anxiety and stress (Mannor et al., 2016; Haque et al., 2017; Al-Dabbagh, 2020), experience, focus, and personality can impact decision quality (Wang et al., 2016; Haque et al., 2017; Rüsch et al., 2019; Benischke et al., 2019; Ganache & McNamara, 2019; Fromer & Shenhav, 2022). Cognitive abilities and neurological differences are shown to impact both decision-making skills (Del Missier et al., 2012; Hoekstra & Montz, 2017; Intezari & Pauleen, 2018; Paes et al., 2019; Roman et al., 2019) and overall decisiveness (Jackson et al., 2017). Mental models can further present limitations (Kahneman et al., 2019) while introducing costly biases (Liu et al., 2017; Merendino & Sarens, 2020).

Contextual factors also impact how executives navigate hard decisions (Hoekstra & Montz, 2017; Paes et al., 2019; Al-Dabbagh, 2020). In VUCA environments specifically, decision makers tend to find themselves bouncing between multiple ill-defined and difficult problems which can strain their attentional resources (Sarathy, 2018; Srna et al., 2018), break down formal processes (Banks et al., 2020), drive accuracy-speed tradeoffs (Fromer & Shenhav, 2022), and yield suboptimal outcomes (Norris et al.,

2020). Excess stimulation makes hard decisions more difficult (Mannor et al., 2016; Uhrecký et al., 2020); however, managing one's attention well has been shown to reduce uncertainty and minimize risks (Severgnini et al., 2019; Fromer & Shenhav, 2022).

Attention Management

Not enough attention has been given to understanding how executives navigate the vast amounts of stimuli projected towards them each day and filter through information to make sense of the situations unfolding around them (Parry, 2003; Schildt et al., 2020; Neely et al., 2020). While selective attention is the core psychological process at work here, perceptual load theory and cognitive control are also relevant in VUCA environments.

Selective attention is an imperfect process that assigns limited attentional resources to task-relevant stimuli (Stevens & Bavelier, 2012; Laureiro-Martinez, 2014; Murphy et al., 2016; Jo et al., 2021). Cochrane et al. (2020), offer the most thorough formal definition, "Selective attention refers to the preferential processing of a subset of the available information in the environment along with some concomitant decrease in the processing of the remaining information" (p. 3072). The process is imperfect since it is inherently biased (Awh et al., 2012; Cochrane et al., 2020) and prone to cause errors in decision-making. For example, Fromer and Shenhav (2022) found that, "the longer an option is attended to, the more likely it is to be selected" in decisions (p. 6).

Attentional control is what allows a person to stay focused on task-relevant information while ignoring task-irrelevant information and distractions (Laureiro-Martinez, 2014; Murphy et al., 2016). Stevens and Bavelier (2012) explain that competing stimuli can be either external (audio/visual) or internal (thoughts/habitual

responses) and as pointed out by Awh et al. (2012), most environments contain way more information and stimuli than we can attend to or process. This presents challenges for all people but especially those in the upper echelons given it takes approximately 23 minutes to fully recover from a distraction (Orhan et al., 2021). The mechanisms for exerting control over one's attention have been characterized as top-down (i.e., internal and goal-driven factors), bottom-up (i.e., external and emergent factors), and feature-based (i.e., elevating stimuli deemed particularly relevant), although some might argue that feature-based is subordinate to top-down control (Awh et al., 2012; Vo, 2020; Kilskar et al., 2020; Khosravi et al., 2020; Fromer & Shenhav, 2022).

There are several factors that impact selective attention. Fortenbaugh (2015) studied more than 10,000 people and found attention abilities are impacted by age, with a peak in abilities occurring in a person's mid-40s. This can be particularly concerning given many leaders in the upper echelons are beyond the age of 40. Other individual-level attributes include interests and preferences (Macintyre & Graziano, 2016), loss aversion (Pachur et al., 2018), worry and rumination (Hur et al., 2019), stress (Morelli & Burton, 2009), working memory abilities (Gazzaley & Nobre, 2012; Chen et al., 2019), and one's meta-awareness (i.e., ability to notice distractive states; Sandved-Smith et al., 2021). Stimuli that is emotional can also manipulate a person's attentional focus (Khosravi et al., 2020). Multi-tasking impacts attention performance and is hard to do well without very deliberate strategies (Nijboer et al., 2013; Srna et al., 2018). Two other factors—perceptual load and cognitive load—are significant enough to warrant a deeper examination given their likelihood of being tested in VUCA environments.

Perceptual load theory states that attentional resources are finite, and people can only focus on and process a limited amount of stimulation, depending on their resource supply (Macdonald & Lavie, 2008; Li et al., 2018; Jo et al., 2021). As stated by Jo et al. (2021), "Faced with multiple stimuli, this capacity-limited perceptual resource is allocated in an involuntary, automated manner on all items until it runs out…unutilized capacity would be obligatorily allocated to other stimuli" (p. 1). The more relevant the distractor, the greater the interference on one's attention and performance (Manini et al., 2021). Periods of high load and technology strain can hinder attention and limit the amount of information one can attend to or process (Macdonald & Lavie, 2008; Murphey et al., 2016; Wei & Zhou, 2020; Miller et al., 2021; Orhan et al., 2021). High perceptual load, as would be expected in high-stimuli and/or VUCA environments, has been linked to load-induced blindness (Macdonald & Lavie, 2008) and cognitive fatigue (Murphy et al., 2016).

Cognitive control is another important aspect of attention management and is the mechanism that allows people to grab control of their attention (Appelbaum et al., 2014). By definition, it is the process of regulating cognitive effort based on assessments of and changes to the situation at hand (Laureiro-Martinez, 2014; Jackson et al., 2017; Nigg, 2017). Research from Appelbaum et al. (2014) revealed that cognitive control allows people to strategically allocate attention to mitigate distractors and monitor and adjust behaviors (Appelbaum et al., 2012). Research from Chen et al. (2019) showed a close linkage between cognitive control and fluid intelligence and recommended cognitive segmentation, or breaking problems into smaller components, to manage high loads. With proven links to decision making (Del Missier et al, 2012; Jackson et al, 2017; Fromer &

Shenhav, 2022), it is important to understand how the upper echelons manage their limited attention, sort through the many distracting stimuli, and narrow in on the information they need to make high-consequence decisions in a VUCA environment.

However, much of the research around attention management focuses on task irrelevant distractors when the task at hand is known (for examples, see Cochrane et al., 2020; Jo et al., 2021; and Li et al., 2018). This leaves a wide gap in understanding how executives deal with information saturation or distracting stimuli when they are unsure of what information is relevant or irrelevant to the problem at hand (as might be expected in rapidly unfolding VUCA environments). Further, while there were a few studies that paired qualitative data with quantitative research (see Vo, 2020), there were little to no purely qualitative research studies found that focused on understanding the cognitive processes of selective attention in the upper echelons of leadership.

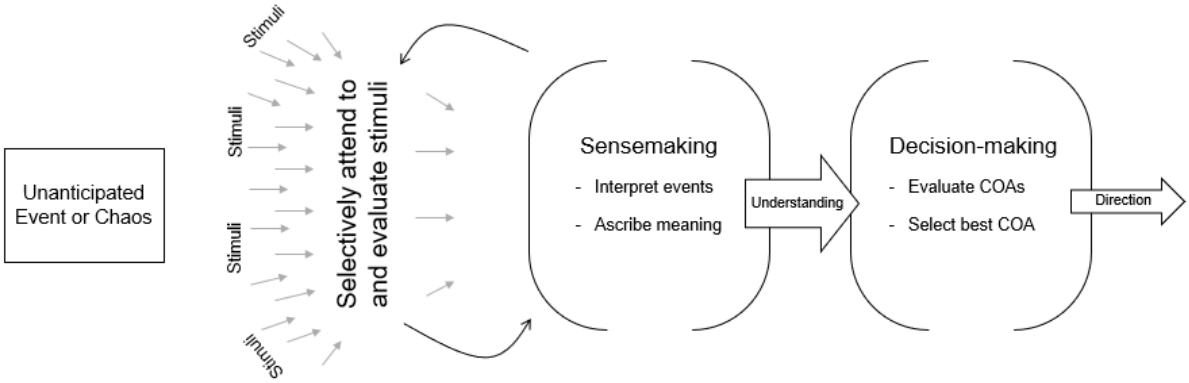
Decision-making in High Stimuli Environments

Based on the literature, in high-stimuli or VUCA environments, decision-making is preceded by both the sensemaking and selective attention processes. When understood in proper relation to each other, the psychological processes form a sequence of events as represented in Figure 1 below. When an unexpected event or chaos presents itself, a leader is typically bombarded with stimuli and information (Intezari & Pauleen, 2018; Baran & Woznyj, 2021), which they must selectively attend to in order to evaluate for relevance (Laureiro-Martinez, 2014; Murphy et al., 2016; Cochrane et al., 2020). Next, they must use this information to make sense of the unfolding situation by interpreting and ascribing meaning to it, returning to and selectively attending to additional information or stimuli as needed, to generate clarity and understanding (Baran & Scott,

2010; Brown et al., 2015; April & Chimenya, 2019; de Graaf et al., 2019). Finally, at this point, the leader is ready to develop and evaluate potential courses of action (COA) and select the best one. Once a COA has been selected, the leader provides direction for the organization to act upon (Jackson et al., 2017, Kahneman et al., 2019; Fromer & Shenhav, 2022).

Figure 1.

Decision-Making in High Stimuli Environments



Pertinent Qualitative Research on Decision-Making in VUCA Environments

Up to this point, both quantitative and qualitative literature around psychological constructs relevant to this research have been reviewed. There were 22 quantitative studies performed addressing constructs relevant to my research—UET, sensemaking, decision-making, and attention management (selective attention, perceptual load theory, and cognitive control)—but none of these studies specifically addressed how those in the upper echelons managed their limited attention to make decisions in a high stimuli environment. The most relevant studies were qualitative, which will be the subject of the following section in this literature review.

There are many qualitative studies of decision-making processes in general (Gullo & Beachum, 2020; Paes et al., 2019; Intezari & Pauleen, 2018), some with military populations (Heyler et al., 2016; King & Snowden, 2020), and some attempting to unpack the cognitive black box (Heyler et al., 2016; Wang et al., 2016; Liu et al., 2021). These qualitative articles focus mostly on understanding sensemaking and decision-making processes, both of which are relevant to my research. However, there is still an important gap in qualitative literature on understanding how the upper echelons manage their limited attention to make strategic decisions within high stimuli environments.

Qualitative Research in Sensemaking

Several articles provide qualitative research on sensemaking processes in VUCA-type environments. Baran and Scott (2010) examined sensemaking in dangerous, ambiguous, and rapidly changing environments and developed a grounded theory of leadership processes in extreme situations. Their research drew upon observational visits, ethnographic-style interviews, and (primarily) a random selection of 100 near-miss reports from fire-emergency workers (from a sample of 963 reports).

The researchers coded these near-miss reports using constant comparative methods and hierarchical coding, drawing on their observational visits to inform their codes. They described the process as, “Analysis begins with open coding as the researcher codes as many categories as possible line by line and then proceeds to higher levels of abstraction as codes are eliminated, combined, and united under higher order categories” (p. S50). Once fully coded, the researchers looked for connections and opportunities to combine or collapse codes, until themes emerged that captured their insights. Results showed three broad categories that captured how emergency workers

organized ambiguity as a part of their sensemaking processes—framing, heedful interrelating, and adjusting—and eight themes—direction setting and knowledge (both part of framing); talk, role-acting, role-modeling, and trust (all part of heedful interrelating); and situational awareness and agility (both part of adjusting). One potential limitation of this study is the influence of retrospective bias, given these near-miss reports were collected after the events transpired.

Another relevant qualitative study comes from April and Chimenya (2019). In this research, the authors employed a qualitative phenomenological methodology to answer the research question: "What are the sensemaking constructs employed by leaders in a VUCA world?" (p. 18). In choosing their sample, the researchers established the critical criterion that participants had to be leaders or managers that were in decision making roles within their companies.

This led them to interview 18 participants from Namibia (via purposive and snowball techniques) using an interview protocol and semi-structured questions, both face to face (n=16) and telephonically (n=2). Interviews were transcribed and coded using both open and axial coding techniques. This produced 20 code families and seven broad themes: 1) understanding the complex and unfamiliar situations; 2) leader self-awareness; 3) creativity, risk-taking and change; 4) decision making under multiple options; 5) decision making under uncertainty; 6) leader resources; and 7) role of relationships. Another key insight they found was that leaders need to develop successive approximation skills to make better decisions in conditions of uncertainty. This "requires that leaders develop the ability to move forward even in the absence of complete information" (p. 28).

Kalkman (2019) researched crisis situations to identify the sensemaking questions crisis response teams need to address in order to respond effectively. This grounded theory research involved observing six crisis exercises and post-exercise discussions amongst participants, yielding approximately 18 hours of data. Participants were members of Dutch tactical response teams and included members of the police, firefighters, health services, municipal officials, and military personnel.

The exercises were recorded, transcribed, and coded to identify three emerging themes/questions which leaders should help answer to facilitate sensemaking among their teams. These questions were critical to helping people make sense not only of what is happening, but also their role and actions. The question “what is happening in this crisis?” helps provide situational sensemaking. Asking “who am I in this crisis?” helps with identity-oriented sensemaking. Finally, the question, “how does it matter what I do?” helps with action-oriented sensemaking.

This model expands the focus of sensemaking beyond the incident itself and draws in personal conceptions of meaning and interactions with the incident. However, one big limitation is the team of participants were removed from an actual incident site and therefore may not experience some of the real emotions and stress that leaders on the front line of an incident might face.

One final qualitative grounded theory study, which focused on sensemaking, provides a connection between the sensemaking process and newly found information. Zhang and Soergel (2020) conducted a qualitative study of 15 student participants to better understand how people use information to make sense of unfolding events. Each of

the 15 students was given a task that required they gather information, synthesize it into an understanding, explain causal links and outcomes, and write a short report.

Data was collected via recorded task activity, spoken thoughts, semi-structured interviews (post session), and documents produced in the session. Data was transcribed, coded, and sequenced on a timeline in order to identify cognitive mechanisms used by participants. Findings allowed the researchers to generate a prototypical sequencing of both top-down and bottom-up mechanisms and identify four broad groupings of cognitive mechanisms—processing new data, examining concepts, examining relationships, and examining anomaly.

Additionally, Zhang and Soergel (2020) offer up some insightful themes. For example, they found, “cognitive mechanisms that allow sensemakers to relate new information to prior knowledge are critical in sensemaking” (p. 168). Further, when that new information conflicts with previous held beliefs, people will experience internal conflict in their sensemaking processes. A final interesting contribution is that the authors liken the sensemaking process to knowledge construction and place it in the same realm as learning.

Qualitative Research in Decision-Making

In addition to these research articles on sensemaking, there are several relevant qualitative research articles on decision-making in environments that mimic VUCA. Uhrecky et al. (2020) studied the emotional regulation of paramedic crews in a simulated task that quickly introduced stress to the team. The researchers videotaped crew reactions to assess facial expressions, body language, and voice modulation, and performed post task interviews as a part of their phenomenological research. Research involved 30 crew

members across multiple crews ranging in size from 3-5 members; however, this qualitative research focused solely on crew leaders (n=~9; this was not stated explicitly but deduced from total participants divided by crew size as described in the article).

All collected data was coded using a codebook of emotional behavior and list of regulatory strategies created by the researchers. Lists and codebook were reviewed and refined multiple times by the research team. Results indicated that leaders used both task-related and self-supported emotion regulation strategies which contain 14 subcategories between them. Task-related strategies included sub-strategies such as attention narrowing, monitoring, and reflection, and served to enhance performance, "which included regulation of distractive emotions and management of emotional arousal to meet the task's demands" (p. 94).

According to the researchers, these tasks overlapped with "macrocognitive processes such as situation awareness, uncertainty management, and decision-making" (p. 100). Self-supported strategies included sub-strategies such as emotional distancing, detachment, and positive self-talk, and were primarily for "attenuation of negative emotions and/or induction and amplification of positive emotions" (p. 94). One limitation to be considered is the lack of avoidance options present in this simulated task. The researchers identified that several crew members said they would have escaped the escalating event (which posed great personal threat) if that would have been an option. Nonetheless, the task still simulated a highly emotional and stressful situation which allowed researchers to assess crew and crew leader emotional regulation strategies.

Another qualitative study of decision making in crisis comes from Al-Dabbagh (2020). This research used grounded theory methodologies to examine the role of

decision-makers in crisis management as well as the crisis decision-making process. The research used the COVID-19 pandemic as the crisis and leveraged document analysis and transcripts from open-ended interviews with 15 decision-making officials, who were purposively sampled.

Interviews were conducted in a stepwise fashion to allow the theory to emerge throughout the study process. The researcher coded documents and transcripts and compared codes between the two to allow the theory to develop. Findings revealed eight key crisis decision-making concepts: 1) meaning of decision; 2) meaning of the crisis decision-making process; 3) stages of the crisis decision-making process; 4) crisis decision-making's response; 5) crisis management; 6) crisis decision-making strategies; 7) decision-making skills; 8) the role of decision-maker in crisis.

Each of these concepts was further broken down into important components. For example, Al-Dabbagh (2020) identified the stages for crisis decision-making as: defining and diagnosing the problem, identifying alternatives, evaluation of alternatives, choosing appropriate alternative, and implementing and evaluating the decision. The researcher emphasized that defining and diagnosing the problem (which I liken to sensemaking) is the most important stage since it impacts all subsequent stages.

The final research article to be reviewed in this section is a qualitative synthesis of literature. While it is not an original qualitative study (such as grounded theory or phenomenology, etc.), the article from Acciarini et al. (2020) provides some important insights for decision-making in VUCA environments. This research investigated the question, “What are potential interrelations among cognitive biases, strategic decisions, and environmental transformations?” (p. 639).

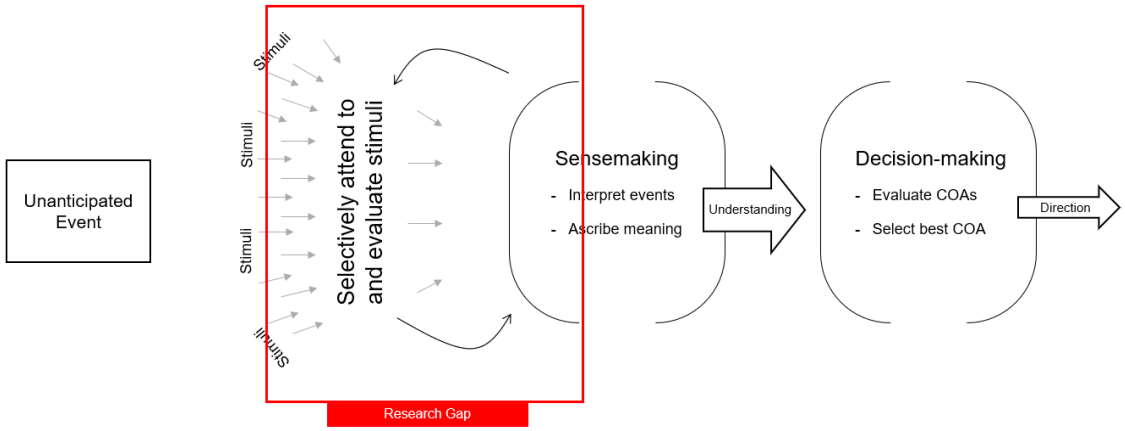
The authors reviewed literature relevant to these topics from 1984-2019 and ended up with 52 journal articles for inclusion (from an initial pool of 119 that met their criteria). The researchers' main findings revealed key components of the decision-making process from existing literature, general factors influencing strategic decisions, and the role of cognitive biases. Some insights from this review are that the collection of relevant information to inform decisions was included as a core phase of the decision-making process (a process similar to selective attention) and strategic decision-makers are both cognitively limited and prone to cognitive biases. The authors gave a list of cognitive biases explored throughout the literature they reviewed, many of which are important considerations when trying to understand how the upper echelons navigate VUCA environments and make decisions (e.g., framing bias, perceptions of the environment, risk perception).

While each of these research articles explore various elements of the decision-making and sensemaking processes outlined in Figure 1, none of these articles shine light on the cognitive processes the upper echelons use to manage their limited attention and filter information in high-stimuli environments to act upon situations that are volatile, uncertain, complex, and ambiguous. As highlighted throughout this review, there is still an important gap in the literature around the executive's cognitive black box that needs further investigation. Neely et al. (2020) identified a lack of research on the upper echelons' cognition processes, specifically highlighting calls to understand what information executives look for, attend to, and deem important (i.e., selective attention), and challenged researchers to investigate "how and why executives focus on certain kinds of information in the sensemaking and sensegiving processes" (p. 1037). Figure 2

highlights the location of this qualitative research gap within the theoretical model of decision-making in high stimuli environments.

Figure 2.

Decision-Making in High Stimuli Environments, with Research Gap Highlighted



Biblical Foundations of the Study

A strong foundation for this research also exists in writings beyond academic journals and social science research. A biblical foundation for these ideas is rooted first in the Christian Grand Narrative, but also in teachings on wisdom from the book of Proverbs. Wolters (2005) describes the Christian Grand Narrative as having three fundamental dimensions, “The original good creation, the perversion of that creation through sin, and the restoration of that creation in Christ” (p. 12). This Grand Narrative can be applied to all aspects of life, to include leadership and how senior executives make decisions in VUCA environments.

Application of the Grand Narrative to my research topic is summarized as follows: God’s creation is perfect (*English Standard Version [ESV]*, 2001, Gen. 1:27,

1:31), but the fall (*ESV*, 2001, Gen. 3) introduced struggle and strife into the world (*ESV*, 2001, Gen. 3:17-19; Rom. 3:9-18). This struggle extends into our mandate to work and into the organizations we work in (*ESV*, 2001, Gen. 2:15; Col. 3:23). God has gifted and appointed leaders (*ESV*, 2001, Rom. 12:6-8, 13:1) who must navigate an uncertain future while making decisions (*ESV*, 2001, Prov. 16:9, 27:1; Matt. 6:34), stay focused on what matters the most (*ESV*, 2001, Col. 3:2; Matt. 6:24), and lead their organizations with wisdom (*ESV*, 2001, Prov. 14:8, 24:6) in hope of glorifying God (*ESV*, 2001, 1 Cor. 10:31).

A more specific biblical foundation for these ideas can be found in the book of Proverbs (*ESV*, 2001). Proverbs 2:1-15 contains teaching on the value of wisdom and instructs us to "seek it like silver, and search for it as for hidden treasures" (*ESV*, 2001, Prov. 2:4). This applies equally to leaders navigating high-stimuli situations. Additionally, we are reminded that wisdom, knowledge, and understanding all come from God (*ESV*, 2001, Prov. 2:6). If we "call out for insight and raise [our] voice for understanding" (*ESV*, 2001, Prov. 2:3), "wisdom will come into [our] heart, and knowledge will be pleasant to [our] soul; discretion will watch over [us], understanding will guard [us], delivering [us] from the way of evil" (*ESV*, 2001, Prov. 2:10-12). Even in VUCA environments, God is the source of wisdom. He will give it to those leaders who call out to Him for insight and understanding.

One final passage from Proverbs has unique application to my research on how leaders navigate high-stimuli environments to make strategic decisions. Proverbs 4:25-27 states, "Let your eyes look directly forward, and your gaze be straight before you. Ponder the path of your feet; then all your ways will be sure. Do not swerve to the right or to the

left; turn your foot away from evil" (*ESV*, 2001). This passage speaks directly toward the need to manage one's attention and stay focused on that which matters the most. This is exactly what leaders must do to make good decisions in environments that are volatile, uncertain, complex, and ambiguous.

There are also several biblical examples of leaders who find themselves in such volatile situations requiring they manage their limited attention. Two specific examples are Job and David. Job was a wealthy and influential man, "the greatest of all people in the east" (*ESV*, 2001, Job 1:3). While Job's riches and influence seemed to be expanding, God allowed Satan to test his faith (*ESV*, 2001, Job 1:12). Job lost all of his property and children and Satan even attacked his health. To make matters worse, the people around Job—his friends and his wife—began to accuse and tempt him to turn from his unrelenting faith in God (*ESV*, 2001, Job 2:9, 8:2-3, 11:6, 15:4). Initially, Job holds steady and keeps his eyes clearly on God's purpose and sovereignty over all that is happening:

> For I know that my Redeemer lives, and at the last he will stand upon the earth. And after my skin has been thus destroyed, yet in my flesh I shall see God, whom I shall see for myself, and my eyes shall behold, and not another. My heart faints within me! (*ESV*, 2001, Job 19:25-27)

However, Job eventually begins questioning why God has allowed these things to happen, even accusing God at times (*ESV*, 2001, Job 29-31). Then, God pays Job a visit (*ESV*, 2001, Job 38-41) which helps him regain perspective and make sense of why these events have unfolded as they did. In Job 42:2-3 (*ESV*, 2001) Job proclaims, "I know that you can do all things, and that no purpose of yours can be thwarted…Therefore I have

uttered what I did not understand, things too wonderful for me, which I did not know" (*ESV*, 2001, Job 42:2-3). Showing His unrelenting grace, God restored Job's position as a man of great influence and wealth.

One more example can be found in the story of King David and the situation he faced in dealing with his son Absalom's challenge for the throne. The story is told in 2 Samuel 13-19 (*ESV*, 2001). Absalom killed his brother Amnon and fled Jerusalem for three years. After returning, he spent another two years apart from King David before eventually conspiring to take over the throne (*ESV*, 2001, 2 Sam 15:1-13). David fled with his household and was in obvious distress (*ESV*, 2001, 2 Sam 15:30). His advisors were away from him, back in Jerusalem, and he was being cursed as he went (*ESV*, 2001, 2 Sam 16:7). The situation was VUCA and David was certainly having to think quickly and make sense of the events as they were unfolding around him. Eventually, Absalom mustered an army against David and King David organized and prepared an army of his own. He was preparing to fight with his men, but instead attended to the wise counsel of his men to stay back away from the fight (*ESV*, 2001, 2 Sam 18:3-4). Absalom was killed in the battle and, rather than celebrating victory, David, who was immediately overtaken with emotions, wept, and called for mourning (*ESV*, 2001, 2 Sam 19:1-2). Recognizing the danger in this response, Joab provided counsel to David, proclaiming,

> Now therefore arise, go out and speak kindly to your servants, for I swear by the Lord, if you do not go, not a man will stay with you this night, and this will be worse for you than all the evil that has come upon you from your youth until now. (*ESV*, 2001, 2 Sam 19:7)

Once again, David heeded the advice, changed his response, and sat at the gate for his people to see (*ESV*, 2001, 2 Sam 19:8). David was restored in Jerusalem, however his time as King faced many more challenges (*ESV*, 2001, 2 Sam 20-21). Upon being delivered from his enemies, King David gave glory to God, proclaiming in 2 Samuel 22:2-4:

> The Lord is my rock and my fortress and my deliverer, my God, my rock, in whom I take refuge, my shield, and the horn of my salvation, my stronghold and my refuge, my savior; you save me from violence. I call upon the Lord, who is worthy to be praised, and I am saved from my enemies. (*ESV*, 2001).

Both the story of Job and King David provide examples of biblical figures who were faced with rapidly unfolding situations that seemed volatile, uncertain, complex, and ambiguous. As their worlds seemingly fell apart (for Job, losing his wealth and children; for David, being challenged for the throne from his son), both men were offered counsel and information they had to sort through in order to make sense of what was happening around them and to them. While the Bible does not provide details on the cognitive processes these men used, we do know they both displayed strong and unwavering faith in God's sovereignty and both ascribed ultimate glory to God for His restorative grace.

Summary

The upper echelons of leadership regularly face difficult and high-consequence decisions in environments that are VUCA, high-pressure and time constrained. These decisions are often paired with an onslaught of stimuli—emails, phone calls, briefings,

crises, interruptions, news stories, emergent tasks, routine tasks, meetings, and more—that must be dealt with to maximize decision outcomes. Senior executives must manage their limited attention resources to triage, prioritize, and sort through these stimuli as a precursor to decision-making, leveraging sensemaking in the process. The Bible provides practical guidance for leaders to seek wisdom and stay focused on what matters the most. However, more research is needed to understand the cognitive processes those in the upper echelons use to manage their limited attention in such environments while making decisions.

While some research exists on these phenomena, there is still a recognized gap around the senior executive's cognitive black box and how executives manage their limited attention in high-stimuli environments to make high-consequence decisions. There is particularly a gap in qualitative research exploring these phenomena, where little or no existing literature could be found. This qualitative research seeks to fill this gap by studying the cognitive processes senior military leaders use to manage their limited attention in high-stimuli environments to make high-consequence decisions in a world that is increasingly volatile, uncertain, complex, and ambiguous.

CHAPTER 3: RESEARCH METHOD

Overview

This chapter provides an overview of the specific methodology used in the research. It begins with a review of the stated research questions and then discusses the specific research design employed to best answers these questions. Next, an explanation of participant group and sampling technique is provided. This will help set up a discussion on the specific study procedures, to include how research participants were recruited, as well as the instruments that guided data collection. Finally, an explanation of the coding and analysis procedures is provided, before closing this chapter with a discussion on assumptions and limitations.

Research Question

RQ 1: In high stimuli environments, how do senior military leaders manage their limited attention as a part of their decision-making process?

Research Design

This qualitative research study utilizes a grounded theory methodology. The choice of a qualitative method versus a quantitative method reflects the desire to understand the phenomenon from the voice of the research participants. One advantage of qualitative research is its ability to add more texture and detail to the study (Mack et al., 2005). Heyler et al. (2016) provides a useful perspective that helped shape my decision; they state “unobservable cognitive and behavioral influences on the leadership process are more difficult to assess in quantitative studies. Contrarily, in qualitative studies, these

influences can more readily be assessed and described" (p. 789). Additionally, given the recent calls for more (and better) qualitative research in the field of industrial organizational psychology (Pratt & Bonnacio, 2016; Scholtz et al., 2020), a qualitative grounded theory approach adds an important contribution to the body of research in the field of study.

The purpose of grounded theory research is to "move beyond description and to generate or discover a theory, a 'unified theoretical explanation' for a process or action" (Creswell & Poth, 2018, p. 82). The goal of this study is to generate a theory of how senior executives navigate information-saturated and high-stimuli environments to manage their attention and makes sense of events unfolding around them. As described by Camic et al. (2021), grounded theory is the right method when the "ultimate aim is not simply to describe and classify the data into categories but also to develop a theory grounded in the data" (p. 38).

The comment by Camic et al. (2021) captures the intent of this research well and is reflected in the research question, which emphasizes "how" over "what." This design has precedent in qualitative studies on decision-making and sensemaking (for examples, see Baran & Scott, 2010; Al-Dabbagh, 2020; Intezari & Pauleen, 2018; King & Snowden, 2020; Gullo & Beachum, 2020; Heyler et al., 2016; Haque et al., 2017; Paes et al., 2019; Hoekstra & Montz, 2017). Based on the literature discussed, the qualitative grounded theory approach was selected as the most effective method for fulfilling this research's purpose.

Participants

This research studied recently retired senior military leaders, from all branches of the U.S. armed forces, to understand how they manage their limited attention to make decisions in high-stimuli environments. To be included, participants must have retired within the past three years in the grade of colonel (O-6) or above and held key positions such as wing commander, installation commander, group commander, or headquarters-level policy chief. These specific positions are generally prone to information saturation and complex, high-consequence decisions on a regular basis. Most of the people who fit all these criteria are over the age of 45 with more than 20 years of military leadership experience.

Participants were recruited using purposeful, snowball, and theoretical techniques by leveraging social media (LinkedIn), personal networks, and emailed recruitment letters. These techniques were selected based on the reviewed research and ready access to a population of retired officers who met the required criteria for this study. These retired officers have their own strong networks that were leveraged to identify additional participants that met the criteria.

Purposeful sampling is a strategy used to select participants who can "purposefully inform an understanding of the research problem and central phenomenon in the study" (Creswell & Poth, 2018, p. 158). Theoretical sampling techniques refer to "selecting participants that are most relevant to understanding the dynamics of the phenomena under investigation" (Haque et al., 2017, p. 116). Snowball techniques identify "cases of interest from people who know people who know what cases are information-rich" (p. 159).

The sampling procedures followed closely to those used by other qualitative studies on decision-making and sensemaking with both military and non-military populations. Heyler et al. (2016) used both purposive and snowball sampling in their qualitative grounded theory on ethics in decision-making in the military. King and Snowden (2020) used purposive, convenience, and theoretical sampling in their grounded theory of military mental health providers' decision-making under competing demands. Finally, April and Chimenya (2019), used both purposive and snowball sampling techniques in their phenomenological study on how leaders use sensemaking as a part of their lived experiences in a VUCA world.

Sample size varied across the qualitative research studies reviewed, ranging from as low as six (Gullo & Beachum, 2020) to as high as 40 (Haque et al., 2017). Narrowing to grounded theory research studies focused on elements of decision-making, sample size still varies, but to a slightly lesser degree. Gullo and Beachum (2020) interviewed six principles in their study of discipline decisions. Al-Dabbagh's (2020) study of decision-making in crisis sampled 15 decision-makers. King and Snowden (2020) interviewed 20 participants in their research on complex decision-making in military health care. Intezari and Pauleen (2018) used a larger sample of 37 participants in their grounded theory research on wise decision-making. Heyler et al. (2016) developed a model of ethical decision-making using interview data from 25 military officers. Paes et al. (2019) interviewed 12 doctors for their research on decision-making in medical training. Finally, Hoekstra and Montz (2017) had a sample size of 23 for their qualitative research into decisions under duress. Based on review of the research and factors explained in the

following paragraphs, a sample population of 15 retired officers is acceptable and will be used for this research.

Another important concept to understand when it comes to sample size is theoretical saturation. Saturation generally refers to the point in data collection where no new insights are being generated (Creswell & Poth, 2018; Camic, 2021) and has been characterized as orthodoxy and the gold standard in qualitative research (Saunders et al., 2018). Saturation relies on researcher judgment, and there is some confusion around how to know exactly when one has reached saturation (Saunders et al., 2018) and therefore much is left to the researcher to know when to cease collecting data. Otherwise stated, there is little exactness in saturation.

Another approach to assessing sample size, even though it may not be more exact, is called information power (IP). The framework for IP is presented by Camic (2021) and is founded on the idea that there is no formula for determining sample size in qualitative research, but instead sample composition should be guided by a set of principles which help build information power into the study. The larger the IP, the smaller the required sample. Using the dimensions of aim (narrow versus broad), specificity (dense versus sparse), theory (applied versus none), dialogue (strong versus weak), and variation (diverse versus homogenous) it is possible to constantly assess IP in one's sample and let these dimensions guide the researcher toward the right sample composition (smaller versus larger, respectively; Camic, 2021).

The research approach utilized the IP method to assess the adequacy of the sample. Based on an assessment of the research having a narrow study aim, dense specificity, and strong applied theory, the dimensions that primarily drove sample

composition were strength of dialogue during data collection and diversity of participant sample. Based on the combined concepts of saturation and IP, a target sample size of 15 participants was determined to be sufficient for this research study.

Study Procedures

A post was made to LinkedIn to solicit for study participation (Appendix A). All potential participants were then contacted via an emailed recruitment letter (Appendix B), which was followed up with additional letters until enough participants were secured. All emails were sent from the researcher's student email account and included a consent form for review, signature, and return (Appendix C). The consent statement disclosed the intent and purpose of the research, along with any risks and benefits, and outlined the voluntary nature of participation, which could be terminated at any time. All emailed recruiting correspondence was downloaded from the server and secured via methods described below. Further, the informed consent statement was reviewed at the beginning of the interview session for verbal consent to continue. This recruitment method was consistent with qualitative research from King and Snowden (2020), which used a military population and was approved by the U.S. Air Force Human Research Protection Office.

Interviews were primarily conducted virtually, using a web-based and video-enabled meeting software. The use of virtual data collection is not uncommon in similar qualitative research (see Gullo & Beachum, 2020; Al-Dabbagh, 2020; King & Snowden, 2020). The primary platform for conducting interviews was Microsoft Teams. For participants without access to video technologies, interviews were conducted via

telephone-to-telephone interview. Each interview session lasted approximately 45-60 minutes and was audio recorded for transcription.

Once interviews were transcribed, a copy of the transcription was emailed to each participant for their review and validation. If they felt something was misquoted, they were allowed to make edits and track changes within the transcript document. One participant elected to make minor, non-substantive edits to their transcript. This technique is consistent with research from Al-Dabbagh (2020), Intezari and Pauleen (2018), Haque et al. (2017) and Gullo and Beachum (2020) where participants were afforded an opportunity to review and validate collected data.

Confidentiality

Several steps were taken to ensure participant confidentiality. All data was stored on a password protected computer hard drive, under a generic nomenclature so as to not reveal the identities of interviewees (i.e., Participant 1, Participant 2, Participant 3, etc.). Data was backed up by a sole-use external hard drive that is password protected and stored in a key-locked safe at the researcher's home. To ensure privacy of participants, all video and audio recordings of the interviews will be deleted permanently from the hard drive five years after study completion (American Psychological Association, 2017; Gullo & Beachum, 2020). All hand-written notes or memos were digitized and stored as described above and hard-copy versions of the notes were destroyed. Additionally, any personally identifying information was removed from all transcripts or memos before being finalized (Camic, 2021). Finally, the only people having access to the research data were the researcher and faculty mentor (upon request).

Instrumentation and Measurement

Given this is a qualitative grounded theory study, the primary source of data collection was semi-structured interviews using an interview protocol to standardize collection (Heyler et al., 2016; King & Snowden, 2020; April & Chimenya, 2019; Gullo & Beachum, 2020; Intezari & Pauleen, 2018). These interviews focused deeply on how senior military leaders managed their attention to navigate decisions in high-stimuli environments. More specifically, open-ended questions focused on understanding participants' experiences in navigating such environments, the context of their information sources, how they managed their limited attention in this environment, and the mental process they used to filter and decide what information made it into their decision processes.

Interview Protocol

The interview worksheet at Appendix C guided all interviews and facilitated a semi-structured dialogue with participants. The use of an interview guide is a standard approach in qualitative research (Creswell & Poth, 2018) and matches the data collection approaches used in similar research (see Heyler et al., 2016; King & Snowden, 2020; April & Chimenya, 2019; Gullo & Beachum, 2020; Intezari & Pauleen, 2018). This standardized guide helped ensure consistent questions were asked during each interview while still allowing for flexibility in question order, based on how the dialogue unfolded.

Additionally, after some introductory questions, participants were asked to think about a past decision they faced to help prime them and enrich the data collected. This follows a similar technique as Heyler et al. (2016), Intezari & Pauleen (2018), and Paes et

al. (2019), where a priming question referencing either an event from the participant's past or presenting them with a hypothetical situation were used to mimic reality as best as able in the interview process. Per Appendix C, the interviews in this proposed research included a priming statement which challenged the participant to recall a decision they faced that was high-risk, high-pressure, and/or high pace (i.e., "Think of a decision you were faced with that was high-risk/high-pressure/high pace"). After priming the participants, remaining interview questions explored the cognitive processes used to manage their limited attention and focus while making sense of the unfolding events.

As previously discussed, interviews were conducted via web-based and video-enabled meeting software (i.e., Microsoft Teams). The use of such tools is not uncommon in qualitative research. Similar studies have used Zoom (Gullo & Beachum, 2020; Al-Dabbagh, 2020) or Skype (King & Snowden, 2020) for video-based interviews, while others have conducted interviews via telephone as a part of their research (Al-Dabbagh, 2020). Given the expanded use of video meeting tools introduced during the COVID-19 pandemic, this method is not expected to detract from data collection. As described above, all reasonable measures were taken to ensure participant confidentiality using these methods.

Reliability and Validity

Unlike quantitative studies, there is no single statistic or metric to score validity in qualitative research. Instead, ensuring validity is a study-long process that is more akin to how Hayashi et al. (2019) framed it, "In qualitative studies, validity cannot be seen as a product or something isolated…It is an ongoing process and should be confronted from the beginning of the research until its publication" (p. 103). This idea is reflected in

Camic's (2021) emphasis on methods and thoroughness to maintain qualitative study validity. As such, several strategies were employed throughout the proposed research to maintain high levels of validity and reliability—linkage of collection instrument, thick data, contextual interpretations, verified findings, grounding in theory, and replicable methodology.

Validity, according to Cho and Trent (2006), "involves determining the degree to which researchers' claims about knowledge correspond to the reality (or research participants' constructions of reality) being studied" (p. 320). One approach for making sure the research assessed what it purported to assess was to link interview questions directly to the study research question. Table 1 provides a comparison to the study research question and the interview questions contained on the standardized interview worksheet. This alignment reflects the assertions by Hayashi et al. (2019) and Rose and Johnson (2020) that validity (and reliability) is an ongoing and constant consideration built throughout the research process. It helped ensure narrative data was collected that directly supported the research's focus on understanding how senior military leaders

navigate high-stimuli environments and manage their limited attention to make high-consequence decisions.

Table 1.

Comparison of Research Question to Interview Questions

Research Questions (RQ)	Interview Questions (IQ)
RQ 1: In high stimuli environments, how do senior military leaders manage their limited attention as a part of their decision-making process?	Prime: Think of a decision you were faced with that was high-risk/high-pressure/high pace IQ 4. Please describe the situation, using as much detail as able. IQ 5. What challenges did you face in managing your attention? IQ6. What tactics or strategies did you use to overcome these challenges? IQ7. What kinds of stimuli were presented to you in this situation? IQ8. How did you determine where you needed to focus your attention? IQ9. How did you sort through and prioritize information and determine what made it into your decision process? IQ10. How did you know when you had a clear enough understanding of the situation?

Thick descriptions of collected data were used as an additional step to provide validity. Creswell and Poth (2018) describe thick descriptions as those accompanied by abundant details about the participants or settings under study. Cho and Trent (2006) go further and link thick data to “rich descriptions that are salient and in harmony with

analytical interpretations" (p. 328). This form of interpretive validity allows the reader to determine what findings can be transferred and to which settings. Validity in this regard builds both on descriptions that allow the reader to see it for themselves and on the "researcher's competence in making sense of the daily life of his or her participants" (p. 329). This competence requires a deep understanding of contexts, which can be found through the next technique used.

Another technique that may improve validity is researcher immersion in the field (Hayashi et al., 2019). This helps provide context and understanding to participant inputs which aided in interpreting and analyzing data. Hayashi et al. (2019) describe this as knowing the field's peculiarities and context well enough that it becomes a part of the researcher's reality. Hayashi et al. (2019) quote research from Olson et al (2016) noting, "immersion in the field and previous experiences allow the researcher to better understand the context and the peculiarities of the phenomenon, thus creating strategies of data collection and analysis that are more appropriate and fruitful" (p. 106). The researcher in this proposed study has had multiple years of direct observation in contexts like those experienced by the research participants.

This technique also demands a researcher engage in both Epochè and reflexivity. Epochè is essentially the act of acknowledging potential for bias and suspending one's judgment, or as Butler (2016) puts it: "an intentional disruption of one's tendency to overlay personal assumptions on interpretations of the experiences and perceptions of others" (p. 2034). To practice Epochè, the researcher must avoid influencing participants' understanding and approach analysis with a clear and critical lens (Gearing, 2004; Butler, 2016). This is easier said than done (Butler, 2016) but was pursued through minimal

researcher dialogue during the formal interview questions, allowing the participant voices to go uninfluenced by the researcher (a process known as reduction; Butler, 2016). Then, analysis was approached from a position that suspended the researcher's assumptions and cross-checked interpretations through member-checking (see below).

Reflexivity was also important in order to provide readers with a clear and bracketed sense of the researcher's experiences with the phenomena while illuminating potential biases (Creswell & Poth, 2018; Gearing, 2004). This follows a similar approach as the one identified by Creswell and Poth (2018), to connect findings to the researcher's "dark matter" that potentially shaped the findings (p. 261) and is reflected in examples from King and Snowden (2020) and Gullo and Beachum (2020). Therefore, it is important to note that the researcher has approximately six years of experience operating in environments similar to those under study and has observed these phenomena firsthand.

In order to reduce researcher bias, this research also used member-checking (sometimes called participant review) to ensure accurate interpretation of participant inputs. This method involved sharing analysis, themes, interpretations, drafts, and conclusions with study participants so they can provide feedback and judge accuracy and credibility (Rose & Johnsons, 2020; Creswell & Poth, 2018). This technique facilitated ongoing dialogue between researcher and select participants allowing participant voices to shape and sharpen final analysis along the way, adding a layer of validity and reliability to the results, while identifying areas where researcher bias may be influencing interpretations. This technique is consistent with methods used in other, similar qualitative research from Al-Dabbagh (2020), Intezari and Pauleen (2018), Haque et al.

(2017) and Gullo and Beachum (2020), where participants were asked to review and validate both collected data and emerging themes as analysis unfolded.

Two other techniques that were used to improve reliability and reduce researcher bias include making sure the study is well grounded in theory and following a methodology that is well-defined. Both of these methods helped provide objectivity (i.e., "whether or not the analysis depends on the researcher"; Rose & Johnson, 2020, p. 436) and reliability (i.e., "whether the study is replicable"; Rose & Johnson, 2020, p. 436). Grounding the research in theory includes providing a strong theoretical framework (see Figure 1 in chapter two) and linking analyzed results back to psychological theory (see discussion in chapter five). Procedures for conducting the study and analysis should be defined well enough that they can be audited or repeated by other researchers. These steps should help reduce or remove perceptions of researcher bias by amplifying the underlying theories and processes used to reach study findings.

Data Analysis

All web-based interviews were transcribed in order to facilitate data coding and analysis. Audio recordings were transcribed using Otter.ai web-based transcription software. Each interview's transcript was then reviewed for errors, scrubbed for personally identifiable information, and sent via email to the participant for review and edits (Al-Dabbagh, 2020; Intezari & Pauleen, 2018; Gullo & Beachum, 2020; Haque et

al., 2017). Participants were asked to return their edits or corrections within 14 calendar days.

Once transcripts were finalized, they were coded and analyzed using a process generally outlined by Creswell and Poth (2018) and exemplified in similar research (see Haque et al., 2017; Intezari & Pauleen, 2018; Heyler et al., 2016; Gullo & Beachum, 2020). Creswell and Poth (2018) outline a structured approach to theory development, which includes memoing, open coding, axial coding, and selective coding as a part of the analysis and theory emergence process. This technique ensured replicability and thoroughness while the researcher sorted through the data available. In line with this guidance, memoing was used to document ideas and notes on theory development throughout the entire analysis and development process. Memos were catalogued and maintained for future audit, if necessary, and provide a record of theory emergence.

Following a structured approach similar to the one described above and as described by Curry (2015), the analysis and coding process began with spending time in the data. After conducting the first five interviews, transcripts were read freely in order to understand what the participants were experiencing and describing. This allowed for the development of some initial, broad codes that served as a starting point for the eventual coding process. Next, transcripts were re-read and coded using this structure, allowing new codes and sub-codes to emerge from the interview data. The code structure was constantly revised along the way as more and more data were coded and a deeper understanding of the emerging theory was developed.

Transcripts were coded using open, axial, and selective techniques paired with constant comparative analysis. Coding software (i.e., MAXQDA) was used to facilitate

coding and each significant line and/or paragraph of the transcript was coded. This technique facilitated open and broad coding and allowed for initial segmentation of the information. Each new set of information was compared with previously coded categories (i.e., constant comparison) to determine fit or if a new category was needed. This process continued until all transcripts were coded and is consistent with other grounded theory research on decision-making (Haque et al., 2017; Intezari & Pauleen, 2018; Heyler et al., 2016; Gullo & Beachum, 2020; King & Snowden, 2020).

The data was then coded in an axial form, which built toward a logic diagram or visual model. In accordance with Creswell and Poth's (2018) guidance, this coding technique looked to assemble the data together in new ways to identify a central phenomenon, causal conditions, actions, contexts, and consequences. A visual model was created to show how the themes fit together (i.e., as a psychological process). This step also helped in identifying the central phenomenon, which was the phenomenon that has the most influence on how leaders manage their attention.

This entire process, which took several iterations, followed closely the coding and analysis processes used in other, similar qualitative research (see Paes et al., 2019; Haque et al., 2017; Intezari & Pauleen, 2018; Heyler et al., 2016; Gullo & Beachum, 2020; King & Snowden, 2020). Additional selective coding techniques were used to help add a "story line" to the theory or relationships discovered (Creswell & Poth, 2018). Additionally, after model development, findings were sent for participant review to ensure findings and

interpretations accurately reflected their lived experiences (Al-Dabbagh, 2020; Intezari & Pauleen, 2018; Haque et al., 2017; Gullo & Beachum, 2020).

Delimitations, Assumptions, and Limitations

A deliberate decision was made to not focus on the actual decision-making processes of these retired senior military leaders, but instead to focus on how they manage their attention as a precursor to decision-making. This is a delimitation of this study. The rationale for this direction is based on two key reasons. First, this decision is based on the fact there is already an abundance of research available on decision-making theory and processes. Second, this decision is based on the fact there is a clear gap (Neely et al., 2020; Butler et al., 2016; Mannor et al., 2016; Heyler et al., 2016; Wang et al., 2016; Sperber & Linder, 2018) in literature around the executive's cognitive black box—most potently around a qualitative understanding of the cognitive processes the upper echelons use to manage their attention and make decisions in VUCA environments. By focusing on this narrow aspect of the executive's cognitive process, this research sheds light on a psychological phenomenon that is not well understood.

There is also one key assumption that impacts this research—that the leaders being interviewed were able to accurately articulate their experiences with the cognitive processes under study. This group of leaders have been leading and making high-consequence decisions for 25-30 years or more. It might be difficult for them to articulate the cognitive processes they use to manage their attention as a part of their well-honed decision-making processes. As described by Abatecola et al. (2018), leaders exposed to frequent and risky decisions often develop mental shortcuts (i.e., heuristics) and filter

information unconsciously and automatically. Further, given the target population was retired military, some may be too far removed from their experiences to provide reliable insights.

This proposed study is also not without its limitations and challenges. One primary limitation that should be noted is the limited generalizability and transferability due to the chosen methodology and population. Qualitative methods offer a deep textural understanding of the explored phenomenon. However, given the small sample size it can sometimes be difficult to generalize to larger populations. Creswell and Poth (2018) offer some ways to mitigate this, focusing on collection methodologies that will increase validity and transferability. Camic (2021) highlights additional perspectives of generalizability and suggests new avenues for pursuing qualitative research integrity—such as phenomenological allegiance and better data collection procedures—that improves generalizability (and objectivity).

Additionally, the factors that affect how military leaders approach and navigate decisions can sometimes be very different than the average executive (i.e., life and death outcomes with seconds or minutes to decide). This might limit the populations to which these findings can be generalized. Similar cautions were highlighted by Heyler et al. (2016) and de Graaff et al. (2019) in their study of military officers and by Baran and Scott (2010) who studied sensemaking in dangerous contexts. The latter stressed that, while the research may be most applicable only in similar (i.e., dangerous) contexts, the research still contributed to general leadership theory development. This was echoed by de Graaf et al. (2019) who asserted that using real samples (i.e., military versus student populations) made the results more applicable to real settings. Therefore, despite

potential generalization challenges, there are still deep insights to be gained by studying these phenomena in qualitative ways with retired senior military officers.

Summary

This chapter outlined the methods used for conducting research into how senior military leaders navigate high-stimuli environments and manage their limited attention to make high-consequence decisions. This grounded theory design followed a similar methodology of other qualitative studies on decision-making phenomena and leveraged semi-structured interviews with recently retired senior military officers, who held key positions that are often prone to information saturation and complex, high-consequence decisions on a regular basis. Web-based interviews were transcribed and coded using techniques outlined by Creswell and Poth (2018) and inductive techniques were used to allow a theory to emerge from the data. Multiple measures were taken to maintain validity and reliability, with the aim of closing a wide gap in the literature around the upper echelon's cognitive black box.

CHAPTER 4: RESULTS

Overview

As stated in Chapter 1, the purpose of this qualitative grounded theory study was to understand how senior military leaders manage their limited attention in high-stimuli environments to make high-consequence decisions. Data was collected via semi-structured interviews with 18 recently retired senior military officers who held key positions during their time in service. Interview data was transcribed and coded, using open, axial, and selective techniques, which allowed the data to be categorized, sub-categorized, and developed into a theoretical model that answers the research question: In high stimuli environments, how do senior military leaders manage their limited attention as a part of their decision-making process?

This chapter presents the results from data analysis. The first section below describes the characteristics of the participant group. Following this is an in-depth presentation of study findings, with each category and sub-category described. Finally, a presentation of the theoretical model is presented.

Descriptive Results

To inform the research, interviews were conducted with 18 recently retired senior military officers who held key positions as described in Chapter 3 (see Table 2 for participant information). The sample represented all branches of the military, with

exception of the U.S. Space Force, and represented officers in the grade of O-6/Colonel through O-10/General, with 4 females and 14 males (see Table 3 below).

Table 2.

Description of Research Participants

	Sex	**Grade**	**Service**
Participant 1	M	O-9 / Lieutenant General	USAF
Participant 2	F	O-6 / Colonel	USAF
Participant 3	M	O-6 / Colonel	USAF
Participant 4	M	O-6 / Colonel	USA
Participant 5 *	M	O-9 / Lieutenant General	USAF
Participant 6	M	O-9 / Lieutenant General	USAF
Participant 7	M	O-6 / Colonel	USAF
Participant 8	M	O-10 / General	USAF
Participant 9 *	M	O-9 / Lieutenant General	USAF
Participant 10	M	O-6 / Colonel	USAF
Participant 11	M	O-6 / Colonel	USA
Participant 12	M	O-6 / Colonel	USMC
Participant 13	M	O-6 / Colonel	USMC
Participant 14	F	O-6 / Colonel	USA
Participant 15 *	M	O-10 / General	USAF
Participant 16 *	F	O-8 / Rear Admiral	USN
Participant 17 *	M	O-6 / Colonel	USA
Participant 18	F	O-6 / Colonel	USAF

* Did not meet all inclusion criteria

Table 3.

Participant Summary Data

Branch of Military		Military Grade / Rank		Sex	
U.S. Air Force	11	O-6 / Colonel	11	Male	14
U.S. Army	4	O-8 / Rear Admiral	1	Female	4
U.S. Marine Corps	2	O-9 / Lt General	4		
U.S. Navy	1	O-10 / General	2		

The participants were further broken down into two groups—a core group and a non-core group (see Table 4). The core group consisted of 13 members who met all the inclusion criteria as outlined in Chapter 3. This group had an average years of service of 30.17 and an average years retired of 0.95. This distinction is important because research data from the core group was the primary source of data used to determine categories, sub-categories, and the theoretical model. See below for more details.

Table 4.

Core Group Versus Non-Core Group

Group	Ave. years of service	Ave. years retired
CORE: Participants 1-4, 6-8, 10-14, 18	30.17	0.95
NON-CORE: Participants 5, 9, 15-17	33.08	6.52
Combined (all participants)	30.98	2.49

A determination was made to keep, rather than eliminate, inputs from the non-core group (n = 5) in the analysis, given their significant years (average of 33.08 years of service) and depth of experience (grades: 1x O-10, 2x O-9, 1x O-8, and 1x O-6). However, steps were taken to reduce this group's impact on the model, by analyzing the

two groups separately—the core group first and the non-core group second, as the final layer of analysis. See below for more details.

Study Findings

To answer the research question *In high stimuli environments, how do senior military leaders manage their limited attention as a part of their decision-making process?*, interview transcripts from 18 recently retired military officers were analyzed in accordance with the process outlined in chapter 3, by Creswell and Poth (2018), and exemplified in similar research (see Haque et al., 2017; Intezari & Pauleen, 2018; Heyler et al., 2016; Gullo & Beachum, 2020). Transcripts (186 pages in total) were coded using open, axial, and selective techniques paired with constant comparative analysis. Coding software (i.e., MAXQDA) was used to facilitate coding. This technique facilitated open and broad coding initially, with each new set of information being compared with previously coded categories to determine fit or if a new category is needed. This process continued until all transcripts were coded and is consistent with other grounded theory research on decision-making (Haque et al., 2017; Intezari & Pauleen, 2018; Heyler et al., 2016; Gullo & Beachum, 2020; King & Snowden, 2020).

The data was then coded in an axial form, which looked to assemble the data together in new ways to identify a central phenomenon, causal conditions, actions, and contexts, ultimately building toward a logic diagram or visual model (Creswell & Poth, 2018). This entire process took several iterations, with multiple reviews of each transcript (4-5 times each) and multiple rounds of coding, which sought to identify clusters, themes, and relationships between categories. This technique closely follows the coding and

analysis processes used in other, similar qualitative research (see Paes et al., 2019; Haque et al., 2017; Intezari & Pauleen, 2018; Heyler et al., 2016; Gullo & Beachum, 2020; King & Snowden, 2020).

Once data from the core group was coded and analyzed, transcripts from the non-core group were reviewed, coded, and analyzed. Analysis was done in this way in order to ensure those participants who met the inclusion criteria were the most informative to theory formulation. Non-core group inputs were added as the final layer of analysis and did not drive any substantive changes to the categories and sub-categories derived from the core group's final analysis. In fact, the non-core group's inputs reinforced and supported analysis derived from the core group, serving as a form of triangulation and revealing a reliable nature of these findings.

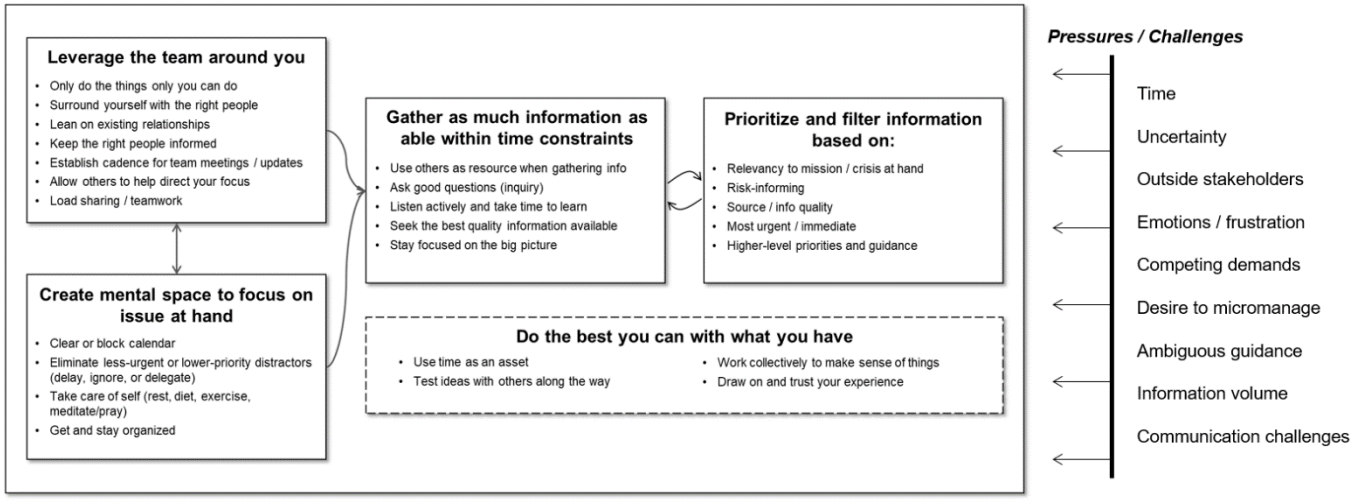
Upon completion of all analysis, findings were sent via email to all research participants for review and comments. Several participants responded (n = 6), all with positive and confirming comments about the categories and theoretical model. One participant did offer an additional comment for consideration, which led to a review of transcripts and addition of one sub-category. Research findings were also discussed with three other non-participant executives in order to further triangulate the analysis, all of which confirmed the findings reflect their own experiences in managing their attention in high-stimuli environments.

The analysis described above, produced a list of 664 coded segments, across six (6) primary categories and 34 sub-categories, and produced the theoretical model displayed in Figure 3. A crosswalk of initial codes to final categories and sub-categories

can be found at Appendix F. The categories, sub-categories, and theoretical model are described in detail below.

Figure 3.

Theoretical Model – How Executives Manage Their Attention While Making Decisions.



Leverage the Team Around You

The first theme or category that emerged in the analysis is the idea that executives must leverage the team around them to help them manage their limited attention. Every interview participant mentioned the people around them as a key element of their approach. In fact, this was so consistent that it emerged as the central phenomenon of this

research analysis. See Table 5 below for definitions to each of the sub-codes in this category.

Table 5.

Category and Sub-Category Definitions – Leverage the Team Around You

CATEGORY	SUB-CATEGORY	FREQ	DEFINITION
Leverage the team around you		--	A concept that acknowledges others--the people around the executive--as a critical element of the attention managing process and frames this reality as a positive factor; one should leverage those people around them in order to help manage their attention.
	Only do the things only you can do	17	The idea that there are some things only the leader has the authority to do; those things that cannot be delegated downward and therefore demand the leader's attention.
	Surround yourself with the right people	35	The act of making deliberate choices about the people you choose to pull around you--to serve on your team, as your peer advisor, or as your mentor.
	Lean on existing relationships	9	Preexisting relationships, or those formed early, can be a valuable resource to executives in times of crisis
	Keep the right people informed	26	Proactively sharing information with outside stakeholders in order to circumvent requests for information, thus reducing demand on attention.
	Establish cadence for team meetings / updates	19	Scheduling regular team meetings in order to exchange information, provide critical updates and bin information flow.
	Allow others to help direct your focus	17	Trusting the inputs, concerns, and questions from others to help direct the executive's focus and identify areas where more attention is needed.
	Load sharing / teamwork	30	The reliance on others to help carry the load and manage / process the incoming information; working together as a team.

This concept of leveraging the team manifests in several ways—from providing a place to delegate lower priority distractions to allowing others to help shape an executive's focus. The category of *leveraging the team around you* is defined as a concept that acknowledges others—the people around the executive—as a critical

element of the attention managing process and frames this reality as a positive factor. Sometimes these teams are built proactively and others time they are inherited. The following excerpt from one of the participant's best echoes this idea:

> *So the best way I've been able to manage [my attention], really, is to make sure I have, you know, outstanding teams. And sometimes you inherit them, but you also can build them over time as well. So, if you have outstanding teams around you, they can take care of, they can allow you to be that big picture thinker. That's the way the way I, what I've come to learn*. (Participant 10)

Additionally, when an executive knows they can trust and rely on the people around them, they are freed up to concentrate and focus on higher-priority tasks and stimuli. The following quote from research participants help characterize how executives think about the teams around them:

> *I actually had a three-star general, I was at some, you know, like, professional development session. And somebody asked him, how do you do all this stuff? And he said, I get seven hours of sleep a night because I know, I need seven hours of sleep a night. And everybody, like had this look like because it was all field grade officers and like, what do you mean, you get seven hours, so like, sure, we don't even get seven hours of sleep. And he said, it's simple. He said, you'd focus on doing the things that only you can do. And he said, everything else, you have to identify a person that can do it for you. And, and you and if they can't do it, now, your priority is to train them to do it, and you better and you got to be willing to, you know, accept some risks, because they're going to have they might have to learn the hard way sometimes but so I always thought about that, like what's,*

> *what are the things that only I can do? And let me prioritize those.* (Participant 11)

Further, when an executive has full confidence in the team around them, and the team around them has proven to be competent, the executive can offload some of their own burdens onto others:

> *So after I talked to my team, and gave them orders to move out and the priorities, I needed to go talk to my boss, I gave the stick over to my civilian Chief of Staff, and told them all right, you got where my head is at. That's all you're getting. For me, there's nothing you can't do. You know, it's confidence building with your team in crisis too. There's no decision you can make within the next hour, that's going to be wrong, just move out. And keep in mind the priorities.* (Participant 18)

The sub-categories of this theme build on several of these concepts and emphasize that executives should: only do the things that only they can do, surround themselves with the right people, lean on existing relationships, keep the right people informed, establish a cadence for team meetings and updates, allow others to help direct their focus, and share the load through teamwork. See Appendix G for transcript excerpts to support the category and sub-categories.

In the model, this category is linked via a bi-directional arrow to the next category, *create mental space to focus on the issue at hand*. The bi-directional nature of the arrow shows the connectedness of these two themes, whereas the team can help the

executive create mental space and the act of creating mental space also relies heavily on the team.

Create Mental Space to Focus on The Issue at Hand

Another key theme that emerged in the analysis is the concept that executives must take deliberate steps to create mental space so they can focus on whatever issue is at hand. This act of reducing or eliminating attentional demand can involve the help of others, but also includes steps the executive takes on their own. One participant specifically highlighted how others can be a resource when trying to eliminate less-urgent demands:

> *So, you know, my philosophy has always been that, you know, if you're in a leadership position, about 5% of the decisions are ones that you need to make, the 95% are the ones that you need to delegate have somebody else make. So having that as a relatively a baseline or foundation for how I'm going to do everything, when a crisis does occur, it becomes easy to shed all of that 95% that you may be monitoring all the time. But now you can completely shed that information and focus only on that 5% that you really have to deal with to get through whatever the crisis is.* (Participant 5)

In some cases, however, the executive recognizes the excessive demands and takes specific steps to create mental space. This excerpt from one of the participants shows a strategy of blocking time each day to mentally process what was happening:

> *So bottom line is I found that taking a period of time every day, you know, there was an area that I can go and not be distracted. And, and to be able to think, like that was super important for, for me to be able then to make kind of process, you*

> *know, all the different inputs that I was receiving, and allow that just time to synthesize in my brain. That was important.* (Participant 17)

This last excerpt links to another prevalent idea that presented itself through many participants—the concept that executives must take steps to care for themselves to help manage their emotions and stress. This participant stresses the importance of self-care as a part of creating space to focus:

> *And then the only other thing I would add to that is, there's a reliance for some self-care there. If you're exhausted, mentally or emotionally or physically, you're going to make bad decisions. And you have to be aware when you are in that mode…you have to pace yourself, you have to do the rest cycle, you have to eat and sleep, you know, in the airplane or right way. So that you can make good decisions in when you are in a very stressful situation, regardless of the stimuli.* (Participant 6)

As shown in Table 6, there were several sub-categories that emerged in the substantive coding process relating to this idea of creating mental space, these include: taking care of oneself (rest, diet, exercise, meditate/pray), getting and staying organized,

eliminating less urgent or lower-priority distractors, and clearing or blocking their calendars. See Appendix H for transcript excerpts to support the sub-categories.

Table 6.

Category and Sub-Category Definitions – Create Mental Space to Focus on Issue at Hand

CATEGORY	SUB-CATEGORY	FREQ	DEFINITION
Create mental space to focus on issue at hand		--	The act of reducing or eliminating demands on one's attention in order to create more mental space to address and/or focus on the issue at hand.
	Clear or block calendar	8	Actions to clear or block off time in order to create space to think about or process the information directed at an executive during high-stimuli situations.
	Eliminate less-urgent or lower-priority distractors (delay, ignore, or delegate)	23	Clearing out tasks or demands that distract from an executive's ability to focus on the issue at hand, primarily through ignoring, delaying, or delegating
	Take care of self (rest, diet, exercise, meditate/pray)	14	A focus on self-care as a means to control emotions and stress, and gain clarity in one's thinking. Includes rest, exercise, prayer, meditation, mindfulness, diet, and other forms of deliberate self-care.
	Get and stay organized	7	The step of adding structure and/or form to the attention managing and decision-making process, in an effort to reduce mental distraction or strain. (In rapid or time critical scenarios this step may not be present.)

Both the team around the executive and the mental space an executive creates facilitates their ability to effectively gather and process information in high-stimuli environments. Therefore, within the model both of these themes show unidirectional

arrows feeding into the next category—*gathering as much information as able within time constraints*.

Gather As Much Information as Able Within Time Constraints

A third category that emerged from the analysis is the process of gathering as much information as possible within whatever time constraints the executive has. Table 7 defines this category and sub-categories.

Table 7.

Category and Sub-Category Definitions – Gather As Much Information As Able Within Time Constraints

CATEGORY	SUB-CATEGORY	FREQ	DEFINITION
Gather as much information as able within time constraints		8	The step of seeking, collecting, and/or gathering information that can help inform one's thinking of the situation at hand.
	Use others as a resource when gathering info	52	Gathering information from others or through the work of others; recognizing that others often have the information needed to inform decision-making or are key to helping the leader evaluate and filter information
	Ask good questions (inquiry)	19	Asking questions of self and others; of self in order to evaluate your own thinking; of others in order to probe and gather information, or identify gaps in understanding
	Listen actively and take time to learn	15	Seeking to understand more about the issue through active listening and learning.
	Seek the best quality info available	13	A focused pursuit on ensuring the leader had the most important and relevant information available--accurate, honest, unfiltered, and quality.
	Stay focused on the big picture	8	Refocusing self and the team back towards the bigger picture, larger context, or strategic objective.

Most participants expressed this as a step of seeking, collecting, or gathering information that could help inform one's thinking of the situation or crisis at hand. At

first, this may seem counterintuitive to reducing attentional strain, however, as expressed by the following participant, this step can actually aid the executive's ability to stay focused:

> *So things that helped me stay focused, I guess. So as much as I could, I would want to have the best available information. If I had the best available information, the more information I had, the more comfortable I could be in navigating and staying focused, and not letting some of the other stimuli and things pull us in different directions. Because the more information I had, I could quickly fend off something that I thought was going to be not fruitful or not helpful to the to the focus of making a decision, to focus on making the right decision, you know, so sometimes we ended up chasing, you know, different stimuli, if you will, that came in. And if you could fend those off quickly and stay focused, you were better off, if it took you three or four days to run down the answers to some of those things, then you're you weren't you weren't focused on where you needed to be. And so I think that's important is to have the best data you can.* (Participant 1)

Additionally, the accuracy and quality of information came up frequently. Several participants intimated the need to not only gather information, but to seek the *best* information one could find:

> *You, you need to establish the process to get the best accurate information that you need in a timely manner so that you have sufficient information to make the*

> *decision. And I think it's important also to communicate your confidence level to the supporting commander.* (Participant 9)

Based on participant inputs, gathering accurate and quality information allowed them to feel comfortable with the understanding they were developing and freed their mind to focus on other things. As another participant indicated, complex and hard problems sometimes increase the desire for quality information, as long as time allows for gathering it:

> *When I had a really complicated or difficult decision, I would try to try to take in as much detail as I could. I'm a data person. Let's say it like this, I'm an information person. I have as much information as I can before I make a decision. But what would always help for me is to take in as much as I could to learn as much about the issue as I could.* (Participant 2)

A key aspect that surfaced often was the need to ask questions as a part of the data gathering process. This seemed especially true in time sensitive environments where the executive did not have a lot of experience to draw on. Here, a participant describes the way they thought about this:

> *So you need to be very, you need to ask a lot of questions. You need to show people that you value their background, you value their expertise, and you want to hear it that doesn't mean you're going to agree with them. But that's critically important to decision making. And it helps you it helps you when you get in a crisis, and you're making hard decisions. And sometimes you're making fast decisions or decisions that have to be made quickly. You kind of need to know*

who you can hope you can rely on who's done their homework. And that's, that's critically important. (Participant 15)

When it comes to this process of gathering as much information as possible within time constraints, the executives must leverage the mental space they created and the people around them to do it well. Additionally, the gathering of information is an ongoing process that interacts with the next category—prioritization and filtering of information—as indicated by the cyclical nature of the arrows between these two elements within the theoretical model.

As Table 7 showed, there are several sub-categories within this category: using others as a resource when gathering information, asking good questions, actively listening and taking time to learn, seeking the best quality information available, and staying focused on the big picture. See Appendix I for transcript excerpts to support the sub-categories.

Prioritize and Filter Information, Based On:

Another important category that emerged is the step of prioritizing and filtering information. According to participants, the procedural step of reducing down and prioritizing relevant information was typically based on some criteria determined by the executive and was often situation dependent. This step includes choosing what information to attend to (i.e., allow in to sensemaking or decision-making process, take

action on, etc.) based on a relevancy determination by the executive. Table 8 defines each of the sub-categories of this grouping.

Table 8.

Category and Sub-Category Definitions – Prioritize and Filter Information, Based On:

CATEGORY	SUB-CATEGORY	FREQ	DEFINITION
Prioritize and filter information based on		--	The procedural step of reducing down and prioritizing relevant information, based on some criteria; includes choosing what information to attend to (allow in to sensemaking or decision-making process, take action on, etc.) based on a relevancy determination.
	Relevant to mission / crisis at hand	28	Based on a determination of the perceived relevancy to the organization's core mission or crisis (or issue) at hand.
	Risk-informing	26	Whether or not the information helped the leader understand the amount of risk involved in the decision.
	Source / info quality	17	Where the information was derived from, the person or office delivering the information, or the type of information (i.e., data/facts versus opinions or assumptions)
	Most urgent / immediate	16	Considering the relative important or immediacy of information and filtering based on the leader's assessment.
	Higher-level priorities and guidance	10	Based on guidance or direction from higher-level headquarters or leaders; the priorities given to you by a higher-level authority.

While each executive discussed their own approach, the following excerpt from one of the participants provides a good example of how participants experienced this phenomenon:

> *So this is, I think, where every leader is on their own, I think that this is where you bring your uniqueness as a person and your talent to the table as the commander, right? For me, most decisions day to day when chaos is not swirling, the three things I focused on was, is it legal, moral, ethical. That's how I rack and stack my*

> *decision making. In chaos and crisis, legal, moral, ethical is secondary to, you know, what is the most immediate. And so what I came to recognize there was the priorities then became life or death. Anything that revolved around that first priority. Second thing was human safety and comfort. The third thing, nobody wanted to hear it, but it was the mission. That was for me.* (Participant 18)

Another important concept that was evidenced in the data was the tension between things that are urgent and things that are strategic. Here one participant captured this tension succinctly, as they experienced it while navigating a crisis under their command:

> *Although it sounds, you know, like a horrible strategic leader, you've got to address the things that are going to happen in the order, they're gonna happen for the most part. And, you know, if something's gonna happen within the next 12 hours, we've really got to focus on that.* (Participant 3)

Several participants also highlighted the tension around figuring out what information was credible and what information was a distraction. One interview excerpt that described this well, highlighted the trouble with loud inputs, or inputs coming from high places within the organization:

> *Just because somebody is loud, doesn't mean they're right. Yeah. But obviously, their voice gets amplified with rank. So when you're put in a situation like that, it's a great learning opportunity...How do you focus with all the noise and stuff? Identify what's noise and what's music. What's noise and what's music and*

> *appreciate the music. Give it the attention it deserves. Because it takes a lot more people to make music, than it does to make noise.* (Participant 7)

Many participants also indicated that understanding the priorities of organization levels above them was helpful to informing their own assessment of the stimuli they were navigating. One example from a participant who put this into words is below:

> *The other thing as far as decisions that I did have to make was, okay, if I'm having to decide between doing this and this, what is it my boss said, or what is it my boss's boss said, is the most important thing. And that's where I'm going to default to it, you know, in my head, it's like, Hey, you either have to do this, or this? Well, I know, my boss, my boss's boss are both big on this, then I'm going to to weight effort over here. And this other one, I'll kind of brush this, I'll push off this side.* (Participant 4)

Regardless of what criteria executives use to help sort through, prioritize, and filter information, one thing that became clear from participants is there are several sub-categories that capture how most of them made the determination. The following sub-categories are the criteria participants identified to prioritize and filter information: relevancy to the mission or crisis at hand, risk-informing, source or quality of information, the most urgent or immediate, or higher-level priorities and guidance. See Appendix J for transcript excerpts to support the sub-categories.

Do The Best You Can with What You Have

One category that many participants talked about was the concept to accept and simply do the best you can with the resources available to you when a decision must be made. This generally seemed like their way of giving themselves permission to make

mistakes or be imperfect. For example, one participant describes it as a form of acceptance:

> *I don't think you ever really know, if you have enough information, you know, it just, I think you do the best you can and you try to be true to yourself, you try to be true to the people that you're making the decision about, and do the best you can, because you just can't wait until you have a full understanding of the situation.* (Participant 2)

Another set of participants showed a comfort level with making mistakes, as long as they understood and were transparent about the risks they were taking.

> *And so that's another I guess, that's another big piece to say, knowing what you can control and what you can't right, if it's beyond your control. Just understand, and like I said, be able to defend or at least articulate, hey, here's why. Here's why particularly why you made your decision and what it was based on. That's, if I can do that, then I'm comfortable. If I can't. And you know, the problem is, if you can, and you're out of time, well, then you got to state here, I don't have the desired information. But if I had to make a decision, if you're asking me to do it, here's what I base it on, even though I don't think that's sufficient.* (Participant 13)

This attitude about the entire process seemed to help executives maintain the proper perspective when certain things were outside of their control and also allowed them to grab control of their own emotions. For example, the following excerpt, shared

by a participant facing time critical decisions in a crisis, echoes the same sentiment to just accept what you can control and keep going:

> *So it always goes back to that anthropological background alone. You know, what are you going to do, you can panic and seize up and sit here for minutes and minutes and half hour an hour can go by, or catch your breath, and then start to really settle into your mind how you're going to deal with it. As you're moving forward, as you're driving, you got to keep going one foot in front of the other.* (Participant 18)

Within this category there are several sub-categories that emerged during coding and analysis (see Table 9): use time as an asset, test ideas with others along the way, work collectively to make sense of things, and draw on and trust your experiences

throughout the process. See Appendix K for transcript excerpts to support the sub-categories.

Table 9.

Category and Sub-Category Definitions – Do the Best You Can with What You Have

CATEGORY	SUB-CATEGORY	FREQ	DEFINITION
Do the best you can with what you have		14	The guiding concept to accept and simply do the best you can with the resources (time and information) available to you when a decision must be made.
	Use time as an asset	34	The concept that time should be viewed as an asset, framing the boundaries of one's decision window, rather than a hindrance to one's ability to make decisions.
	Test ideas with others along the way	14	The act of calling in others (mentors, advisors, peers, coworkers) to give feedback on, listen to, or evaluate one's ideas or logic.
	Work collectively to make sense of things	31	Working together with others, in tandem, as a strategy for managing attention and staying focused on the right things during decision making processes.
	Draw on and trust your experience	22	Allowing one's past experiences to inform how they approach managing their attention in decision-making; this includes finding analogies, trusting one's gut instincts, and reflecting on past events to help determine how to proceed.

In the theoretical model, the concept that executives should *do the best they can with what they have* is displayed in a dashed box without connecting arrows to any other elements. This is because this concept applies to the entire process and stands on its own as an overarching principle for how leaders should think about their approach to managing attention in high-stimuli decision making situations.

Challenges / Pressures

Throughout the interviews, participants frequently highlighted various challenges or tensions that existed and pressed against their efforts to manage their attention. Many

of the challenges expressed by participants directly relate to VUCA environments—especially the uncertainty and ambiguity they dealt with. One of the participants described the ambiguity they experienced in trying to navigate a crisis situation:

> *And, and so, you know, I needed to keep my team focused on, on completing the mission. But I didn't necessarily know exactly what that was. And as, as people came through, and they were asking questions, we didn't know exactly what to tell them, they didn't exactly know, what they were there to do, or where they were supposed to go.* (Participant 3)

Uncertainty was also a common item that came up in interviews. Here, one participant describes the uncertainty that exists in the situations executives must make in high-stimuli and high-consequence environments:

> *Well you never really know, do you? You think, you know, even those decisions that I talked about earlier, where there were no brainers. I mean, there were times where you're still making a decision going. Okay, I'm going to make this decision. I don't know if it's the right one. But if I weigh it against, if I weigh everything else, meaning I weigh the, what my responsibility is, what the mission is, what my boss is saying, and those those kind of in alignment, then it's probably the right decision. It was the decisions that that was the some of the hard decisions, were always the ones where I was like, Okay, I'm having to think twice about making this decision. Do I go with it or not? And is it is it important enough for me to, to take that leap, if you will?* (Participant 4)

While these two above examples highlight the ambiguous and uncertain nature many participants expressed, the list of challenges they discussed extend well beyond

these. The list of pressures and challenges participants highlighted are defined in Table 10 and include: time, uncertainty, outside stakeholders, emotions / frustrations, competing demands, desire to micromanage, ambiguous guidance, information volume, and communication challenges. In the model, these challenges and pressures are displayed outside of the cognitive process of managing one's attention. This is intentional and meant to display them as forces that push against an executive's ability to manage their attention in high-stimuli environments. See Appendix L for transcript excerpts to support the sub-categories.

Table 10.

Category and Sub-Category Definitions – Challenges / Pressures

CATEGORY	SUB-CATEGORY	FREQ	DEFINITION
Challenges / Pressures		11	An acknowledged challenge or tension that exists in an executive's effort to manage their attention.
	Time	19	Pressures related to time constraints
	Uncertainty	27	A lack of certainty about the future
	Outside stakeholders	21	The concerns of others, outside of the primary organization-level (includes both internal and external stakeholders)
	Emotions / frustration	7	The executive's own emotional state or sense of frustration at the event unfolding
	Competing demands	13	Multiple demands or distractions that compete for the executive's time and attention
	Desire to micromanage	6	A desire from the executive to get too involved in the details of the situation or micromanage
	Ambiguous guidance	12	A lack of clear guidance from higher organization levels
	Information volume	11	Too much information to adequately process and make sense of
	Poor communication	5	Poor communication up, down, or across the organization

Summary

Data collected from interviews with 18 recently retired senior military executives form a grounded theory of how senior military leaders manage their limited attention to make decisions in high stimuli environments. Interview transcripts were coded and analyzed through multiple iterations, which led to 664 coded segments across six core themes and 34 sub-categories. Through inductive and deductive reasoning grounded in the research data, a theoretical model emerged to reveal how senior executives experience these phenomena.

Central to the model is the idea that senior executives leverage the teams around them to manage their limited attention. Additionally, executives take deliberate steps to create the mental space they need to focus on the issues at hand. These two themes help facilitate a process of gathering and filtering information in accordance with a set of criteria revealed by the research. Throughout the process, as leaders deal with a variety of pressures and challenges, data shows that executives approach managing their attention with the idea to simply do the best they can with what they have. In the next chapter, there will be a deeper discussion on what these research findings mean and why it matters.

CHAPTER 5: DISCUSSION

Overview

The purpose of this qualitative grounded theory study was to understand how senior military leaders manage their limited attention in high-stimuli environments to make high-consequence decisions. As the world becomes more and more volatile, uncertain, complex, and ambiguous (Baran & Woznyj, 2021), those in the upper echelons of leadership face increasing pressure on their limited attentional resources (Mannor et al., 2016; Haque et al., 2017; Merendino & Sarens, 2020) but do not have the luxury of ignoring decisions which must be made to avoid harmful outcomes to the teams and organizations they lead. This research sought to understand more about the cognitive processes used by these executives, unlocking elements of their cognitive black box, in order to gain a deeper understanding of how they lead and make decisions in such environments.

This chapter will discuss the findings from this research along with what those findings mean. Further, the theoretical foundation established in Chapter 2 will be revisited in order to understand how results from this research affect our understanding of those concepts. Implications, limitations, and recommendations for future research will also be discussed.

Summary of Findings

This study found that in order to manage their limited attention in high stimuli decision-making environments, senior executives draw on five key themes. The first, and central theme is that senior executives leverage the teams around them to help them

manage their attention. The teams closest to executives help them test and sharpen their ideas, gather needed data, determine where best to narrow their focus, and to make good sense of unfolding events.

Findings from this research show that the people closest to an executive directly impact how well an executive manages their attention and are therefore critically important. Because of this, executives should surround themselves with the right people, lean on existing relationships, practice teamwork and load sharing, allow others to help direct their focus, establish a cadence for team updates, keep the right people informed, and resist doing things outside of what only the executive can do.

The second theme revealed in this research is for executives to create the mental space they need to focus on the issue at hand. While the team can help direct the leader's focus and share the burden of information load, the executive must still take deliberate steps to find the mental space they need to address the events unfolding around them. This involves clearing and blocking their calendar, eliminating less-urgent and lower-priority distractors, practicing self-care, and getting and staying organized.

The third theme executives draw upon when managing their attention in high-stimuli decision scenarios is to gather as much information as able within the time constraints they are given. This requires they use others as a resource when gathering information, ask good questions, listen actively, take time to learn, seek out the best quality information available, and stay focused on the bigger picture. This gathering of information is an ongoing process that interacts constantly with the fourth theme—prioritizing and filtering information based on certain criteria deemed important by the executive. Research findings identified several criteria described by participants as

important for how they prioritize and filter information: relevancy to the mission or crisis at hand, how informative it is to risk determinations, the source or quality of information, how urgent or immediate the information is, and finally how it conforms and aligns with higher-level priorities and guidance.

The final theme executives draw upon serves as an overarching approach to managing their attention in high-stimuli environments—simply do the best they can with the resources they have. This means they use the time they have as an asset, test their ideas with other people as they work through them, work collectively as a team to make sense of unfolding events, and draw on their own experiences to help navigate the situation and manage their limited attention. Research data from interviews with 18 recently retired senior military officers shows that executives use these themes to help counter the various and many pressures and challenges facing them in high-stimuli decision environments.

Discussion of Findings

Findings from this research indicate just how important the team is to the way executives approach managing their limited attention when trying to navigate decisions in high stimuli environments. When viewed through the lens of the upper echelon theory (UET), these findings present several insights to consider, most importantly around how one should understand the executive's cognitive black box. Further, findings indicate a need to consider how attention management fits into modern understandings of sensemaking processes. Data from this research also suggests some new ideas around selective attention and how executives manage to stay focused when prioritizing and

filtering information. These ideas can be traced to a biblical foundation, where help from others is a consistent theme.

Recall from Chapter 2 that UET finds its roots in strategic leadership theories (Samimi et al., 2020) where it is understood that leaders at the top of organizations have an outsized impact on organization outcomes (Boone et al., 2019; Neely et al., 2020). The core idea of UET is that executives' experiences, values, and personalities shape the way they make sense of and act upon the situations they face (Hambrick, 2007; Mannor et al., 2016; Wang et al., 2016; Neely et al., 2020; Samimi et al., 2020). Executives translate their understanding through actions and strategic choices, which shape the organization and its activities (Hoskisson et al., 2017; Boone et al., 2019). Research in UET typically involves two primary approaches, emphasizing either the top leader (for example, the chief executive officer, CEO) or the top management team (TMT; Jeong & Harrison, 2017).

While the approach to this research focused primarily on understanding the lived experiences of individual executives, findings suggest that when managing attention in high-stimuli decision scenarios the TMT, or team around the executive, plays the critical role. This finding shines a light on research around TMTs and the important relationship between the top executive and their team (see Bromiley & Rau, 2016; Hartnell et al., 2016; Georgakakis et al., 2017; and Liu et al., 2021). The importance of TMTs has long been recognized, Boone et al. (2019) asserted that organizations reflect their top *managers*, and Heavy and Simsek (2017) emphasized the value of distributed cognition across TMTs as critical to the success of organizations. Findings from this research suggest TMTs also play a critical role in directing and managing senior executive

attention, shaping and refining the ideas executives develop, and gathering information needed to make sense of unfolding events.

Findings from this research may also open a key insight into understanding the executive's cognitive black box, a long-recognized gap in the literature (Hambrick, 2007; Butler et al., 2016; Mannor et al., 2016; Sperber & Linder, 2018). Hambrick (2007) defined the black box as, "the psychological and social processes by which executive profiles are converted into strategic choice" (p. 337). Every interview participant mentioned the people around them as a key element of their approach to managing their attention. This finding suggests the social aspect of this black box (i.e., working together with others) as a key and central component of how executives approach managing their attention to make sense of unfolding events.

In Neely et al.'s (2020) review of literature around the UET, they suggested more research focused on "How and why do executives focus on different types of information in the sensemaking and sensegiving processes?" (p. 1037). Findings from this research suggest that a large part of the *how* is by leaning on the people around them to help them focus, manage their time, and process information. This approach was discussed by every executive interviewed, showing it is central to how they think about staying focused and managing their attention in high-stimuli environments.

Further building on this social aspect of the black box, this research suggests that sensemaking at the senior executive levels can be primarily considered a collective process. This was evidenced in the research data but is also suggested by the literature around sensemaking. Recall that sensemaking is a core component of UET and can be defined as the process of interpreting and ascribing meaning to the events that happen

around us to generate understanding and facilitate action (Weick et al., 2005; Brown et al., 2015; Kilskar et al., 2020; Schildt et al., 2020). There is already a body of literature suggesting sensemaking is not only an individual phenomenon but is also a collective or team effort (Jensen, 2009; Homlund et al., 2017; April & Chimenya, 2019; Kilskar et al., 2020; Schildt et al., 2020), so this is not a new idea. However, findings from this research place emphasis squarely on the social aspect of sensemaking rather than bracketing it as an individual phenomenon.

Further still, findings from this current research strongly suggest that sensemaking and certain aspects of attention management may not be separate and discreet processes and should therefore be linked when conceptualizing executive sensemaking processes. Referring to the theoretical model in Chapter 4, Figure 3, this grounded theory research shows that the gathering and filtering of information is an ongoing and iterative process, moderated by an executive's understanding of events—more information is gathered and filtered as needed to develop an understanding. This process is tantamount to sensemaking and links the phenomena to the way executives manage their attention in high-stimuli decision environments.

In fact, a description of sensemaking from Acona (2012) strongly reflects findings from this research, "Sensemaking involves coming up with plausible understandings and meanings; testing them with others and via action; and then refining our understandings or abandoning them in favor of new ones that better explain a shifting reality" (p. 5). This description closely matches certain aspects of the research findings and theoretical model discussed in Chapter 4, especially relating the act of working with others to develop and test one's understanding of unfolding events. Similarly, from Schildt et al. (2020):

> *The established literature conceptualizes sensemaking as an ongoing, situated process that involves creation of coherent understandings through interlinked observation ('extraction of cues'), interpretation and action ('enactment'). As individuals and groups 'enact' order in the chaotic or uncertain situations they encounter through their actions, they generate new observations that trigger interpretation* (p. 245).

These ideas are reflected in the current research's findings that executives leverage the team around them, use others as a resource when gathering information, and work collectively with others to make sense of things. This idea of attention management and sensemaking being an interconnected process is an area that invites future research and may extend the way sensemaking is conceptualized to begin earlier in the cognitive processes of senior executives.

Returning to Neely et al.'s (2020) call for more research to understand the executive's cognitive black box, focused on "How and why do executives focus on different types of information in the sensemaking and sensegiving processes?" (p. 1037). If the *how* is by leveraging the team of people around them and creating mental space, the *why* can be traced to research findings around the way executives think about prioritizing and filtering information.

As evidenced in Chapter 4, executives interviewed for this research indicated several criteria for prioritizing and filtering information—how relevant the information was perceived to be to the crisis at hand, how informative the information was to a risk determination, the source (i.e., trustworthiness, credibility, subject matter expert, etc.) or quality of information (i.e., data, fact versus opinion, etc.), how urgent the information is,

or whether the information aligned with higher-level priorities and guidance. These criteria seem logical but manifested in a way that is more complex when looking below the surface.

For example, during research it became evident that an executive's experiences provided them with a baseline of comfort across a range of issues which varied by executive. When a crisis or issue presented itself to them, they drew from their past experiences to make or find analogies, which informed where they felt they needed more information or data. So, while these criteria were identified from the research data, the executives would navigate through them based on where they felt the least amount of comfort or where they perceived a gap in understanding of the situation; again, returning to sensemaking.

So, *why* an executive focused on different types of information is driven by an interaction between past experiences and a set of criteria. This finding aligns with earlier research that suggests an executive's experiences, focus, and values shape the way they make sense of and act upon the situations they face (Hambrick, 2007; Mannor et al., 2016; Wang et al., 2016; Neely et al., 2020; Rüsch et al., 2019; Samimi et al., 2020). It further aligns with sensemaking research that showed an executive's mental models can impact the way they make sense of events (Holmlund et al., 2016). Taken together, findings from this research shed light on both the *how* and *why* executives manage their attention and focus on certain information in their sensemaking and decision-making processes.

Another reflection on attention management from this current research suggests a reexamination of our understanding of perceptual load theory of selective attention,

which is largely considered an involuntary cognitive process. Jo et al. (2021) identified early research from Lavie that concluded, “perception has limited capacity. Faced with multiple stimuli, this capacity-limited perceptual resource is allocated in an *involuntary,* automated manner on all items until it runs out” (p. 1, emphasis added). Many participants from this current research clearly indicated a deliberate process of filtering and attending to selected information. This process indicates the embeddedness of cognitive control, which is defined as the regulation of cognitive effort based on assessments of and changes to the situation or context at hand (Del Missier et al., 2012; Laureiro-Martinez, 2014; Jackson et al., 2017; Nigg, 2017). Whether or not these efforts at cognitive control reduce the involuntary allocation of attention is another area for future research.

The centrality of the team around an executive is not all surprising given some of the teachings in the Bible. This idea can be traced all the way back to the creation story. In Genesis 2, God planted man in the Garden of Eden, “to work it and keep it” (*ESV*, 2001, Gen. 2:15). At this point in the creation story, man was alone with God and was working the created earth that God gave him dominion over (*ESV*, 2001, Gen. 1:26). However, even at this point, God recognized “It is not good that the man should be alone” and made a helper for him (*ESV*, 2001, Gen. 2:18). This theme that man is better when he is not alone is a theme that returns throughout the scriptures.

Throughout Proverbs there are instructions for leaders to seek advice from those around them. Proverbs 15:22 states, “Without counsel plans fail, but with many advisers they succeed” (*ESV*, 2001). Similarly, Proverbs 11:14 says, “Where there is no guidance, a people falls, but in an abundance of counselors there is safety” (*ESV*, 2001). One final

example from Proverbs 24:5-6 may be apropos for this research, given the participant group, “A wise man is full of strength, and a man of knowledge enhances his might, for by wise guidance you can wage your war, and in abundance of counselors there is victory” (*ESV*, 2001). These passages support the idea that in pursuit of wisdom and understanding, as outlined in Chapter 2, executives should lean on those around them for help.

Additionally, returning to the story of King David from 2 Samuel 13-19 (*ESV*, 2001) described in Chapter 2, on several occasions David relied on the advice of those around him to manage his attention and make sense of what was happening. In one example, as David was preparing to go to battle with his soldiers, he instead attended to the wise counsel of his men to stay back away from the fight (*ESV*, 2001, 2 Sam. 18:3-4) which preserved his life. Shortly after, as David was mourning the death of his son Absalom, he again heeded the advice of his advisors, changed his response, and sat at the gate for his people to see him and be inspired (*ESV*, 2001, 2 Sam. 19:8). These biblical events provide merit to the current research and show there is a biblical precedent for the ideas uncovered.

Implications

This research fills an important gap in the literature around selective attention, sensemaking, and decision-making. There have been many calls for more research into the upper echelon’s cognitive black box (Butler et al., 2016; Mannor et al., 2016; Neely et al., 2020; Heyler et al., 2016; Wang et al., 2016; Sperber & Linder, 2018). This research provides a deep qualitative examination of the cognitive processes senior

executives use to manage their attention and act upon situations that are VUCA and suggest senior executives view the attention management process as a collective rather than an individual endeavor. This is an area not fully addressed in prior research literature, especially in qualitative ways. Findings from this research further expand our understanding of selective attention by revealing just how important the team of people around senior executives are to helping them manage their limited attention when navigating high-consequence decisions in environments saturated with stimuli.

Practically, this research may prove helpful to organization human resources management and development functions as well as executive recruiters and executive teams. For example, the cognitive insights this research provides can inform executive selection and development strategies by shedding light on the advanced thinking skills needed to successfully navigate challenging, information-saturated roles. Further, this research shows that development of executives should not necessarily be viewed solely through a narrow, individual lens but should also be viewed through a lens that recognizes the executive as one part of a larger whole team. This implies that successful executives should possess skills that help them work well with others and be open to receiving input from others as they process complex decisions.

There are further implications for how TMTs are developed and formed. Emphasis should be placed on more collective versus individual outcomes, developing TMTs to work together in their sensemaking processes in order to improve both executive performance and organization outcomes. For those currently occupying executive roles, this research may additionally provide insights that help improve

strategic decision-making and attention management skills by compelling the executive to be more inclusive in their approach to making sense of high-consequence decisions.

Limitations

This study has several limitations to consider. One primary limitation that should be noted is the limited generalizability and transferability due to the chosen methodology and population. Qualitative methods offer a deep textural understanding of the explored phenomenon. However, given the small sample size it can sometimes be difficult to generalize to larger populations (Creswell & Poth, 2018; Camic, 2021).

Additionally, the factors that affect how military leaders approach and navigate decisions can sometimes be very different than the average executive (i.e., life and death outcomes with seconds or minutes to decide). This might limit the populations to which these findings can be generalized. Similar cautions were highlighted by Heyler et al. (2016) and de Graaff et al. (2019) in their study of military officers and by Baran and Scott (2010) who studied sensemaking in dangerous contexts. The latter stressed that, while the research may be most applicable only in similar (i.e., dangerous) contexts, the research still contributed to general leadership theory development. This was echoed by de Graaf et al. (2019) who asserted that using real samples (i.e., military versus student populations) made the results more applicable to real settings. Therefore, despite potential generalization challenges, there are still deep insights to be gained by studying these phenomena in qualitative ways with retired senior military officers.

Another limitation to consider is the lack of an objective assessment on how well the executives interviewed for this research actually perform in managing their attention.

Otherwise stated, there was no pre-determination to ensure participants have shown successful performance in managing their attention before being selected to participate. However, given the fact they have promoted to the rank of O-6 or higher, there is a strong indication that their general executive performance was strong and can therefore be trusted. Finally, while this research identified the centrality of the team to helping executives manage their attention, it stopped short of identifying the optimal team composition for performing this function well. This might be another area for future research.

Recommendations for Future Research

The findings from this research reveal several areas that would benefit from future research. The first is a further examination of the idea that attention management and sensemaking are an interconnected process at the senior executive level. Findings showed much overlap in the collective process of managing attention and developing an understanding of the situation, as defined in sensemaking literature. There is a possibility that the process of sensemaking should be expanded to include some elements of selective attention. Future research can focus on understanding the relationship in these psychological processes and whether sensemaking moderates an executive's data gathering or if attention management should be incorporated into the way sensemaking is conceptualized.

Another area for future research is the impact cognitive control has on perceptual load theory of selective attention. Findings from this research indicate participants exercised some degree of cognitive control over the stimuli they attended to when

navigating high-stimuli environments. Future research can explore this perceived reality to determine whether or not executives can voluntarily allocate their attentional resources or whether they are allocated involuntarily as some perceptual load theory literature suggests (see Jo et al., 2021).

One final area for future research deals with optimal team composition to aid the attention management process. Given the centrality of teams to enabling executives to manage their limited attention, it is important to understand what characteristics of the team optimize performance around attention management. While several studies have studied or highlighted characteristics of TMT composition (Bromiley & Rau, 2016; Hartnell et al., 2016; Georgakakis et al., 2017; Liu et al., 2021), none have done so with the focus on characteristics optimal for helping senior executives manage their limited attention in high-stimuli environments. Future research can explore optimal team composition to shed more insight on these phenomena.

Summary

Those in the upper echelons of leadership must make decisions within challenging VUCA environments. These environments bombard them with information and stimuli which must be dealt with as an early part of the decision-making process. The consequences of bad decisions can be great and costly, both to the individual and the organization. Therefore, it is important to understand the complex cognitive processes in

play as executives sort through the myriad of stimuli on their way to making sense of the events unfolding around them and directing the actions of their organization.

Findings from this research reveal that senior executives do not work alone when navigating such scenarios. Of the 18 recently retired military executives interviewed, every one of them mentioned the importance of the people around them in helping them manage their limited attentional resources. Additionally, finding the mental space needed to focus, while gathering and filtering information were important elements in the process. Senior executives navigated these challenges while trying to do the best they could with the resources they have available.

This grounded theory research shows just how critical teams are to senior executives and organization performance, while also revealing insights from the executive's cognitive black box. Most notably, these findings uncover insights around the social aspects of executive thinking processes. A peak inside the cognitive black box of senior military executives reveals that managing one's attention is not as much an individual experience; rather, it is expressed by these executives as a team experience. This collective approach to attention management blends tightly with what is known about sensemaking processes and may reveal a connectedness not previously considered.

While the study does have some limitations, insights gained can inform future executive and executive team development programs as well as help organizations assemble TMTs. Further, future research opportunities can shed light on the relationship between research findings and sensemaking processes, explore the impacts cognitive control has on the involuntary nature of perceptual load, and provide insights on optimal team composition to help executives manage their limited attention in high stimuli

environments to make sense of high-consequence decisions in a world that is increasingly volatile, uncertain, complex, and ambiguous.

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APPENDIX A: SOCIAL MEDIA RECRUITMENT POST

Invitation to participate in research. Please consider supporting…and thank you in advance!

ATTENTION LINKEDIN NETWORK: I am conducting research as part of the requirements for a doctoral degree at Liberty University. The purpose of my research is to understand certain aspects of executive thinking processes, specifically related to decision-making in high-stimuli environments. To participate you must be a retired military officer who has retired in the past three years in the grade of O-6 or above and held a key position such as installation/base commander, group/battalion commander, or headquarters-level policy chief (or service equivalents). Participants will be asked to participate in an interview (approximately 45-75 minutes) and review post-interview transcripts and data for accuracy (approximately 30-45 minutes total). If you would like to participate and meet the study criteria, please direct message me for more information. A consent document will be emailed to you one week before the interview, and you will need to sign and return it via email at the time of the interview.

APPENDIX B: PARTICIPANT RECRUITMENT LETTER

Dear [Recipient]:

As a graduate student in the School of Behavioral Sciences at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to understand certain aspects of executive thinking processes, specifically related to decision-making in high-stimuli environments, and I am writing to invite eligible participants to join my study.

Participants must be retired military officers who have retired in the past three years at the grade of O-6 or above and held a key position such as installation/base commander, group/battalion commander, or headquarters-level policy chief (or service equivalents). Participants, if willing, will be asked to participate in an interview (approximately 45-75 minutes) and review post-interview transcripts for accuracy (approximately 15-30 minutes) and findings for validity (approximately 15-30 minutes). Names and other identifying information will be requested as part of this study, but the information will remain confidential.

To participate, please contact me at [redacted] or [redacted] to schedule an interview.

A consent document will be emailed to you one week before the interview. The consent document contains additional information about my research. If you choose to participate, you will need to sign the consent document and return it to me via email at the time of the interview. Thank you in advance for your consideration.

Sincerely,

Jon M. Hart
Graduate Student, Liberty University
[redacted]

APPENDIX C: CONSENT FORM

Consent

Title of the Project: Unpacking the upper echelon's cognitive black box: A qualitative study of selective attention and decision making in senior executives
Principal Investigator: Jon M. Hart, Doctoral Student, School of Behavioral Sciences, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be a retired military officer who retired in the past three years at the grade of O-6 or above and held a key position such as installation/base commander, group/battalion commander, or headquarters-level policy chief. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The purpose of the study is to understand certain aspects of executive thinking processes, specifically related to decision-making. My research will provide a highly contextualized understanding of how senior military leaders manage their limited attention in high-stimuli environments to make high-consequence decisions.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:

1. Participate in an interview to discuss your experiences in decision-making. This interview will take approximately 45-75 minutes to complete and will be conducted virtually (via a web-based platform such as Teams or by telephone). The interview will be audio- and video-recorded for transcription.
2. Validate transcripts from your interview. Once interview is transcribed, I will email a copy to you for an accuracy check. This should take approximately 15-30 minutes to complete.
3. Validate research findings. Once data analysis is complete, I will email a copy of the theoretical model for your review and validation. This should take approximately 15-30 minutes to complete.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include filling a gap in current research literature and shedding new light on senior executives' cognitive processes. This research will provide an important contribution to psychological understanding of attention management in high-stimuli environments, inform senior executive development programs, and provide a new framework for future empirical research.

What risks might you experience from being in this study?

The risks involved in this study include breach of confidentiality. All reasonable measures will be taken to protect the identify of study participants. The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a participant. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential through the use of aliases. Interviews will be conducted in a location where others will not easily overhear the conversation.
- Data will be stored on a password-locked hard drive and may be used in future presentations. The data will also be stored on a backup password-protected external hard drive that will be stored in a locked safe. After three years, all electronic records will be deleted, and any hard copy data will be destroyed.
- Interviews will be audio- and video-recorded and transcribed. Recordings will be stored on a password locked computer/hard drive for three years and then erased. Only the researcher will have access to these recordings.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Mr. Jon M. Hart. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at [redacted] or [redacted] You may also contact the researcher's faculty sponsor, Dr. Nathan Borrett, at [redacted]

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to video- and audio-record me as part of my participation in this study.

_____
Printed Subject Name

_____
Signature & Date

APPENDIX D: INTERVIEW WORKSHEET

INTERVIEW QUESTIONS

Read: The purpose of this research is to understand how senior military leaders navigate high-stimuli environments and manage their limited attention to make high-consequence decisions. Please feel free to take as much time as you need to provide a thoughtful answer to each question.

1. Can you please describe a key position you held as a senior military officer (position and role)?
2. In this role/position, who did you answer to?
3. Please describe the types and sources of information that were directed at you in a normal day.

Prime: Think of a decision you were faced with that was high-risk, high-pressure, and/or high pace.

4. Please describe the situation, using as much detail as able.
5. What challenges did you face in managing your attention?
6. What tactics or strategies did you use to overcome these challenges?
7. What kinds of stimuli were presented to you in this situation?
8. How did you determine where you needed to focus your attention?
9. How did you sort through and prioritize information and determine what made it into your decision process?
    a. If needed: how did you think about information as you considered its relative value?
    b. If needed: what made information valuable or irrelevant?

How did you know when you had a clear enough understanding of the situation?

APPENDIX E: EQUIPMENT USED

Microsoft Word

Microsoft Teams (meeting, video/audio recording, and transcription)

iPhone 12 (back-up meeting and audio recording)

MAXQDA Software (transcription, coding, and analysis)

Otter.ai Software (transcription)

Personal laptop (storage, password protected)

External hard drive (back-up storage, password protected)

APPENDIX F: CROSSWALK OF CODES TO CATEGORIES

Code System		**CATEGORY**	**SUB-CATEGORY**
Other People			
Other People\Accountability	-->	Leverage the team around you	Surround yourself with the right people
Other People\Character	-->	Leverage the team around you	Surround yourself with the right people
Other People\Trust	-->	Leverage the team around you	Surround yourself with the right people & Lean on existing relationships
Other People\Prior work together	-->	Leverage the team around you	Surround yourself with the right people & Lean on existing relationships
Strategies			
Strategies\Stay calm	-->	Create mental space to focus on issue at hand	Take care of self (rest, diet, exercise, meditate/pray)
Strategies\Stay focused on what you can control	-->	Do the best you can with what you have	--
Strategies\Bring calm to the chaos	-->	Create mental space to focus on issue at hand	Take care of self (rest, diet, exercise, meditate/pray)
Strategies\Provide top cover (for the team)	-->	DELETE - Absorbed into Teamwork and Leverage Team Around You	
Strategies\Stay organized / checklists	-->	Create mental space to focus on issue at hand	Stay organized (checklists, whiteboards, etc.)

		Strategies\Ask good questions (inquiry)	-->	Gather as much information as able within time constraints	Ask good questions (inquiry)
		Strategies\Create multiple options	-->	Do the best you can with what you have	Use time as an asset
		Strategies\Separate / create distance	-->	Create mental space to focus on issue at hand	Take care of self (rest, diet, exercise, meditate/pray)
		Strategies\Early morning orientation	-->	Leverage the team around you	Establish cadence for team meetings / updates
		Strategies\Self-care	-->	Create mental space to focus on issue at hand	Take care of self (rest, diet, exercise, meditate/pray)
		Strategies\Active listening	-->	Gather as much information as able within time constraints	Listen actively and take time to learn
		Strategies\Facilitate efficiencies	-->	DELETE - Absorbed into Teamwork and Leverage Team Around You	
		Strategies\Surround yourself with right people	-->	Leverage the team around you	Surround yourself with the right people
			Strategies\Surround yourself with right people\Develop them	-->	Leverage the team around you	Surround yourself with the right people
			Strategies\Surround yourself with right people\Diverse group	-->	Leverage the team around you	Surround yourself with the right people
		Strategies\Practice / rehearse ahead of need	-->	Do the best you can with what you have	Use time as an asset
			Strategies\Practice / rehearse ahead of need\Lots of feedback	-->	Do the best you can with what you have	Use time as an asset

		Strategies\Use people as a resource	-->	Gather as much information as able within time constraints	Use others as a resource when gathering info
		Strategies\Use people as a resource\Relationships	-->	Gather as much information as able within time constraints	Use others as a resource when gathering info
		Strategies\Use people as a resource\Teamwork	-->	Leverage the team around you	Load sharing / teamwork
		Strategies\Use people as a resource\Partnerships	-->	Gather as much information as able within time constraints	Use others as a resource when gathering info
		Strategies\Seek quality data / info	-->	Gather as much information as able within time constraints	
		Strategies\Seek quality data / info\Unfiltered Information	-->	Gather as much information as able within time constraints	Seek the best quality information available
		Strategies\Watch senior leaders (mentorship)	-->	DELETE - ABSORBED into Test ideas with others and Work collectively	
		Strategies\Do the best you can	-->	Do the best you can with what you have	--
		Strategies\Keep the right people informed	-->	Leverage the team around you	Keep the right people informed
		Strategies\Breaking it into parts	-->	DELETE - Absorbed/covered by multiple other coded segments (stay organized, most urgent, and work collectively)	--
		Strategies\Focus on the process	-->	DELETE - Absorbed/covered by multiple other coded segments (stay	--

		organized, most urgent, and work collectively)		
Strategies\Take time to learn	-->	Gather as much information as able within time constraints	Listen actively and take time to learn	
Strategies\Look for Big Picture	-->	Gather as much information as able within time constraints	Stay focused on the big picture	
Strategies\Look for Big Picture\Up and Out	-->	Gather as much information as able within time constraints	Stay focused on the big picture	
Strategies\Dive in / Press on	-->	Do the best you can with what you have	Use time as an asset	
Challenges				
Challenges\Information control	-->	Challenges / Pressures	Information volume	
Challenges\Keeping emotions out	-->	Challenges / Pressures	Emotions / frustration	
Challenges\Too much analysis	-->	Challenges / Pressures		
Challenges\Multiple priorities	-->	Challenges / Pressures	Competing demands	
Challenges\Competing demands	-->	Challenges / Pressures	Competing demands	
Challenges\Concerned with others' opinions	-->	Challenges / Pressures	Outside stakeholders	
Challenges\Poor communication	-->	Challenges / Pressures	Communication challenges	
Challenges\Frustration	-->	Challenges / Pressures	Emotions / frustration	
Challenges\Decision Fatigue	-->	Challenges / Pressures	Emotions / frustration	

		Challenges\Uncertainty	-->	Challenges / Pressures	Uncertainty
		Challenges\Outside stakeholders	-->	Challenges / Pressures	Outside stakeholders
		Challenges\Ambiguity	-->	Challenges / Pressures	Uncertainty & Ambiguous guidance
		Challenges\Assumptions	-->	Challenges / Pressures	
		Challenges\Information volume	-->	Challenges / Pressures	Information volume
		Challenges\Time	-->	Challenges / Pressures	Time
	Staying Focused				
		Staying Focused\Set a cadence	-->	Leverage the team around you	Establish cadence for team meetings / updates
		Staying Focused\Provide clear direction (to the team)	-->	DELETE - Absorbed into Teamwork and Leverage Team Around You	
		Staying Focused\Compartmentalize	-->	DELETE - Absorbed/covered by multiple other coded segments (stay organized, most urgent, and work collectively)	--
		Staying Focused\Synchronize with the team	-->	Leverage the team around you	Establish cadence for team meetings / updates
		Staying Focused\Clarity in strengths and gaps	-->	Leverage the team around you	Surround yourself with the right people
		Staying Focused\Use others to help	-->	Leverage the team around you	Allow others to help direct your focus
		Staying Focused\Gather quality information	-->	Gather as much information as able within time constraints	

	Important Questions	-->	Gather as much information as able within time constraints	Ask good questions (inquiry)
	Tension			
	Tension\Controlling risks	-->	Challenges / Pressures	
	Tension\No good options	-->	Challenges / Pressures	
	Tension\Desire to micromanage	-->	Challenges / Pressures	Desire to micromanage
	Tension\Not enough resources	-->	Challenges / Pressures	
	Tension\Decision Authority	-->	Challenges / Pressures	Ambiguous guidance
	Tension\People's Opinions	-->	Challenges / Pressures	Outside stakeholders
	Tension\Information quality	-->	Challenges / Pressures	Information volume
	Tension\You never know	-->	Challenges / Pressures	Uncertainty
	Tension\Imperfect	-->	Challenges / Pressures	Uncertainty
	Tension\Time pressures	-->	Challenges / Pressures	Time
	Process			
	Process\Gather information/data	-->	Gather as much information as able within time constraints	
	Process\Speed of comfort	-->	Do the best you can with what you have	Use time as an asset
	Process\Gut instinct (experience)	-->	Do the best you can with what you have	Draw on and trust your experience

		Process\Use time as an asset	-->	Do the best you can with what you have	Use time as an asset
		Process\Test ideas/decision	-->	Do the best you can with what you have	Test ideas with others along the way
		Process\Weigh/balance risks	-->	Prioritize information based on	Risk-informing
		Process\Analogously (based on experience)	-->	Do the best you can with what you have	Draw on and trust your experience
		Process\Collective (based on trust)	-->	Do the best you can with what you have	Work collectively to make sense of things
	Prioritize				
		Prioritize\"The things only I can do"	-->	Leverage the team around you	Only do the things only you can do
		Prioritize\Scope of impact	-->	Prioritize information based on	Risk-informing
		Prioritize\Resources available	-->	Prioritize information based on	Risk-informing
		Prioritize\Mission	-->	Prioritize information based on	Relevancy to mission / crisis at hand
		Prioritize\Crisis at hand	-->	Prioritize information based on	Relevancy to mission / crisis at hand
		Prioritize\Experience	-->	Do the best you can with what you have	Draw on and trust your experience
		Prioritize\Risk-informing	-->	Prioritize information based on	Risk-informing
		Prioritize\Source	-->	Prioritize information based on	Source / info quality
		Prioritize\Urgency/timing	-->	Prioritize information based on	Most urgent / immediate
		Prioritize\HHQ Guidance / priorities	-->	Prioritize information based on	Higher-level priorities and guidance

Filter			
Filter\Important now?	-->	Prioritize information based on	Relevancy to mission / crisis at hand
Filter\Use others	-->	Leverage the team around you	Allow others to help direct your focus
Filter\Set clear boundaries for the team	-->	DELETE - Absorbed into Teamwork and Leverage Team Around You	
Filter\Info quality/variety	-->	Prioritize information based on	Source / info quality
Filter\Source / credibility	-->	Prioritize information based on	Source / info quality
Filter\Experience/gut	-->	Do the best you can with what you have	Draw on and trust your experience
Reduce Demand			
Reduce Demand\Where can you accept risk	-->	Create mental space to focus on issue at hand	Eliminate less-urgent or lower-priority distractors (delay, ignore, or delegate)
Reduce Demand\Team effort	-->	Leverage the team around you	Load sharing / teamwork
Reduce Demand\Create white space	-->	Create mental space to focus on issue at hand	Clear or block calendar
Reduce Demand\Eliminate (low priority/importance)	-->	Create mental space to focus on issue at hand	Eliminate less-urgent or lower-priority distractors (delay, ignore, or delegate)
Reduce Demand\Eliminate (low priority/importance)\Ignore	-->	Create mental space to focus on issue at hand	Eliminate less-urgent or lower-priority distractors (delay, ignore, or delegate)
Reduce Demand\Eliminate (low priority/importance)\Delay	-->	Create mental space to focus on issue at hand	Eliminate less-urgent or lower-priority distractors (delay, ignore, or delegate)

			Reduce Demand\Eliminate (low priority/importance)\Delegate	-->	Leve team / Create space	Load sharing / Eliminate less urgent
		Reduce Demand\Narrowing (most urgent/immediate)		-->	Prioritize information based on	Most urgent / immediate

APPENDIX G: SELECTED EXCERPTS FOR CATEGORY "*LEVERAGE THE TEAM AROUND YOU*"

Category: **Leverage the team around you**
Definition: A concept that acknowledges others--the people around the executive--as a critical element of the attention managing process and frames this reality as a positive factor; one should leverage those people around them in order to help manage their attention.

- Yeah, in this case, you know, it's kind of goes back to the motto, do only things that only you can do. And so, you know, I talked about having a great vice and a great, great number commander, number of Air Force commanders, Wing Commanders. And so I tried to do only those things that only I could do. And it could be if it was something that could be delegated down, or done in a different level, let them do it. (Par 8)
- But focus on what the big priorities are, you know, and focus my attention that way. So the best way I've been able to manage that, really, is to make sure I have, you know, outstanding teams. And sometimes you inherit them, but you also can build over time as well. So, if you have outstanding teams around you, they can take care of, they can allow you to be that big picture thinker. That's the way the way I, what I've come to learn (Par 10)
- I actually had a three star general, I was at some, you know, like, professional development session. And somebody asked him, How do you do? How do you do all this stuff? And he said, I get seven hours of sleep a night because I know, I need seven hours of sleep a night. And and everybody, like had this look like because it was all like feel great officers and like, What do you mean, you get seven hours, so like, sure, we don't even get seven hours sleep. And he said, it's simple. He said, You'd focus on doing the things that only you can do. And he said, everything else, you have to you have to identify a person that can do it for you. And, and you and if they can't do it, now, your priority is to train them to do it, and you better and you got to be willing to, you know, accept some risks, because they're going to have they might have to learn the hard way sometimes but so I always thought about that, like what's, what are the things that only I can do? And let me prioritize those. (Par 11)
- So after I talked to my team, and gave them orders to move out and the priorities, I needed to go talk to my boss, I gave the stick over to my civilian Chief of Staff, and told them all right, you got where my head is at. That's all you're getting. For me. There's nothing you can't do. You know, it's confidence building with your team and crisis to. There's no decision you can make within the next hour, that's going to be wrong, just move out. And keep in mind the priorities (Par 18)

- Occasionally, you're gonna have to make a decision where you're the only one in the room that that doesn't disagree. You're good. You're the only one that thinks this is what you've got to do. Now, there aren't going to be many decisions like that in life where you have to decide that, despite everything everybody's telling you, you're right. You know, but there aren't many like that. And you, you've always got to listen to the people that are providing you information. Because basically, a lot of them are smarter than you are. And they have, they have a body of expertise that you probably don't have, particularly in a very large organization, and a very large organization, you can't know everything, you're not an expert in everything. So so you've got to, you've got to believe people that are expert and trust them. (Par 15)

Sub-Category: **Only do the things only you can do**

Definition: The idea that there are some things only the leader has the authority to do; those things that cannot be delegated downward and therefore demand the leader's attention.

- And so, while I was working on leading this intense effort, we operationally had a lot to do with it, as well. And so just, you know, to your point, trying to stay focused on the things that I needed to know, making the decisions only I needed to make and making sure that everybody understood what, what my intent was, which oftentimes changed because, you know, our nation was was kind of adjusting as we went as well (Par 3)
- I actually had a three star general, I was at some, you know, like, professional development session. And somebody asked him, How do you do? How do you do all this stuff? And he said, I get seven hours of sleep a night because I know, I need seven hours of sleep a night. And and everybody, like had this look like because it was all like feel great officers and like, What do you mean, you get seven hours, so like, sure, we don't even get seven hours sleep. And he said, it's simple. He said, You'd focus on doing the things that only you can do. And he said, everything else, you have to you have to identify a person that can do it for you. (Par 11)
- So, to go back to where the area that we're talking in terms of external stimuli, and all of these other things going on, you have to learn or, you know, teach yourself or make yourself get to the point where you can focus on these big rocks, because this is your decision, this is what you have to do, you're the boots on the ground, you're the one that can do that, no one else can do that. So it starts with setting an environment where you empower folks so that they can you put yourself out of a job, right? If nothing goes wrong, the whole place runs like a clock, right? You're there to handle these things that no one else can or should (Par 12)
- Yeah, in this case, you know, it's kind of goes back to the motto, do only things that only you can do. And so, you know, I talked about having a great vice and a great, great number commander, number of Air Force commanders, Wing Commanders. And so I tried to do

only those things that only I could do. And it could be if it was something that could be delegated down, or done in a different level, let them do it. (Par 8)

- And my deputy, and I usually, we just kind of sit down and talk those things through because I we're both extroverts. So we both think to talk, talk to think rather. And, and so we'll kind of go through, hey, here's some of the things, you know, he always asked me what's hurting your head. And, you know, I usually have a couple things written down. And so that's, you know, having a drumbeat, having a alter ego, to kind of help you think through problems and make sure you're using your time. Well, you know, the adage I use is tried to do only the things that only you can do. (Par 16)

Sub-Category: **Surround yourself with the right people**

Definition: The act of making deliberate choices about the people you choose to pull around you--to serve on your team, as your peer advisor, or as your mentor.

- So senior leader wise you know, you got to surround yourself with competent credible people. Not not that are tacticians, but that are organizational leaders, well respected people. (Par 7)
- It was really important to make sure that I formed the right circle. People kind of highlighted that a little bit, but I don't think he can over emphasize how important it is to make sure that you build a team around you that you can trust. That's one and then the other is to, to find peers that you can talk to. So that they may have have gone through a similar situation. But you can't talk to maybe you can't talk to your boss, because the boss is expecting you to make a decision. He can't talk to the subordinate because they are looking to you for a decision when you're completely could be completely lost. Maybe that pier is the one that can help you kind of refocus a little bit. So under getting getting to play people that you can trust. Whether it's your internal organization, or external I think is cannot be overstated. (Par 5)
- Who do I know and trust is an individual who have I been through either war, or other difficult times in the past, and I know their character. That was a good starting place. And so obviously, I pulled a couple folks to assist me right away from that unit, and put them close to me put that made them at deputies and key leaders. So put people that that I had a very good understanding of their strengths and character into key positions and spent a lot of time asking them, their observations, their recommendations. (Par 6)
- You have to empower those who work with you, you have to empower your team so that they know that you trust that they then will be willing to say to you, and this is what you need. They'll be willing to say, I don't know. Or loss, I don't think that's the right direction. You'll fail as a commander if you surround yourself with people who only tell you what they think you want to hear. (Par 9)

- Again, one of my very best bosses taught me, you can't suffer fools, you have to bring a team around you. That is world class, in that with that comes the flip side of that coin of you have to find new homes for those that are not world class that better aligns with their capabilities and their strengths. I used to joke with with this specific boss that he had people disappear. I just didn't know. One day they were there. The next day, they were somewhere else. He was a master at it. But he would build a team around them that there was that world class team. And that allowed him to focus on strategic right in the highest priority and the highest risk and not have to manage down to hold someone's hand at that senior level. That's really important. (Par 6)

Sub-Category: **Lean on existing relationships**

Definition: Preexisting relationships, or those formed early, can be a valuable resource to executives in times of crisis.

- And, and where I found our successes were and it's one of the things as a leader I put a lot of investment in was partnerships. Because, you know, if, if the first time you're, you're meeting somebody is when you're asking for help, or you're trying to figure out how to collaborate, but doesn't always work out very well. And so the good news was that we, you know, we'd all done numerous happy hours together, hosted a lunch every, every month. (Par 3)
- So the people that I had interacted with and had gotten data with before had worked on something for for which it was clear that the quality and seriousness of their work was similar. where I wanted to be, you know, I gave me a trust factor. So I sort of, you know, began to look at who are the right sources? And who are the right places for the data that can be trusted and then discount those that can or for when data would come from somewhere where I wasn't sure. And I didn't know, was there a way for me to send that to somebody else (Par 1)
- Another really key thing happened is I talked to a battle buddy of mine, and again, why relationships are important. And I got to several courses with this Navy guy who had been my essence, my counterpart of the Navy, Vice Admiral XXXX. And so I called XXXX and said, Hey, have you ever had anything like this happen to you? And if so, what did you do about it? (Par 8)
- So one of the things that I tried to do was to invest in the relationships, you know, and so very early in my actually, I guess it might have even been, I guess, it was right at the beginning of my command, I had to go to Washington DC for for a training session. And I actually tacked on some extra time and I went to the headquarters. So I went and visited those folks, and I think it it paid off in spades the fact that they got to actually meet me not through a computer screen, but like they could actually like say, I met him when he came to the headquarters (Par 11)

- And so I ran into a flag officer, friend of mine, or mentor of mine, who I brought this scenario to him. And I can't tell you what the questions I can't I don't remember the questions he asked. But I presented the scenario for him. And he asked me some questions that brought me back to when I went back, you know, gave me some really good food for thought that I hadn't already considered. I mean, he asked some questions that I had thought about, but he didn't really need the answers. He said, You just need to be able to answer these questions for yourself. You don't. He said, I'm happy to talk to you about it again. But so that mentorship was a really key part in my decision making (Par 16)

Sub-Category: **Keep the right people informed**

Definition: Proactively sharing information with outside stakeholders in order to circumvent requests for information, thus reducing demand on attention.

- And so, I had to focus on, you know, up channeling information to my higher headquarters, which at that point, were now numerous, just because of the nature of the base, and making sure that I was letting, letting them know, what we needed, and what resources we needed, you know, simple things of a DSCA operation (Par 3)
- So the environment is so two things is it a mission command environment or a highly managed environment? Okay. So do micromanagement and your chain and is your chain based off micromanagement right? Or is your leadership above you based off? You know, the mission? You are the subject matter expert, just keep me informed swing, keep people off your back. So it so you have the feed the bear, right? What does the bear like to eat? You got to figure that one out first, okay? Do they want to be fed constantly? Are they good with one meal a day and you feed it to him and you press on? So, you know, as far as taking care of senior leaders, because they have their own issues they're dealing with, I would upfront, give them a this is this is what the situation is. (Par 7)
- If you remember, one of the first things we did is we did a press conference before that news broke. So we broke the news. And we told him, this is what we found. And we don't have much more to report of than than this. But here's some of the things we're going to do. So what I what I did in the in it was literally about a day later that I flew up to DC to get on the Pentagon. Public Affairs place and make that briefing in front of the reporters (Par 8)
- You know, and because that's really what it's all about, and then being able to communicate to, to my boss or to other stakeholders? What, you know, where is the risk? What's the significance? And how, what am I doing to mitigate it? (Par 11)
- The person that I have lockstep to my side was not my Command Chief. Not any of my commanders. It was that major, my public affairs officer, that was the most strategic tool that I had at the time. And that poor guy, him and his team, I had him locked down in the

EOC. They were running a 24 hour shift and the communication that we have Unlike the two options are a push method or a pull method. And the the folks that we had, you know, retirees who aren't going to go pull info because, you know, they don't necessarily know where to go for it on their flip phone. You know, and they're looking for traditional ways. I don't hear giant voice I don't you know, I'm calling the hotline, there's is no hotline, you know, what are you talking about Instagram, you know. And, on the other end, the folks who are social media savvy, the most dangerous group that you have on your base and like their own militia spouse group, right? So they get on there a secret society, and in the absence of narrative and information, they'll fill that, but we didn't create it. Yeah, that's accurate or not, they're not worried about that. Information is power. And everybody wants to help. But they don't own the risk of the cascading effect for bad information. And so, yeah, so what I did was, I told him, every hour, every 60 minutes, we're going to put something out on Facebook, we're going to push information out every 60 minutes. (Par 18)

Sub-Category: **Establish cadence of team meetings or updates**

Definition: Scheduling regular team meetings in order to exchange information, provide critical updates and bin information flow.

- And we've set up kind of a, you know, an increased cadence of what some of the regular briefings were from the technical team, obviously, but had to keep that with the regular cadence of other program meetings. And just some of them were case by case decision, just alright, we'll cancel certain meeting for a day because they, they, the dependencies with the technical solution, didn't warn anything. And, and I could I carve enough time to have an open door policy, hey, if something you're seeing, feel free to come my office, let me know what's going on (Par 13)
- I would come in and orient every morning very quickly. So before so I would start a little early before the vast majority of folks were in in the emails for flying. And I'd orient myself to Hey, what's the boss doing today? Right. So what's going to be you know, how to his plate. What is staff doing today? You know, let me take a look through the boss's inbox through my inbox to see you know, Is anything going up in that? And I would say okay, here today are kind of in and that was the conversation over a cup of coffee with my deputy in my execs to say, okay, team. This is you know, today, here's kind of a couple of big rocks. Here's, here's some things we're probably going to push off and deal with later. And for goodness sakes, if that person calls I have not anywhere in the building, you know, so you, you kind of help your, your your team. And that really helps a senior leader. And this is I cannot emphasize this enough, having a team of, you know, three or four, who are able to sort because they have the same understanding that you do (Par 6)
- XXXXX command, established a very good battle rhythm that helped keep all of the component commanders focused on regular update presentations. So that helped focus me. it depends, certainly XXXXX commander at the time helped keep us focused... He established a very good battle rhythm to keep us focused. (Par 9)

- So weekly, I reflected and probably about every other week and my conversations with the CO, I would try to, you know, try to redirect not to cover my backside, but to see if I could genuinely redirect his efforts, so that he was using his people to their full potential. (Par 16)

Sub-Category: **Load sharing / teamwork**

Definition: The reliance on others to help carry the load and manage / process the incoming information; working together as a team.

- And so in some ways, I was kind of on my own, but in some ways, that's almost a perfect scenario, because I had already established all the relationships. I knew what needed to be done. And, you know, we just had a very collaborative team … But but, you know, it was, it was just one thing after another, and, and so if, if something came to me, and, and I didn't feel like I needed to make that decision, or I could delegate that somebody else, you know, I had a, you know, my executive officer was with me, and I would have him carry that message, or I would send a text or, you know, work with one of the other wing commanders and just push that to them and say, Hey, I really need I really need your team to do this. And, and it would just, it would get done, you know, you don't need to follow up on those things (Par 3)
- So, you know, my philosophy has always been that, you know, if you're in a leadership position, about 5% of the decisions are ones that you need to make, the 95% are the ones that you need to delegate have somebody else make. So having that as a relatively a baseline or foundation for how I'm going to do everything, it when a crisis does occur, it becomes easy to shed all of the debt 95% That you may be monitoring all the time. But now you can completely shed that information and focus only on that 5% that you really have to deal with to get through whatever the crisis is (Par 5)
- So now I'm switching gears as a XXXX, right. So every day was a different subject. And it was literally one over the Air Force. I was not the expert in any subject in anything that I ever came across my desk. Right. So the get an unbelievably talented office, they would they would help get that thing. Whatever it was, it was going to make its way to me, that came with a read book that came with a, you know, a summary of what are the important things that I should know out of this, that I would then take home and read every night, try to take them back every night? I would read on tomorrow's issues. (Par 8)
- So I bring that up only because like sometimes you inherit routines, but sometimes you have to build those themes, and tinker tinkerer, I inherited most of those guys, but I did hire a couple of them. And when I made sure any, any team that I lead, I make sure that I'm taking care of them not only just from a care and feeding standpoint, but also professional development, provide them opportunities to better themselves, trusting them, giving them the that trust to do the job. If they make a mistake, you know, not not don't blow a gasket

on it, you know, we live to fight another day, you know, that type of sometimes just don't make the same mistake again. So I think all that goes in with building that great team, to where they see as a senior leader, you will be able to focus on what you need to focus on during crisis in high pressure moments because you've built that team that can do what they need to do. Without you. (Par 10)

- So when I thought about the information that's coming in I would have to fight the attractive distractions like, Oh, I like I'm interested in that, or hey, I liked, I liked talking about this project, you have to say, Nope, I'm delegating that to Steve or to, you know, or who if somebody else has to do that, and then tell them, You go handle this, and you go give me an update in our regular meeting, or call me or send me an email or something like that. (Par 11)
- So sometimes, too, I'd say my decision is based on like, you know, what do I know about something like, is it like, Am I really the only one that knows about this? And has to keep this for me to manage? Or can I say, oh, you know, hold on. I know somebody else who knows more, let's bring them in to talk to you guys, that takes care of that problem. And then I can focus on really the things that only I can, you know, that only I can do? (Par 14)

APPENDIX H: SELECTED EXCERPTS FOR CATEGORY "*CREATE MENTAL SPACE TO FOCUS ON THE ISSUE AT HAND*"

Category: **Create mental space to focus on the issue at hand**
Definition: The act of reducing or eliminating demands on one's attention in order to create more mental space to address and/or focus on the issue at hand. • So, you know, my philosophy has always been that, you know, if you're in a leadership position, about 5% of the decisions are ones that you need to make, the 95% are the ones that you need to delegate have somebody else make. So having that as a relatively a baseline or foundation for how I'm going to do everything, it when a crisis does occur, it becomes easy to shed all of the debt 95% That you may be monitoring all the time. But now you can completely shed that information and focus only on that 5% that you really have to deal with to get through whatever the crisis is (Par 5) • So bottom line is I found that taking a period of time every day, you know, there was an area that I can go and not be distracted. And, and to be able to think, like that was super important for, for me to be able then to make kind of process, you know, all the different inputs that I was receiving, and allow that just time to synthesize in my brain. That was important. (Par 17) • I had to start, at least for me, I had to prioritize things on the calendar, you know, when, especially when we're not in a high risk decision period. Certain things were unavoidable on the calendar and certain things I thought I needed personally on the calendar as a distraction and break from the high stimuli thing to be able to at least clear my brain and be able to do easier tasks away from that a little bit. So that's one part (Par 1) • There are everybody wants to have a meeting with you, when you're the head of the organization, some of those meetings, you don't need to have somebody else could do it. And so, so you need to gauge whether or not this is where this is where you're going to spend your decision time. (Par 15)
Sub-Category: **Clear or block calendar** *Definition:* Actions to clear or block off time in order to create space to think about or process the information directed at an executive during high-stimuli situations. • I think it's at least my experience was that you have to when you have high pressure decisions, you got to take better control your calendar than what the normal staff is ready to give you. Right? This may not be true in industry, in other places, I don't understand their calendars day to day anymore, yet, yet anyway. But you know, there are some inevitable things. And I think in most of these

situations, you don't have the luxury of focusing only on any one issue, right. So you're gonna have one issue, that's a 10 out of 10. But you're probably going to have two or three eights, and fives and sixes that are in there that you can't ignore, right or 10. But then there's a whole bunch of like ones and twos and threes and routine stuff. And most of the others in the staff and places don't have the perspective that you have as the senior decision maker. To know that, you know, what's important to them for half hour may not may be important, you want to have our day you had nothing but today or the next couple days isn't important to you. Yeah. And so get in control that so that you can focus on those ones that you have to focus on and delay or push aside the ones that you don't, because you can't stop them with the wheel, the wheel is gonna keep going, right, there's things that come at you, and you got to really be able to do that. So it's not distracting (Par 1)

- So what I did was, essentially cut myself off for these couple three hours so that I can focus on what needed to be done. Yeah. So, and again, you know, to back to, you know, where the arena that we're talking in terms of external stimuli, and all of these other things going on, you know, you have to learn or, you know, teach yourself or make yourself, you know, get to the point where you can focus on these big rocks, because this is your decision, this is what you have to do (Par 12)
- And so something that I feel like, with the team that's right in front of me, as we were for at least a bit, we were immediately in person. And so a lot of times folks would still be coming into my office to ask me, you know, for decisions and for guidance or decisions, or oh, what are we going to do about this? And sometimes I would have to, like, cancel certain meetings in order to prioritize what was more urgent (Par 14)
- So bottom line is I found that taking a period of time every day, you know, there was an area that I can go and not be distracted. And, and to be able to think, like that was super important for, for me to be able then to make kind of process, you know, all the different inputs that I was receiving, and allow that just time to synthesize in my brain. That was important. (Par 17)

Sub-Category: **Eliminate less-urgent or lower-priority distractors (delay, ignore, or delegate)**

Definition: Clearing out tasks or demands that distract from an executive's ability to focus on the issue at hand, primarily through ignoring, delaying, or delegating.

- Yeah, in this case, you know, it's kind of goes back to the motto, do only things that only you can do. And so, you know, I talked about having a great vice and a great, great number commander, number of Air Force commanders, Wing Commanders. And so I tried to do only those things that only I could do. And it could be if it was something that could be delegated down, or done in a different level, let them do it. (Par 8)

- And most of the others in the staff and places don't have the perspective that you have as the senior decision maker. To know that, you know, what's important to them for half hour may not may be important, you want to have our day you had nothing but today or the next couple days isn't important to you. Yeah. And so get in control that so that you can focus on those ones that you have to focus on and delay or push aside the ones that you don't, because you can't stop them with the wheel, the wheel is gonna keep going, right, there's things that come at you, and you got to really be able to do that. (Par 1)
- So when I thought about the information that's coming in I would have to fight the attractive distractions like, Oh, I like I'm interested in that, or hey, I liked, I liked talking about this project, you have to say, Nope, I'm delegating that to Steve or to, you know, or who if somebody else has to do that, and then tell them, You go handle this, and you go give me an update in our regular meeting, or call me or send me an email or something like that. (Par 11)
- I absolutely am somebody who like writes things out on a on a board. So, right, like writing things out, like kind of like doing a brain dump of, okay, what are all the different things that I have going on right now? And then really kind of putting a cut line and say, Okay, I can't, I can't deal with these things on the bottom anymore. So and then making a decision of, can I give it to somebody else? Or is it something that I can, you know, erase literally erase off the board completely? Or is it something that we can just like, kick to the curb and have some, you know, it's still important, but it falls way down in line on anything that (Par 14)
- There are everybody wants to have a meeting with you, when you're the head of the organization, some of those meetings, you don't need to have somebody else could do it. And so, so you need to gauge whether or not this is where this is where you're going to spend your decision time. (Par 15)

Sub-Category: **Take care of self (rest, diet, exercise, meditate/pray)**

Definition: A focus on self-care as a means to control emotions and stress, and gain clarity in one's thinking. Includes, rest, exercise, prayer, meditation, mindfulness, diet, and other forms of deliberate self-care.

- And then the only other thing I would add to that is, there's a reliance for some self care there. If you're exhausted, mentally or emotionally or physically, you're going to make bad decisions. And in you have to be aware when you are in that mode. … you have to pace yourself, you have to do the rest cycle, you have to eat the sleep, you know, in the airplane or right way. So that you can make good decisions in when you are in a very stressful situation, regardless of the stimuli. (Par 6)
- It sounds counterintuitive. Um, but you got to take care of yourself and not in that moments, it has to be habitual, you know, this idea of self care, and self care, you know, you got to keep the mind functioning, you got to get to sleep, you got to eat well, you got to get tough

on yourselves yourself. You know, at the times where you didn't do a good job, you got to own it. And then you got to show some grace. You know, after that, I think that's the first thing is self care. (Par 18)

- Get more sleep. Right? Get more sleep. It is important. Diet as you get older, you can't outrun your fork. Diets make I wish I ate like I did do now you know, even back then when kind of seemed it didn't matter who knows what a great shape you'd be. So taking care of yourself is important. (Par 13)
- So how I came to mindfulness is because of this tragedy of losing my sisters and, and it wasn't, I couldn't concentrate. It was that I kind of I needed to ground myself. And through studying mindfulness, I came to understand how horrible multitasking is for your brain. And how horrible it is for your decision-making ability. And, you know, neuros I'm not a neuroscientist. I'm not I'm not even close. I can't even you know, play one. But, but, you know, oftentimes Now when I go for a walk, I don't turn my phone on, I love to listen to books on, you know, I love to listen to books, or books, whatever. But now, every day, I try to walk for a few minutes without just listening to listening to myself and keeping my attention thinking about the things. Because oftentimes, we will push those things out of out of sight out of mind, and we'll be distracted by a million other things. (Par 16)

Sub-Category: **Get and stay organized**

Definition: The step of adding structure and/or form to the attention managing and decision-making process, in an effort to reduce mental distraction or strain. (In rapid or time critical scenarios this step may not be present.)

- I absolutely am somebody who like writes things out on a on a board. So, right, like writing things out, like kind of like doing a brain dump of, okay, what are all the different things that I have going on right now? And then really kind of putting a cut line and say, Okay, I can't, I can't deal with these things on the bottom anymore. So and then making a decision of, can I give it to somebody else? Or is it something that I can, you know, erase literally erase off the board completely? Or is it something that we can just like, kick to the curb and have some, you know, it's still important, but it falls way down in line on anything that I'm like, yep, we can we can accomplish this and the time that I mean, that's one of the things about us in the military, right? (Par 14)
- I was not the expert in any subject in anything that I ever came across my desk. Right. So the get an unbelievably talented office, they would they would help get that thing. Whatever it was, it was going to make its way to me, that came with a read book that came with a, you know, a summary of what are the important things that I should know out of this, that I would then take home and read every night, try to take them back every night? I would read on tomorrow's issues. (Par 8)

- I'm a big checklist kind of guy. I keep, you know, by my, like many senior leaders, putting any leaders to buy my computer, I keep a notepad. When things pop into my head, I'll have a normal to do lists. And things pop into my head, I'll make a note. I usually categorize things A, B, and C, a pile the pile see pile, you know, basically, you know, the A's get done first. So, so nothing I'm telling you is the first strategy. It's not really hacks, it's just more of the time, how you manage your time and stay organized. Yeah, I've tried to leverage trying to leverage, you know, they say outlooks, kind of like your brain, you probably use about 10%, or maybe maybe even less than the capacity of Outlook, because outlook is just phenomenal. And what you can do early for reminders and flagging follow up and all that. So yeah, I've always been really big on using that flag. (Par 10)
- You know, they were meeting with XXXX doing all the little post it notes on the wall, trying to figure out how can we make this better? How can we fix it? How can we make it sustainable, so we're not a month from now. So those kinds of tactics of you know, this is our strategy. This is our goal. And we don't know we don't really want to be working with XXXX for the rest of our, you know, tours here. So let's, let's get something sustainable in place. (Par 2)
- So I write things down so that, first of all, I can go back and figure out, you know, what commitments I made to people that I may or may not have fulfilled? Because even your how you use time as a decision, right. And so I think it's, you know, what you do with your time is a decision. And so this, you know, I have a, I still take notes in that, although sometimes it's easier to take notes, and that you don't have to worry about bringing your phone into a, you know, into a classified area. Yeah, right. But I will usually, if I owe somebody an answer, that I have to make a decision about, right? And answer that I can just answer in an email, it's easy, but answer I, I try to highlight it, you know, I have my own coding system, to make sure that I give it a little bit of time. (Par 16)

APPENDIX I: SELECTED EXCERPTS FOR CATEGORY "*GATHER AS MUCH INFORMATION AS ABLE WITHIN TIME CONSTRAINTS*"

Category: G**ather as much information as able within time constraints**
Definition: The step of seeking, collecting, and/or gathering information that can help inform one's thinking of the situation at hand. • So let me go back a little bit in terms of my basic philosophy on how to make decisions in any kind of a stressful environment. And I'll be honest, I learned when I was in pilot training, is three simple things in any kind of an emergency situation is maintain aircraft control, analyze the situation, and then take appropriate action. So the first piece of that is, you know, do no harm, right, make sure that you're stable in what's going on, and don't let things distract you from the primary problem at hand. And then from that, now, you can take to a factor based assessment of what the situation is. And then once all those facts are in, and you've been able to gather as much information as possible, then you can take the appropriate action or decision step to be able to move forward. (Par 5) • So things that helped me stay focused, I guess. So as much as I could, I would want to have the best available information. If I had the best available information, the more information I had, the more comfortable I could be in navigating and staying focused, and not letting some of the other stimuli and things pull us in different directions. Because the more information I had, I could quickly fend off something that I thought was going to be not fruitful or not helpful to the to the focus of making a decision to focus on making the right decision, you know, so sometimes we ended up chasing, you know, different stimuli, if you will, that came in. And if you could fend those off quickly and stay focused, you were better off, if it took you three or four days to run down the answers to some of those things, then you're you weren't you weren't focused on where you needed to be. And so I think that's important is to have the best data you can. (Par 1) • When I had a really complicated or difficult decision, I would try to try to take in as much detail as I could. I'm a data person, not the way that you're a data person, I think. Let's say it like this, I'm an information person. I have as much information as I can before I make a decision. But what would always help for me is to take in as much as I could to learn as much about the issue as I could. (Par 2) • You, you need to establish the process to get the best accurate information that you need in a timely manner so that you have sufficient information to make the decision. And I think it's important also to communicate your confidence level to the supporting commander. (Par 9)
Sub-Category: **Use others as a resource when gathering information**

Definition: Gathering information from others or through the work of others; recognizing that others often have the information needed to inform decision-making or are key to helping the leader evaluate and filter information.

- So the people that I had interacted with and had gotten data with before had worked on something for for which it was clear that the quality and seriousness of their work was similar. where I wanted to be, you know, I gave me a trust factor. So I sort of, you know, began to look at who are the right sources? And who are the right places for the data that can be trusted and then discount those that can or for when data would come from somewhere where I wasn't sure. And I didn't know, was there a way for me to send that to somebody else? And say, you know, have you seen this? What do you think of this? So back to having that team of people so that there was more ability to evaluate the information for its accuracy, credibility, etc, if others had interacted with them, but I certainly immediately on especially on a time constraint. issue if it was high risk that relied on the past track record of proven performers, and people who I knew were going to provide me quality information and quality product. (Par 1)
- Well, you know, we succeeded because of, because of the trust and partnerships in a very diverse environment. But, you know, specifically was ensuring that the, the teams understood my intent, getting frequent updates, having trust, to make sure that they knew they could ask for help if they needed it, and that I was going to going to go to bat to do it (Par 3)
- The other, the other thing I usually think about when making decisions is, what are the best resources to bring to bear on the decision? And I think this, this is really important, I think in O6 and above leadership, right, which is also what I happen to teach here at the War College is perspective taking, right? How you broaden your perspective. So you're not just looking at a problem with your blinders on. But you know, and again, that's what my mentor did for me in the in the decision I made. But it's perspective taking it he who are the who are the subject matter experts, who can help me think about, you know, if it's a technical problem, how do well, if it's technical problem, how do I think about it? Or even if it's a people problem, right, have I talked to the chaplain about it? What's his experience looking at this or the flight doc? Right? We always, we had a flight doc assigned to us Public Affairs, right? All those specialties, the judge, but not just for a legal opinion. So you bring in those specialists who help you like if it's applicable, right, you know, and so to understand. (Par 16)
- You can so there was really power of getting the right, young peer leaders in the organization with a diverse team to then come. Bring those answers bring those results back to me unfiltered. So that's in essence, what we did with what we call we call the public hearing second, happy little name for the for the program. We did but we then selected peer leaders throughout our Luke enterprise. So we took aviators, we took missile errs, it took the maintainers we took the mission support team, we took the security force team, we took the Navy, in their reps. I had an O6 reported to me they took this team gave them the money that they needed to give them an airplane and

they flew it every base. And they interviewed every commander squadron group and Wing Commander. And that old team fanned out and took issues and they came back and briefed me in five main buckets (Par 8)

- I would reiterate that don't make these decisions in a vacuum. Use your people use your team, talk about it, write things down on whiteboard, you know, in, you know, it's just such a force multiplier to do that versus sit in your office (Par 10)
- I'm of the opinion that the best decisions come with the advice of counsel. So I'm continually trying to merge the input of others, as in this particular example that I was describing...what is the industry say is acceptable or the best? Along with, you know, what do I, I know, we have the resources to provide, versus people who are experts in how to engage with youth. And so hearing all those voices, and having time to process that information to kind of understand where the middle ground is or where the cross section of those opinions lie. So, I tend to be more deliberate in the decision making as a result, which probably delays, decisions, maybe more than my peers might be able to make decisions. And but I tend towards wanting to have more information to make a more thorough decision and hastily making a decision without enough information. (Par 17)

Sub-Category: **Ask good questions (inquiry)**

Definition: Asking questions of self and others; of self in order to evaluate your own thinking; of others in order to probe and gather information or identify gaps in understanding.

- Okay, I'm gonna have to make a decision. Am I the right person to do that? Do I have the information I need to make this decision? And do I have the authority to make this decision? (Par 4)
- And so that comes with experience, it comes with understanding the people that you can trust that, you know, you automatically know whatever they tell you is, it's got a high reliability rate, as opposed to, so you need to do that, build that in advance of the crisis. So you need to have make sure you understand who your people are. So you know, who you can almost implicitly trust versus those who might need to ask another question or two (Par 5)
- You know, it's just the way you get things done, is you put somebody in charge. You have a plan. And you hold them to timeline and make them accountable to it. Right. So what's the plan? Who's Who's in charge? What's the plan and give me the timeline and what marks on that pass? And why do I say hey, you know, Commander, what's our plan? Get well plan? .... Right, so who's in charge? Commander, I got this or what's the plan? Here's our plan, sir. And here's the timeline. All right. I'm gonna hold you accountable to that (Par 8)

- Then I went in as a hedge, so you need to think about what happens. I wouldn't get our security officer in here. What do we need to do if we need to shut the building down? What does that look like? You know, help me think through all of these other aspects. Provide me with information that you think needs to occur should the building be shut down? should everyone be forced to go home? (Par 12)
- So you need to be very, you need to ask a lot of questions. You need to show people that you value their background, you value their expertise, and you want to hear it that doesn't mean you're going to agree with them. But that's critically important to decision making. And it helps you it helps you when you get in a crisis, and you're making hard decisions. And sometimes you're making fast decisions or decisions that have to be made quickly. You kind of need to know who you can hope you can rely on who's done their homework. And and that's, that's critically important. (Par 15)

Sub-Category: **Listen actively and take time to learn**

Definition: Seeking to understand more about the issue through active listening and learning.

- I'll be honest with you. And this is true for all the decisions I've had to make as a commander. You know, when you go to the doctor, they asked, What's the best way you learn? Do you learn through reading? Do you learn through listening? Do you learn? And I always thought that was the stupidest question. Until you take a personnel guy and you make them in front in charge of a flying unit or, and or they've got, you know, learning all the engineering stuff, or, you know, pick pick the topic, right. And I found very quickly that the best way for me to learn was to show me and so if there was a situation I didn't understand,.... I say, Okay, show me. And, you know, so I would be out and about, and I would, I would make them show me where the challenge was. And then it became really apparent to me, whether it was something that we just had to suck up, because, you know, hopefully this was just going to be a couple day surge (Par 3)
- So, you know, one of my great bosses taught me, the art of active listening. And so first is I got to know, my bosses have really active listening to what their priorities were. And it's not just the words, it's not just the one slide with three priorities on it. It's when we're in a staff meeting, what gets them stressed? Or where, when the, when their boss rolls in on them? What's their boss, you know, prioritize in so really having a very firm understanding what the priorities of the organization is the boss's boss, bosses priorities, and understand the risk, right? (Par 6)
- And, and I would really, really study the intentions behind poor decisions, and the conditions and environments that led to those poor airmen decisions or poor soldier decisions. And I would I would try to put myself in that. And I wouldn't call it grace, I would just call it maybe a comprehensive understanding of a problem before making a decision. (Par 7)

- I really tried hard to listen to the, to the young people who came into the into the office, right that I didn't want backbenchers, right. So I didn't want anybody to ever be intimidated to do it because I heard this was going on, right. ... I want to listen to the action officer that put the thing together. Right. So when when you come in, I want them at the table. Right? And you could you know, that is, whatever can be at the table also. But the question isn't to, to the three star the question is to the person who did the work to say, so what do you think about this and get their opinions? Now? Invariably, I'm going to also ask their, who they brought with them and why, you know, what are their opinions is also valued and important. (Par 8)
- Well, first of all, you've got to stay rational. You can't, you can't be defensive. You've got to, you got to watch your mouth. You've got to watch your emotions. And, and you've got to listen, continue to listen to people that disagree with you. (Par 15)

Sub-Category: **Seek the best quality information available**

Definition: A focused pursuit on ensuring the leader had the most important and relevant information available--accurate, honest, unfiltered, and quality.

- So things that helped me stay focused, I guess. So as much as I could, I would want to have the best available information. If I had the best available information, the more information I had, the more comfortable I could be in navigating and staying focused, and not letting some of the other stimuli and things pull us in different directions. Because the more information I had, I could quickly fend off something that I thought was going to be not fruitful or not helpful to the to the focus of making a decision to focus on making the right decision, you know, so sometimes we ended up chasing, you know, different stimuli, if you will, that came in. And if you could fend those off quickly and stay focused, you were better off, if it took you three or four days to run down the answers to some of those things, then you're you weren't you weren't focused on where you needed to be. And so I think that's important is to have the best data you can. (Par 1)
- You can so there was really power of getting the right, young peer leaders in the organization with a diverse team to then come, bring those answers bring those results back to me unfiltered. So that's in essence, what we did with what we call we call the public hearing second, happy little name for the for the program. We then selected peer leaders throughout our base enterprise. So we took aviators, we took missileers, we took the maintainers, we took the mission support team, we took the security force team, we took the Navy, and their reps. I had an O6 that reported to me they took this team gave them the money that they needed to give them an airplane and they flew it every base. And they interviewed every commander--squadron group and Wing Commander. And that whole team fanned out and took issues and they came back and briefed me in five main buckets. And they briefed me... on the results of that, and then

candidly, we approved the vast majority of the requests that came forward to us. But it gave us again, a good an independent outside look as well as a good independent look inside. (Par 8)

- It's controlling what you know you can control and embracing that what you know, you can't control. And that second part if the tougher proposition, I think, for any commander leader, because there's a healthy dose of trust that has to come with it. And so I told because I, you know, my commanders were working hard for me, putting a boot on their throat and tightening it down, wasn't going to make their job any easier. Or get me anything that I needed cleaner and faster. So what I told them was, as information becomes available, give me bits and pieces, but make sure it's the best and most accurate info that we know at the time. Don't tell me something that's 100% Rosy just to either get me off your back or to make me feel good and take stress off of me. Don't do that. (Par 18)
- I think a lot of that comes with experience of having seen similar kinds of situations, what is the information that you need in order to make a well informed decision, and that that's executable. And so that comes with experience, it comes with understanding the people that you can trust that, you know, you automatically know whatever they tell you is, it's got a high reliability rate, as opposed to, so you need to do that, build that in advance of the crisis. So you need to have make sure you understand who your people are. So you know, who you can almost implicitly trust versus those who might need to ask another question or two (Par 5)
- You, you need to establish the process to get the best accurate information that you need in a timely manner so that you have sufficient information to make the decision. And I think it's important also to communicate your confidence level to the supporting commander. (Par 9)

Sub-Category: **Stay focused on the big picture**

Definition: Refocusing self and the team back toward the bigger picture, larger context, or strategic objective.

- You know, the propensity to micromanagement crisis is, is certainly there, especially when the eyes of the world are on you. But I just knew that, you know, my strengths were not not my knowledge. My strengths were, you know, supporting people listening, problem solving, and, and just trying to stay strategic during a real, intense tactical moment. (Par 3)
- But focus on what the big priorities are, you know, and focus my attention that way. So the best way I've been able to manage that, really, is to make sure I have, you know, outstanding teams. And sometimes you inherit them, but you also can build over time as well. So, if you have outstanding teams, you they can take care of. They can allow you to be that big picture thinker. (par 10)
- And I just said, Hey, let's, let's pull everyone in the next day. And just kind of I kind of reminded everyone Hey, ...we got a high pressure situation, let's not lose sight of the prize of prizes to get to a first flight. But we're going to do it safely, effectively and

efficiently. Because a program can't withstand a much more major catastrophe. You know, trying to put things in perspective for people, because it can get people to start to just feel the what do you call that? Soda, straw type pressure going on? Hey, let me help open the aperture. Right, let's get some more shots. And then I'm thinking alright, so one, get everybody focused on their, what tasks they're gonna go do and assuring people that it's not the it's not the end of the world, right? (Par 13)

- And then just, you know, presenting it in the big picture, keeping our eye on the big picture, what is really our priority here? Who is our priority here? And how are we gonna make sure we get done what we need to get done, and then communicating to the services guys that were at the base as well. (Par 2)

APPENDIX J: SELECTED EXCERPTS FOR CATEGORY "*PRIORITIZE AND FILTER INFORMATION, BASED ON*"

Category: **Prioritize and filter information, based on**
Definition: The procedural step of reducing down and prioritizing relevant information, based on some criteria; includes choosing what information to attend to (allow in to sensemaking or decision-making process, take action on, etc.) based on a relevancy determination. • So this is, I think, where every leader is on their own, I think that this is where you bring your uniqueness as a person and your talent to the table as the commander, right? For me, most decisions day to day when chaos is not swirling, the three things I focused on was, is it legal, moral, ethical. That's how I rack and stack my decision making. In chaos and crisis, legal, moral, ethical is secondary to, you know, what is the most immediate. And so what I came to recognize there was the priorities then became life or death. Anything that revolved around that first priority. Second thing was human safety and comfort. The third thing, nobody wanted to hear it, but it was the mission. That was for me. (Par 18) • I often prioritized, activities based off of, you know, what, what was the closest due date, you know, or close assistance, that typically or you know, what was the, you know, if there was an emergency that had popped up, you know, tended to focus on that (Par 17) • And the reason why when you're young aviator, they teach you, when anything bad happens in the airplane, you have aviate, navigate, communicate in that order. If you fail to do that the probability of a good outcome rapidly decreases. And obviously, the consequences of a of a bad outcome in that, in that in that business are catastrophic. So having years of formative experiences of, you know, not just similar trading simulator training of, you know, we call dial a disaster, where you, you know, intentionally introduced stimuli, try to overload folks to force them to learn how to prioritize and sort important from not important distractors to critical. I think that was a great formative experience for me (Par 6) • I had to prioritize things on the calendar, you know, when, especially when we're not in a high risk decision period. Certain things were unavoidable on the calendar and certain things I thought I needed personally on the calendar as a distraction and break from the high stimuli thing to be able to at least clear my brain and be able to do easier tasks away from that a little bit (Par 1)
Sub-Category: **Relevant to mission / crisis at hand** *Definition:* Based on a determination of the perceived relevancy to the organization's core mission or crisis (or issue) at hand.

- There was always that the issues, ancillary issues that are out there that are kind of nipping at your heels, and there's in with those particular issues, you have to kind of look at them and go, Is that relevant right now? Or does that really have any bearing or weight on what I'm doing at the moment? How does that factor into the calculus? And if the answer is, it doesn't, then hey, I gotta push that off the side. I can't deal with that right now (par 4)
- You're in that moment where it's just you have to kind of rack and stack, what am I going to do first. And then you got to just figure out, it might not be the right thing. But first things first. And my boss didn't like it. But he was not the first priority. The second, the third or even the fifth? Because it was helping humans first. And then what we had to do afterward, we had pinpricks all over the installation in the water mains. So all the water and on the base was starting to drain, no electricity and base housing. These were real, you know, safety life issues that we had (Par 18)
- Yeah, I guess, you know, so one of the things is, there's, in all of these scenarios, you can't focus just on the one decision you have to make, there's still a myriad of other things that in just a normal day that are going to, that you have to decide on. And there may be one is the highest level decision that needs to be made. But there's a lot of other things that have to be made throughout. And so part of it is, is making sure and the fact that you've done the CAG job, making sure that you have the staff trained as well to understand what priorities you have. And then also what kind of information that you're typically going to need for the decision at hand, you know, and it the information differs all the time, depending on what the situation is. (Par 5)
- I guess my sort and prioritization to try to bring it to one nugget was to focus exclusively on those elements of information that supported the supported commanders mission in this case can key (Par 9)

Sub-Category: **Risk-informing**

Definition: Whether or not the information helped the leader understand the amount of risk involved in the decision.

- I always was always trying to think of was is this a reversible or an irreversible decision, right? So there are those decisions that you can make. And if you get it wrong, you you got a chance to go back and change it and reverse course. And then there are those decisions where you know, it's irreversible, once you go down this path, you're not coming back. Right? And so understanding what that was helped me figure out whether that was gonna be okay, or it wasn't gonna be okay as well. (Par 1)
- And so trying to be conscious of, you know, the, I guess where I'm going is my my risk matrix was like three dimensional, because it was not just my organization, where I'm thinking about the frequency and the severity, it's the other stakeholders, whose whose risk kind of, you know, my risk bleeds over into theirs, and their risk may bleed into mine. (Par 11)

- And it's something I thought, hey, I'm going to have to answer for it at some point in time, and I'm willing to stand behind if I'm willing to stand behind it. That was my ultimate comfort. If there are ones where, hey, you know what I had at least let's then let's characterize the risk folks. So we can articulate this to leadership, and just be the honest broker on things (Par 13)
- So in an operational, so for example, we will open up an airfield to support operations in Syria. Okay, in that case, I needed to know all of the operational risks that were associated with that. That's for enemy intent or things like that. Then the other part is what's what is the airfield like? And understand what support is there? How long is there all those just basics that you need to understand, before we can even talk about are the air crews trained to be able to go into that airfield? And so that staff knows that because we've had previous conversations to make sure that information is fed in order to make an appropriate operational level decision, this risk informed? (Par 5)
- Okay, this is a lot of, you know, somewhat valuable information across the spectrum to at least consider, and then, but then you just kind of have to, at some point, narrow it down, you know, to really, what are you trying to achieve? What are you trying to get done? What, what are the another good one to always consider was, you know, obviously, the ripple effect, what are the? What are the ripple effects here in the second and third orders that we aren't necessarily considering? (Par 2)

Sub-Category: **Source / information quality**

Definition: Where the information was derived from, the person or office delivering the information, or the type of information (i.e., data/facts versus opinions or assumptions).

- I also looked at the sources of information, I was receiving the credibility, the information I was getting on the negative side tended to be for folks who are either unfamiliar with the mission, or who were in what I would say, potential danger themselves. So whereas the information I was getting from the folks in line fire, was my assessment was very honest, very direct, very clear that they understood where they were, where they had to get in, that they had skin in the game. And that in so that the sources of information, credibility, my assessment of who had skin in the game, and who was a bystander, those were all key to that decision. (Par 6)
- Just because somebody is loud, doesn't mean they're right. Yeah. But obviously, their voice gets amplified with rank. So when you're put in a situation like that, it's a great learning opportunity...How do you focus with all the noise and stuff? Identify what's noise and what's music. What's noise and what's music and appreciate the music. Give it the attention it deserves. Because it takes a lot more people to make music, than it does to make noise (Par 7)
- And the other piece, I guess is, I'm looking for objectivity versus subjectivity. And it's very hard to, obviously, always get that and understand, alright, these are subjective kind of decision versus objective. When I say objective, you know, especially for the engineer

and test community, I say, hey, you know, you don't get to have an opinion, you need data to back it up. So, I'm looking for supporting documents or supporting data that makes sense to what they've said, and can they articulate that, that it's there? And if I need to, you know, time again, time, do I need to take a deep dive or not? And usually, for the safety factor, I would have to go, Hey, let's take a deep dive into some of that data supporting your, your solution or your your decision and your solutions (Par 13)

- So the people that I had interacted with and had gotten data with before had worked on something for for which it was clear that the quality and seriousness of their work was similar. where I wanted to be, you know, I gave me a trust factor. So I sort of, you know, began to look at who are the right sources? And who are the right places for the data that can be trusted and then discount those that can or for when data would come from somewhere where I wasn't sure (Par 1)
- Typically, it uses the vice chief, if I if I know that the staff had looked at it. And not just our staff, but it also here's what success look like. Good, good successes. This has been sir guy recommends that you come and say, Hey, sir, here's the issue. And I've coordinated with the staff in here is the you know, I've got overriding consensus, yes, the people who didn't like it were this for the following reasons. I've also coordinated with OSD and the Joint Staff. And they agree with this. And I've talked to different individual services on this. And they all are in agreement this, okay. But if I asked you why you came in and briefed, and I said, Okay, here's the issue and discussion you said? I said, have you talked to the legal guys on this? Well, no, sir. Have you talked to the Joint Staff? No, sir. Have you talked to our service counterparts? Yes, sir. Okay, well, again, now, I'm much more skeptical on anything that to do with this decision? Because it really hasn't been coordinated. (Par 8)

Sub-Category: **Most urgent / immediate**

Definition: Considering the relative important or immediacy of information and filtering based on the leader's assessment.

- Although it sounds, you know, like a horrible strategic leader, you've got to address the things that are going to happen in the order, they're gonna happen for the most part. And, you know, if something's gonna happen within the next 12 hours, we've really got to focus on that (Par 3)
- My division commander, my brigade commander, both said to me and my peers, hey, do the things you think are important. We'll take we'll take assume risk for the rest. And I'm like, okay, so you're asking me to make this decision on what's important and what's not. All right. With some level of comeback, so there was it wasn't like a carte blanche, you just blow stuff off. It was a Hey, sir, I'm not doing this, this and this, that, that and that. But I will do this, this. And this, because this is important. And this in the grand scheme of what I'm looking at, it actually makes sense. (Par 4)

- And the reason why when you're young aviator, they teach you, when anything bad happens in the airplane, you have aviate, navigate, communicate in that order. If you fail to do that the probability of a good outcome rapidly decreases. And obviously, the consequences of a of a bad outcome in that, in that in that business are catastrophic. So having years of formative experiences of, you know, not just similar trading simulator training of, you know, we call dial a disaster, where you, you know, intentionally introduced stimuli, try to overload folks to force them to learn how to prioritize and sort important from not important distractors to critical. I think that was a great formative experience for me (Par 6)
- We had to have a sense of urgency. And by golly, we did, because we knew is existential, we were gonna lose the trust of the American people. In the Department of Defense, we had to build a team of believers, who believed in what we're doing, we had to communicate that and everybody had to understand it. And basically, not only know it was the right thing to do, but believe it was the right thing to do. And then they had to start seeing results, right. We call it hidden singles. We, we had this show, you know, you said this, in the Air Force has taken action to do this to make lives better. And then we had to make that kind of, you know, just the way we did business (Par 8)
- Yeah, you handle those things that are immediate, the triage, and then you write setting the conditions for the rest of the staff, which is, okay, we can handle this, the rest of it, you know, we just need to do but, you know, obviously, as you can appreciate, there's going to be media, there's going to be all of these things that are happening (Par 12)
- So I tend to be somebody who really kind of compartmentalizes so it's like, if I, if I have a, a problem, that is, you know, important and urgent, you know, it's like, okay, well, that has to maybe direct my calendar and what I'm able to do, and, and setting meetings and things like that, in the short term, (Par 14)

Sub-Category: **Higher-level priorities and guidance**

Definition: Based on guidance or direction from higher-level headquarters or leaders; the priorities given to you by a higher-level authority.

- What's their boss, you know, prioritize in so really having a very firm understanding what the priorities of the organization is the boss's boss, bosses priorities, and understand the risk, right? (Par 6)
- The other thing as far as decisions that I did have to make was, okay, if I'm having to decide between doing this and this, what is it my boss said, or what is it my boss's boss said, is the most important thing. And that's where I'm going to default to it, you know, in my

head, it's like, Hey, you either have to do this, or this? Well, I know, my boss, my boss's boss are both big on this, then I'm going to to weight effort over here. And this other one, I'll kind of brush this, I'll push off this side. (Par 4)

- Generally speaking, I've always been a work your boss's priorities type of guy. Yeah. You know, take care of your people, but work your boss's priorities and sometimes your boss's boss's. So if you know if you know the big projects you're working on, have things that you're working on for the big boss, that's basically kind of a bigger picture, if that's what I'm trying to do as a senior officer not to get down in the weeds too much. But focus on what the big priorities are, you know, and focus my attention that way. (Par 10)
- Understanding the priorities of my boss really helped me help shape it for me, right, understanding his priorities, and where he felt like we were going as a command. (Par 2)

APPENDIX K: SELECTED EXCERPTS FOR CATEGORY "*DO THE BEST YOU CAN WITH WHAT YOU HAVE*"

Category: **Do the best you can with what you have**
Definition: The guiding concept to accept and simply do the best you can with the resources (time and information) available to you when a decision must be made. • I don't think you ever really know, if you have enough information, you know, it just, I think you do the best you can and you try to be true to yourself, you try to be true to the people that you're making the decision about, and do the best you can, because you just can't wait until you have a full understanding of the situation. (Par 2) • And so that's another I guess, that's another big piece to say, knowing what you can control and what you can't write, if it's beyond your control. Just understand, and like I said, be able to defend or at least articulate, hey, here's why. Here's why particularly why you made your decision and what it was based on. That's, if I can do that, then I'm comfortable. If I can't. And you know, the problem is, if you can, and you're out of time, well, then you got to me, you just got hate here, I don't have the desired information. But if I had to make a decision, if you're asking me to do it, here's what I base it on, even though I don't think that's sufficient. (Par 13) • So I'm like, no matter what I do, this isn't going to like I have a deadline to make I have to come up with information. I can't ask the subject matter experts. So that's where I've had to just say, Alright, I'm gonna just do the best I can with the call the few people I know who might know something, and go from there (Par 14) • So it always goes back to that anthropological background alone. You know, what are you going to do, you can panic and seize up and sit here for minutes and minutes and half hour an hour can go by, or catch your breath, and then start to really settle into your mind how you're going to deal with it. As you're moving forward, as you're driving, you got to keep going one foot in front of the other. (par 18)
Sub-Category: **Use time as an asset** *Definition:* The concept that time should be viewed as an asset, framing the boundaries of one's decision window, rather than a hindrance to one's ability to make decisions. • Other ones like, let's take the XXXX. I thought that we needed to be much more deliberate and much more careful about because the tenor around the issue was so sensitive and high pressure that we had to one show that we had a thorough understanding of the problem and thorough review of the problem. And I'll say even in some cases where we knew what the like, I knew what the answer was going

to be. But two or three months of analysis and stuff were important to be able to provide credibility and more than just saying, you know, it was based on this general officers gut feeling. (Par 1)

- And then to let it almost like say simmer in my brain, like if I could take a day and not make the decision until the next day, particularly, like just disciplinary decisions and those kinds of things where it's always a little murky. Like he said, she said, you don't really know what's, what is the ground truth here. If I take in all of the information, give myself a day, I would usually honestly wake up the next day and be like, Okay, this is what I'm gonna do. Because this is what I feel like is the right thing. This is, like, is the most effective thing, this is what I feel like is the best long term decision, whatever the case may be. (Par 2)
- And if there were occasions where the answer was no, that's, I don't think this is something you have, you know, this is not something you have to do, then a mark that I'm not going to make, I'm not gonna decide on that right now. And so, that's another thing another aspect of his timing. Not only is it not my decision, but do I have to make a decision now, and I've been around people that and I've seen enough in my career where people would absolutely wait to the absolute last second to make a decision. And that can be detrimental as well. I never had the sweet spot was always getting to a point where it's like, okay, at what point in time do I need to make the This decision, I don't want to make it here, backup from that. And let's then so again, it's that mental calculus coming into play. It's like I need to make that decision. Let's say, you know, go no go is like Friday. Okay. And then Monday, do I have to decide, I got to make a decision by Friday. But I need to give time for my people to adjust. I'm going to make a decision Thursday. (Par 4)
- Honestly, if you have time, and it's a high risk decision, you can demand higher quality analysis. Second, third, opinions, you know, if you are putting, you know, the boss, or future force structure, or whatever that high importance, thing is in, you've got time, then you should take the time to slow down and do it right. (Par 6)
- And one of the things he said which we did, which was really great advice is we is we bought time. And the way we bought time was an outside independent person to come do an investigation into the command. And I asked him and XXXX, who was a buddy of mine who was a not a new kid, I wasn't steeped in anything nuclear. But I just I know what I know is his thoroughness and the way he would approach things. I said, a cheap with your permission. And I'd like to ask XXXX to come and take this independent look at us, which he did. And that took 30 days and asked him to complete it in 30 days, which, again, bought me time to think through the problem and then think through Okay, so then what, how do we get after this? And what are those some of the next steps. (Par 8)

Sub-Category: **Test ideas with others along the way**

Definition: The act of calling in others (mentors, advisors, peers, coworkers) to give feedback on, listen to, or evaluate one's ideas or logic.

- Well, first of all, you've got to stay rational. You can't, you can't be defensive. You've got to, you got to watch your mouth. You've got to watch your emotions. And, and you've got to listen, continue to listen to people that disagree with you. Another thing you've got to do, I found is you do even as a even as a three or four star, you have peers. And you have to have people that you trust that you can call and bounce some of this off of as a match. (Par 15)
- Certainly, having someone as either a sounding board, or somebody that you can trust to, to speak with, I think is is really helpful, too. And somehow, I've noticed a lot of times, you know, whether whether it's, it doesn't even necessarily matter if the person is skilled in the area that we're talking about. Sometimes it's just helpful for me to talk things out with someone and then like, hear what's going on in my own in my own head. And that also, too, has been helpful to like, have those have those moments of like, oh, well, I don't know this, or I don't know that, or, Oh, this is perfectly clear. Now. Here's what we need to do. (Par 14)
- Um, you know, I had XXXX, you know, the XXth Wing Commander by my side, I had a command chief who I relied upon the other Wing Commanders, you know, we we weren't competing against each other. So we were very, you know, very like, Hey, man, what do you think, what am I missing? (Par 3)
- Now, I did have my sergeant major, you know, in the middle in the army, we, as the Air Force does to that as a tank commander, that Sergeant Major that chief is your, I mean, that's your writing in person. And before I made any decision and talked to my boss, I said, What do you I said, here's what I'm thinking, what do you think he was sir. He is like, I supported 100 person I support delayed I'm gonna percent he said, This is gonna be this is gonna be a mess. And I said, I know. And so. And it was always good to have that wing man with you to help make those tough decisions (Par 4)

Sub-Category: **Work collectively to make sense of things**

Definition: Working together with others, in tandem, as a strategy for managing attention and staying focused on the right things during decision making processes.

- Before I made the first decision, what I did was pulled the Colonel's together like group commanders pulled my major who was public affairs, pulled in our lawyer because it'd be crazy to do anything without a lawyer, and command chief, and for certain, we all got together in a very small room. And, you know, I told him, here are the things that I'm going to focus on life or death, human health and safety, love, comfort, health and safety. And then it's the mission. And then the fourth is partners downtown. So I told them, that's my

rack and stack. And so for them, they needed to figure out for their groups in that context, working together, how they were going to split their priorities, and how they were going to meet the intent that I had to make sure my priorities were lined up. And whether it fell solely within their group or whether CG had to get with the MSG, to figure out, you know, we've got equity in these two different things. How are we going to split this load. And so their credit, the group commanders, in turn, took the cue, they brought in all the squadron commanders. And they did the same thing with squadron commanders. And so when we opened up that session of first pulling all the leaders together, who had the authority to go out and make decisions to give orders and to take risk. It was important to first start there before we get into anything else (Par 18)

- So those are the things that give me the certainty is, I'm gonna obviously if you're going to head nod from all your leads, and they've each articulated with like I said, the backup the data, and hey, hey, if you can make help me make it say it. Almost. Let's translate it to layman's terms. So someone outside who's not familiar with this stuff. We can boil it down to that that's what I know. I've got a good solution that I'm going to sleep at night and not have to (Par 13)
- So the way that I make my best decisions is by bringing in sort of people that I trust, and people with different opinions. And then I basically say, tell me what you think. And so I would bring in like, you know, we got some problem with this. Aegis Ashore, I would bring in my real estate chief or my, my chief financial officer, they didn't know anything, but they're smart. And, you know, they were, you know, I had a bunch of older males, you know, working on On this, my chief financial officer was 40 years old and an up and coming female, you know, who had never worked on a project? And I'm like, so tell me what you think, Why, what's your impression of this one? You know, my real estate person had spent a lot of time in the Corps of Engineers, more so than some of my, you know, construction people. But she hadn't worked in construction. And so, so yeah, what, so bring in different people, and then say, if I can frame the problem for them, say, here's our problem statement, you know, and, and sort of get consensus on the problem statement, and then listen to, you know, diverse opinions on what to do. And if, if the majority of the people get, you know, and certainly people that felt very strongly were like, Hey, we ought to do this. And that didn't, that and that sort of was in in line with my own sort of gut Azmuth, then I was like, Alright, it's time to go. And that that's how I always felt best, because I never wanted to be the guy who's like, you know, proverbial, had to make the Split Second Life or death decision with impartial information. I mean, I was, I was willing to do that. But I'm like, but don't do that, unless you absolutely are in that situation. (Par 11)
- You know, so, so is COVID hit is an example you have all this information coming in from the news and you know, all this stuff and it was about you know, just watching, listening, hearing appreciating, and then you get to the point where you know, we have to make a decision. Yeah. And then you and you just go this is the information that I have. And you know, now I'm making my decision. This is where I would bring my you know, brain trust in (Par 12)

- And I would say okay, here today are kind of in and that was the conversation over a cup of coffee with my deputy in my execs to say, okay, team. This is you know, today, here's kind of a couple of big rocks. Here's, here's some things we're probably going to push off and deal with later. And for goodness sakes, if that person calls I have not anywhere in the building, you know, so you, you kind of help your, your your team. And that really helps a senior leader. And this is I cannot emphasize this enough, having a team of, you know, three or four, who are able to sort because they have the same understanding that you do (Par 6)

Sub-Category: **Draw on and trust your experience**

Definition: Allowing one's past experiences to inform how they approach managing their attention in decision-making; this includes finding analogies, trusting one's gut instincts, and reflecting on past events to help determine how to proceed.

- If the situation, even if I hadn't directly seen it the situation, I could relate the situation to other things. So if I was analogous to something else I had experienced or done, or it was something I actually had experienced or done before, I would be much more comfortable gut wise (Par 1)
- I think a lot of that comes with experience of having seen similar kinds of situations, what is the information that you need in order to make a well informed decision, and that that's executable. And so that comes with experience, it comes with understanding the people that you can trust that, you know, you automatically know whatever they tell you is, it's got a high reliability rate, as opposed to, so you need to do that, build that in advance of the crisis. (Par 5)
- To be frank, you know, agent experience, gives you, you know, hopefully gives you the ability to think on multiple levels and multiple planes. And, you know, in a lot of cases, you know, you in the military, your success, and I'm very honored to have achieved the position that I did. But I did that, you know, I was, I was a lieutenant, I was a captain, I was an Operations Officer, I was an executive officer, I was the Chief of Staff, you know, all of these a little, you know, the path to making it to where I did, you know, you pick up nuggets of information. And so, you know, in one of the difficulties with the military, is that you, you're promoted, and you're put in positions based on the leader, you know, that leaders perspective of how well you will do, but you've arguably never done it before. Right? Right. So the first time you're in escrow, is the first time you're an expo, right? Be easy, if you are groomed to be an expo. But you're not you pick it up. And, and so, you know, that's a learning process. And so, I had a senior leader tell me, you know, to appreciate that I am the most experienced person in the command. (Par 12)
- You know, what are you going to do, you can panic and seize up and sit here for minutes and minutes and half hour an hour can go by, or catch your breath, and then start to really settle into your mind how you're going to deal with it. As you're moving forward, as you're driving, you got to keep going one foot in front of the other. And I remember doing that. So it was interesting. And all of that was

> almost this biological imperative to just, it's the survival instinct of, you gotta keep going and keep pushing through it. And I'm convinced it was just because of years and years of conditioning. At that point, I had 19 years in service of training for you know, we got to deal with this right now will hot wash the problems later, we have to go right now. (Par 18)

APPENDIX L: SELECTED EXCERPTS FOR CATEGORY "*CHALLENGES / PRESSURES*"

Category: **Challenges / Pressures**
Definition: An acknowledged challenge or tension that exists in an executive's effort to manage their attention.
Sub-Category: **Time** *Definition:* Pressures related to time constraints. • I don't know if it's related or not. But this also depends on on timeframe of the decision, right? Decision, if it's, the buildings on fire, make a decision to jump out the window and not spend a lot of time analyzing the data. If we have more time, I'm going to try to get from the uncomfortable position to the comfortable position by calling more people and doing those things. (Par 1) • I don't think you usually do know, you know, I mean, usually, usually, the time pressure, the time sensitivity, honestly, doesn't necessarily ever allow you to have the fullest understanding of the situation. You know, but but it's a, it's a balance of, you know, they, whatever, whatever you want to call it, the 80% solution that the now solution (Par 2) • Yeah, challenges were. Time, time, never enough time. That's true. In combat ops, that's particularly true in a devastating, you know, humanitarian relief operation in this crisis, where people were dying. sources of food are destroyed, people are homeless, they need medical care, et cetera. So that time is the biggest challenge. (Par 9)
Sub-Category: **Uncertainty** *Definition:* A lack of certainty about the future or what to do. • And, and so, you know, I needed to keep my team focused on, on completing the mission. But I didn't necessarily know exactly what that was. And as, as people came through, and they were asking questions, we didn't know exactly what to tell them, they didn't exactly know, what they were there to do, or where they were supposed to go. And they just know, they were supposed to be there. (Par 3) • Who you never really know, do? You think, you know, even those decisions that I talked about earlier, where there were no brainers. I mean, there were times where you're still making a decision going. Okay, I'm going to make this decision. I don't know if it's the right one. But if I weigh it against, if I weigh everything else, meaning I weigh the, what my responsibility is, what the mission is, what my boss is saying, and those those kind of in alignment, then it's probably the right decision. It was the decisions that that was the some of

the hard decisions, were always the ones where I was like, Okay, I'm having to think twice about making this decision. Do I go with it or not? And is it is it important enough for me to, to take that leap, if you will? (Par 4)

- So it's not so much about going yep, that's the right answer. There's, there's hardly ever a right answer that, especially at the senior level, there's variations of the theme, you know, we're and, and I would go back, if it were, if there were one right answer, then your staff would just know it, and they could execute it, and they wouldn't even have to bother you with it. The fact that these decisions are coming to you means that there's no right answer, it's a choice. I go this way, or I go that way, both of them are going to have consequences, both of them are going to have risk. (Par 12)

Sub-Category: **Outside stakeholders**

Definition: The concerns of others, outside of the primary organization-level (includes both internal and external stakeholders).

- There's many parts of the portfolio that I had, where it was clear that the decision authority to make a decision was mine. But that the level of implication of that decision meant that those who are above me did not want me to make that decision. unilaterally, that there was a expectation that there would be coordination, an expectation that there would be sometimes deferment to the decision, and certainly an expectation that there will be kept in the loop. (Par 1)

- So and then kind of figuring out from there, who were the key people that needed to know, and kind of what was my messaging going to be to them, as well as balancing the fact that, you know, the Corps chief and HRC, like human resources command? And some others, you know, wanted swift decisions. (Par 14)

Sub-Category: **Emotions / frustration**

Definition: The executive's own emotional state or sense of frustration at the event unfolding.

- You know, there's obviously there's a million decisions every day, honestly, I felt like after I retired, I realized I had just read an article about decision fatigue. And I was like, I really think I hit decision fatigue. So tired of the constant decision making (Par 2)

- Well, first of all, you've got to stay rational. You can't, you can't be defensive. You've got to, you got to watch your mouth. You've got to watch your emotions. And, and you've got to listen, continue to listen to people that disagree with you. (Par 15)

- You know, what are you going to do, you can panic and seize up and sit here for minutes and minutes and half hour an hour can go by, or catch your breath, and then start to really settle into your mind how you're going to deal with it. As you're moving forward, as you're

driving, you got to keep going one foot in front of the other. And I remember doing that. So it was interesting. And all of that was almost this biological imperative to just, it's the survival instinct of, you gotta keep going and keep pushing through it. (Par 18)

Sub-Category: **Competing demands**

Definition: Multiple demands or distractions that compete for the executive's time and attention.

- One thing that we didn't talk about this very hard is when you have multiple bosses, and you're working to balance having a very good understanding of of all of your bosses priorities and red lines and their interactions. So that when you are forced to balance between bosses with positions that are not totally aligned, you can you can pick them or at least manage the one that is not going to be as happy (Par 6)
- Where are you guys, you know, and that kind of trying to figure that out and solve problems for on another on a parallel stream, if you will, meaning that I couldn't, I couldn't abrogate all my responsibilities for supporting the brigade, to me go into the field. And so that was always a but that was, that became something that was that was just normal. Normal thing I knew I could never, because what the other units on a different training cycles and doing different things I knew that I could not afford, the brigade cannot afford for me just to go unplug my battalion and go someplace else. Because if it was not realistic, so it was always it was always competing demand, I guess it's probably the best way to describe it. (Par 4)

Sub-Category: **Desire to micromanage**

Definition: A desire from the executive to get too involved in the details of the situation or micromanage.

- You know, the propensity to micromanagement crisis is, is certainly there, especially when the eyes of the world are on you. But I just knew that, you know, my strengths were not not my knowledge. My strengths were, you know, supporting people listening, problem solving, and, and just trying to stay strategic during a real, intense tactical moment (Par 3)
- And believe me, as you can appreciate, there's been more than one time where I've heard a phone call going on next door, and I've wanted to stand up, and I've had to stop myself because I was handling this, he's going to come I trust him to come and talk to me, if he doesn't think he can do it, and then oh, by the way, if he, if he does muck it up, I can, I can fix it, you know, very little things in it. And if it, you know, so having that, you have to create that trust amongst your staff. (Par 12)

Sub-Category: **Ambiguous guidance**

Definition: A lack of clear guidance from higher organization levels.

- I think probably one of the confusing things that we had, and I gotta be probably careful how I say this is, um, you know, the [higher headquarters] didn't necessarily provide us the best, the best guidance. (Par 3)
- There were some decisions that weren't mine. Yeah, that I was kind of made to given or put in front of me. And I'm like, is do I? Am I the right person number one to make this decision? And so that was that's, there was always it's always been a question I asked first, it's like, Okay, I'm gonna have to make a decision. Am I the right person to do that? (Par 4)

Sub-Category: **Information volume**

Definition: Too much information to adequately process and make sense of.

- It is, you know, challenging because I think a lot of time you get a lot of extraneous information that may or may not have any bearing? Yes. Especially when you're talking about people, right? When you're working on people issues, and then, or people topics, you get a lot of emotional input you get, you get a lot of very similar bias input, you know, depending on other people's around and history and things like that. And you can't, you know, can't just depending on the situation, you can't just necessarily carve out anything emotional or any bias because it's there, you know, it's just part of that part of the whole configuration (Par 2)
- If the environment, if it was something I hadn't done at all, but there was a significant amount of information available to to review it and go on it, then I would also feel more comfortable that gut was, if the situation was something I'd never experienced before. And it was the data that I wasn't, then it made me more leery of using my gut in those situations, because I just didn't have because my gut, at least my gut tends to be influenced by and guided by previous interactions. (Par 1)

Sub-Category: **Communication challenges**

Definition: Poor communication up, down, or across the organization.

- And then honestly, trying to speak the language with director, not a lot of, you know, common terminology, that, that we were used to, and, and just taking the time to learn do like a process, almost like a process improvement. And then where we, you know, mapped out what is the process? And we're why and where is it breaking down? That kind of thing? (Par 2)
- If you don't have you can't explain why you're doing something, or why it needs to be done to a certain unit at a certain level, then you probably need to look in the mirror and go, Do I really need to be doing this? (Par 4)