



LUND UNIVERSITY
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Less Closure for Better Closure

What HR-managers should do to mitigate the negative aspects of an employee's high
Need for Closure in a VUCA world

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Abstract

The VUCA world we face today, proposes challenges for individuals with a high Need for Closure (NFC) as they may experience decreased well-being when faced with uncertainty and ambiguity. This in turn creates a problem for organizations as their employees with a high NFC may struggle to come up with innovative solutions to the complexity they are facing, making it difficult for the organization to keep up with the rapidly changing organizational landscape (Kossowska et al. 2018; Roets & Van Hiel, 2008). Previous research has not addressed what can be done to mitigate the negative aspects of a high NFC in an organizational context. Therefore, the purpose of this study is to increase awareness about this challenge and provide HR-managers with recommendations for what they should do to mitigate the negative aspects of an employee's high NFC.

To fulfill the purpose of this study an explorative and qualitative approach was used, which combined information from literature with findings from 11 semi-structured interviews with experts and HR-practitioners. The findings propose that HR-managers should implement strategies on an individual, leadership, and organizational level. These include: help employees develop self-awareness, expose them to diverse environments, encourage leaders to adapt their leadership style to employees with a high NFC, foster experimentation and learning in the culture, and implement supporting structures. These measures could provide structure, clarity, and a sense of predictability in uncertain and ambiguous situations and thereby mitigate feelings of distress and discomfort for employees high in NFC, which in turn mitigates the negative aspects of their high NFC.

The study contributes to an existing research gap, and provides valuable insights for managing complexity and improving employee well-being in VUCA environments. Future research could conduct a broader theoretical framework, more interviews with NFC-researchers, investigate how common a high NFC is, and explore the effects of the proposed recommendations in this study.

Key words: Need for Closure (NFC), HR Management, VUCA (Volatility, Uncertainty, Complexity, Ambiguity), Employee well-being, Employee development

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List of Abbreviations

HR:	Human Resources
VUCA:	Volatility, Uncertainty, Complexity and Ambiguity
NFC:	Need for Closure
NFCS:	Need for Closure Scale
AAC:	Ability to Achieve Closure

Table of Contents

1. Introduction.....	6
1.1 Background.....	6
1.2 Relevance of Study.....	8
1.3 Purpose.....	9
1.4 Research Question.....	9
2. Methodology.....	10
2.1 Research Approach.....	10
2.2 Research Design.....	11
2.3 Data Collection.....	12
2.3.1 Sampling.....	12
2.3.2 Semi-Structured Interviews.....	15
2.3.3 Literature.....	17
2.4 Data Analysis.....	18
2.5 Methodological Discussion.....	19
2.5.1 Saturation.....	19
2.5.2 Transferability.....	20
2.5.3 Ethical Considerations.....	20
3. Theoretical Framework.....	22
3.1 VUCA.....	22
3.2 Need for Closure.....	24
3.2.1 Definition and Explanation.....	24
3.2.2 Individual High vs. Low NFC.....	25
3.2.3 Need for Closure Scale.....	26
3.2.4 Ability to Achieve Closure vs. Need for Closure.....	27
3.2.5 Advancements of the NFCS.....	28
3.2.6 NFC in an Organizational Setting.....	28
3.3 Making Sense of Complexity.....	31
3.3.1 Cynefin Framework.....	31
3.3.2 Mindset.....	32
3.3.3 Three Habits of Mind.....	33
3.3.4 Experimentation and Learning Culture.....	35
3.3.5 Frequent High-Quality Feedback.....	37
3.3.6 Directional but Agile Visions.....	37
3.3.7 Clarity of Communication.....	38
3.3.8 Self-Awareness.....	39
3.4 Concluding the Theoretical Framework.....	40
4. Empirical Results.....	41
4.1 Self-Awareness.....	42
4.2 Understanding Different Perspectives.....	44

4.3 Tolerance Toward Uncertainty and Ambiguity.....	45
4.4 Leadership.....	46
4.5 Identifying the Context.....	47
4.6 Clarity and Supporting Structures.....	48
4.7 Psychological Safety.....	49
4.8 Experimentation and Learning Culture.....	50
4.9 Collaboration.....	51
4.10 Right People for Right Role.....	52
5. Analysis & Discussion.....	54
5.1 Individual Level.....	54
5.1.1 Self-Awareness.....	54
5.1.2 Openness to Different Perspectives.....	55
5.1.3 Right People for the Right Role.....	56
5.2 Leadership Level.....	56
5.2.1 Leadership Styles.....	57
5.2.2 Clarity.....	57
5.3 Organizational Level.....	59
5.3.1 Experimentation and Learning Culture.....	59
5.3.2 Collaboration.....	60
5.3.3 Supporting Structures.....	61
6. Conclusion.....	62
6.1 Answering the Research Question.....	62
6.1.1 Recommendations.....	63
6.2 Contribution.....	65
6.3 Research Limitations.....	65
6.4 Future Research.....	66
Reference List.....	67

1. Introduction

1.1 Background

The human mind is wired to make decisions everyday for the purpose of our survival; what to eat, when to sleep, or which direction to go in. These choices are all binary, there is a yes or no answer and they help us make sense of and survive in this world. However, the modern world we now live in is not binary, behind every corner there is something new affecting our decisions. For example, choosing to eat a tomato used to be an easy decision to make with little implications. In today's world, choosing to buy a particular package of tomatoes can imply that you are indirectly exploiting labor or contributing to global warming. One choice equals several choices. Making strategic decisions today is difficult, sometimes due to the unpredictability of its nature, and sometimes due to the overload of information which makes it almost impossible to decide which direction to go in. These conditions lead to individuals feeling confused, frustrated, and overwhelmed about how to make sense of their surroundings.

The changing world described above is often referred to as VUCA, an acronym which stands for volatility, uncertainty, complexity and ambiguity (Begeç and Akyuz, 2023; Forsythe et al. 2018; Saleh and Watson, 2017). This concept is widely used in organizational settings to describe the increasingly dynamic, radical, and constant change of the environment and how difficult it is to make decisions in it (Begeç and Akyuz, 2023; Forsythe et al. 2018). Despite the world becoming more “VUCA”, it is important to already illuminate that not all aspects of the world are in fact volatile, uncertain, complex, and ambiguous (Berger & Johnston, 2015) - sometimes choosing to eat a tomato is a simple choice.

However, Berger & Johnston (2015) state that when a situation is in fact complex and uncertain, many individuals feel confused and frustrated and therefore tend to quickly simplify, categorize, and fill in the connection between cause-and-effect with very limited information in order to regain a feeling of comfort and control. They further emphasize that as a consequence, those decisions are not necessarily good ones due to the decision-making process being motivated by finding stability rather than finding innovative solutions. Additionally, they explain that individuals who experience this need to find an answer will

experience anxiety and discomfort when they are not able to do so, which is often the case in a VUCA world (Berger & Johnston, 2015). However, this need is not equally strong in every individual - some are more comfortable with the implications of a VUCA world than others.

One way to understand and make sense of this discomfort with uncertainty and ambiguity is by applying the concept Need for Closure (NFC) which is defined as “the need to settle for any answer, as opposed to further sustaining ambiguity” and differentiates among individuals (Roets & Van Hiel, 2007, p.267). Some of the negative aspects of having a high NFC is the tendency to draw hasty conclusions based on limited information, relying on heuristics and stereotypes, as well as a resistance to explore multiple perspectives (Baldner et al. 2019; Roets et al. 2015). Additionally, the absence of clarity and structure may cause distress and anxiety for individuals with a high NFC. As the world we live in today is characterized with an increasing amount of unpredictability and uncertainty, the NFC in the general population might increase (Kossowska et al. 2018). When presented with an increasingly complex social world, any answer or belief can seem attractive for a person who prefers quick and stable answers, as they can contribute to making the complex world seem more simple (Baldner et al. 2019; Roets et al. 2015). Although having a high NFC in a complex world has implications in all aspects of life, it has been particularly emphasized as challenging for organizations that intend to maintain well-being among employees and keep up with the rapidly changing world (Kossowska et al. 2018; Roets & Van Hiel, 2008).

Kossowska et al. (2018) suggest that the organizational climate has a bigger impact on individuals high in NFC in comparison to those with a low NFC, indicating a need for organizations to design job settings that support and optimize the performance of individuals with high NFC. Considering HR-departments responsibility for working with competence development, recruitment, working conditions, and overall culture, they play an important role in designing the work environments that support the performance and well-being of employees. Although HR-departments are not solely interesting to look at in relation to NFC and VUCA, their responsibility for the overall well-being and development of employees make them a department which has the authority to impact and influence the way in which all employees operate (including managers) (Jain, 2019). Therefore, HR-managers represent a reasonable and interesting starting point for an investigation on what should be done to mitigate the negative aspects of an employees' high NFC.

1.2 Relevance of Study

The increasingly complex world individuals and organizations are faced with today, proposes a challenge and a problem for individuals' who are uncomfortable with uncertainty and ambiguity. For individuals with a high NFC, the increased complexity leads to them experiencing more discomfort and generally making judgements and decisions based on limited information and heuristics which do not necessarily result in the best solution in relation to the situation (Baldner et al. 2019; Roets et al. 2015). This in turn creates a problem for organizations as their employees with a high NFC may struggle to come up with innovative solutions to the complexity they are facing, making it difficult for the organization to keep up with the rapidly changing world (Kossowska et al. 2018; Roets & Van Hiel, 2008).

The relevance of this study lies in its potential to provide HR-managers with recommendations for what they should do to support employees with a high NFC in order to enhance their ability to tolerate and navigate uncertainty and ambiguity. As of now, such recommendations do not exist. However, the complexity of adapting to a VUCA world has resulted in several studies which propose different strategies as to how to best address the new surroundings, including the need for a humanistic approach, a learning organization, and developing agility (Begeç & Akyuz, 2023; Coopersmith, 2022; Horney et al. 2010). Although there is an extensive amount of research on how to adapt to a VUCA world, these studies do not consider individual differences in NFC. The relevance of this study is therefore further argued for by accounting for the lack of research about what should be done to provide employees with a high NFC with conditions and tools to mitigate the negative aspects of their need.

Early NFC research mostly concerns information processing, preferences for uniformity, and stereotypes and heuristics (Roets et al. 2015). NFC related research in recent years has expanded to include applied research of NFC in real-world settings (Roets et al. 2015). In these studies, the relevance of NFC has been related to organizational change, social power, leader fit, procedural fairness, and performance (Roets et al. 2015). However, only one study concerned lowering the NFC. This study discussed NFCs impact on prejudice and proposed that being exposed to multicultural experiences decreased individuals NFC and prejudice (Tadmor et al. 2012). Putting NFC in an organizational context and researching what should be done to help individuals with a high NFC excel in a VUCA world has yet to be addressed,

hence the relevance of this study. To summarize, the relevance of this study lies in the intersection between the research gap and its potential to help HR-managers mitigate the negative aspects of an employee's high NFC.

1.3 Purpose

This study aims to take an exploitative and broad approach which considers current literature, expert knowledge, and HR-practitioners viewpoints on what HR-managers should do to mitigate the negative aspects of an employee's high NFC. The purpose of taking these three components into consideration is to create a strong and multifaceted base upon which recommendations can be presented. The purpose of this study is to increase awareness about this research topic as well as provide HR-managers with recommendations about what they should do to mitigate the negative aspects of an employee's high NFC.

1.4 Research Question

- (1) What should HR-managers do to mitigate the negative aspects of an employee's high Need for Closure?

2. Methodology

This chapter will account and argue for the methodological approach, design, data collection method, and analysis that has been chosen. Following this, a critical reflection on the chosen methodology is presented, shedding light on saturation, transferability, and ethical considerations.

2.1 Research Approach

To start navigating the problem introduced in *1.2 Relevance of Study* and explain our research approach, we first need to expand on the ambiguity and difficulty of this research topic. As the world is becoming increasingly complex we need to find new ways of thinking and helping individuals navigate it (Berger & Johnston, 2015). However, to do this we need to understand how the implications of a VUCA world impacts individuals' differently by applying terminology which helps us articulate and discuss this, which is where a methodological challenge arises. To address this methodological challenge, us researchers have chosen to apply the concept of NFC, which is one way to conceptualize how uncertainty and ambiguity may affect our needs and in turn our well-being and performance. However, this could be problematic as the NFC concept is not an established truth but rather a theory. Furthermore, the concept NFC can be interpreted differently and as abstract in itself (later discussed in *3.2.5 Advancements of the NFCs*). Therefore, it was important for us to take an explorative approach in this study as it enables us to consider more possible answers to what HR-managers should do to mitigate the negative aspects of an employee's high NFC.

An additional reason for why this research field is difficult to navigate is due to the current research gap presented in *1.2 Relevance of Study*. The NFC research field has yet to explore the concept of NFC in “real-world” settings and how the negative aspects of a high NFC can be mitigated. Thus, there is a lack of theories which could be tested and used as a foundation for this study which, in combination with the ambiguity described above, leads to us taking a more explorative approach which will combine what is proposed in literature with new data collected. This could be characterized as an inductive approach, but due to the nature of this study being explorative as well as including some aspects of a deductive approach, it does not seem crucial to define the study within that framework.

Due to the study revolving around an unexplored, diffuse, and abstract research area, the necessity of using a qualitative approach is important for several reasons (Seymour, 1992). Firstly, using a qualitative approach is appropriate as it is adapted for studies which aim to collect data in the form of words rather than numeric data (Saunders et al. 2009; Bell et al. 2019). Secondly, the benefit of using a qualitative approach is that it allowed us researchers to approach this ambiguous and unexplored research field with openness and flexibility (Bryman, 2018). Lastly, this approach enabled us to explore this research field by considering data in the form of practical experiences and different interpretations of what HR-managers should do to mitigate the negative aspects of an employee's high NFC (Bell et al. 2019; Saunders et al. 2009; Seymour, 1992).

2.2 Research Design

Designing this research included settling on a research question and establishing an efficient data collection method which would enable us to answer this question.. This subchapter will first present how the design of the question was made and, following this, how the data collection was designed and later altered.

The research questions for this study is: “*What should HR-managers do to mitigate the negative aspects of an employee's high need for closure?*”. The word *should* was chosen for two reasons: (1) the implications of increased complexity in the environment around organizations today impose a sense of urgency when it comes to organizations finding new ways forward, particularly given the discomfort some individuals experience, making *should* an appropriate word in this context, and (2) *should*, in comparison to other options such as *could*, allows for a more narrow and action oriented approach which better serves the purpose of this study which is to increase awareness and provide recommendations.

Using *should* also has its disadvantages. Firstly, it implies that the research question is somewhat based on subjective and contextual understandings and interpretations of what should be done. Secondly, there is an issue with trying to identify what anyone *should* do in relation to the VUCA world as it is constantly changing, implying that what *should* be done will also change accordingly. Lastly, using the word *should* was difficult due to the lack of previous research in this field, making some arguments weaker and perhaps more of a *could* or *might* rather than a well grounded *should*.

The design of this study was based on the combination of existing literature, expert knowledge, and the practical viewpoints of HR-practitioners. The intention was to first conduct a knowledge framework and interviews with experts in order to collect recommendations for what should be done to mitigate the negative aspects of an employee's high NFC. Following this, interviews with HR-practitioners would be conducted where we first asked them a set of semi-structured questions and then presented the recommendations found from literature and experts to get their practical viewpoints on these recommendations. The ambition with this design was to collect a broad set of recommendations from different perspectives - as well as the practical implications of these - in order to fulfill the purpose of this study and attempt to answer the research question.

During the process some alterations to the research design were made, primarily due to time constraints and some of the interviews with HR-practitioners overlapping with those conducted with experts. The intention of presenting recommendations based on literature and expert-knowledge to HR-practitioners was therefore not as strictly followed as intended. After the interviews with experts we did collect a set of recommendations which were presented to HR-practitioners, however, these were not influenced strongly by literature as we were simultaneously finding new information. Furthermore, as we more thoroughly analyzed all empirical data collected in order to categorize it (see *2.4 Data Analysis*) we noticed some recommendations from the expert interviews that were not presented to the HR-practitioners. This flaw means that some of the recommendations presented in the results do not have a related practical response from the HR-practitioners as they did not have the opportunity to respond to every single recommendation.

2.3 Data Collection

This subchapter presents the data collection method including how we decided on our sampling group, the use of semi-structured interviews, and the role of literature.

2.3.1 Sampling

For the purpose of this study we looked for participants who could serve as either an expert or HR-practitioner. We predicted that very few psychologists would have previous knowledge about the NFC concept (which in hindsight was also accurate), and therefore chose to look for individuals who instead had psychological expertise related to human behavior and needs.

The requirement set up for expert participants in this study was to be a psychologist with expertise within either complexity, leadership, competence development, organizational psychology or NFC.

The role of HR-practitioners in the study was to get a more practical viewpoint from people with experience of working in the HR-domain. The requirement to participate as an HR-practitioner was therefore solely to have had previous experience or to currently work as an HR-manager. The primary reason we chose to only have one requirement for the HR-practitioners was to collect a varied group of individuals who could contribute with different knowledge and experiences. The main focus was therefore on the HR-practitioner as individuals rather than what organization or industry they were currently working in. This approach broadened the participant group (Sekaran & Bougie, 2016), as well as brought multifaceted perspectives on what HR-managers should do to mitigate the negative aspects of an employee's high NFC.

The combination of experts and HR-practitioners, in addition to literature, does not encompass every relevant perspective of what may be relevant for HR-managers to do to mitigate the negative aspects of an employee's high NFC, which proposes a methodological challenge. For example, other managers who more directly work with teams might have other relevant insights in relation to this topic. However, considering the lack of research in this area, we would like to argue that our combined sources of data collection does serve as a good starting point as it provides representation from a theoretical point of view as well as a psychological and practical view.

Participants of the study were mainly found through snowball sampling, meaning that we as researchers contacted a small group of people of relevance to this study, and further utilized these contacts to find more participants (Bell et.al., 2019). Three of the experts were found with the help of professors from Lund University, who connected us with participants who fulfilled the requirements. The exception to this method is Participant 4, who was found through purposive sampling, which is a technique involving the selection of participants who are most likely to provide relevant information (Bell et al. 2019; Sekaran & Bougie, 2016). Participant 4 was contacted as they had conducted research on and developed the NFC field and therefore had specific expertise that would be of value to us.

The HR-practitioners were also identified using snowball sampling. We initially reached out to individuals in our personal network who then connected us with their contacts who met the requirements. All participants of this study were reached out to via email or LinkedIn where we first introduced our study, why we thought they could contribute, and then asked if they were interested in participating. In total, eleven individuals participated in the study: four experts and seven HR-practitioners. The participants are presented in the tables below:

Table 1. Participants - Experts

Participant	Title and Current Position	Related Expertise
Participant 1	Psychologist with training in Social- and Organizational Psychology. Organizational Consultant.	Experienced in designing and facilitating learning- and development processes. Knowledgeable about systemic thinking, adult development and complexity theories.
Participant 2	Psychologist with training in Organizational Psychology. Organizational Consultant.	Experienced with organizational development, leadership training, and coaching in relation to complex challenges.
Participant 3	Psychologist working with Habilitation for Children and Young People.	Experiences in organizational consulting and designing learning processes. Previous experience in leadership and organizational development.
Participant 4	Professor at Ghent University in Social Cognition & Group Processes and Social Psychology.	Researcher on motivation determinants of judgment and decision making, especially the impact of the need for cognitive closure and stressors on decision making and (social) judgment.

Table 2. Participants - HR-practitioners

Participant	Current Role and Organization
Participant A	HR-country representative at a multinational company.
Participant B	Workplace advisor and leadership development at a consulting company.
Participant C	HR-manager in the public sector.
Participant D	Founder and partner at a leadership consulting firm.
Participant E	Head of People Attraction, Development & Analytics at a multinational company.
Participant F	Interim HR-manager & People, Culture, & Organizational Consultant and Founder of consultancy firm.
Participant G	HR-director at a multinational company.

Reflecting on our sampling method and final sample group, some strengths and weaknesses were identified. One strength with the snowball sampling is that it led us to participants who were knowledgeable and, in different ways, worked with either the practical or theoretical aspects of people's needs in relation to complexity. The initial concern about participants' lack of knowledge about the NFC concept did not turn out to be widely problematic for the purpose of this study as their experiences and knowledge was closely related to what the NFC concept is used to describe. To clarify, the sampling group's knowledge was valuable for us and our research purpose even if the participants did not only discuss the topic using the NFC-terminology.

Despite snowball sampling proving to be an effective method for the purpose of this study, it also reduced representativeness and may have increased biases (Bell et al. 2019). The fact that our sample group is relatively small and not representative of all experts or HR-practitioners proposes a weakness. However, as will be highlighted in 2.5.2 *Transferability*, the nature of this study is not to generate conclusions which are transferable to or representative of all contexts, but rather to initiate an exploration of how the negative aspects of an employee's high NFC can be mitigated. Lastly, a negative consequence of snowball sampling implies that biases may occur and affect our results.

2.3.2 Semi-Structured Interviews

Semi-structured interviews were chosen as the data-collection method for this study, as it allowed us to discuss different perspectives and experiences with the participants without strict restrictions of what may be relevant to discuss (Bell et al. 2019; Sekaran & Bougie, 2016; Seymour, 1992). Additionally, this format enabled us to adapt the interview-questions and ask open-ended and follow-up questions to each participant depending on how they responded (Bell et.al., 2019). Due to the explorative nature of this study it was important to use an interview format where rambling or going off the subject was allowed, in order to uncover insights that the participants may see as relevant or important (Bell et al. 2019).

All but one of the interviews were conducted online. The benefits of online-interviews lie in the flexibility of scheduling, increased willingness to participate as well as the possibility to conduct more interviews within a shorter time frame (Bell et al. 2019). One difficulty with conducting interviews online was that technical issues arose, however these were easily fixed.

Relating back to *2.2 Research Design*, interviews with experts were largely conducted before the interviews with HR-practitioners and when conducting interviews with these two groups, two slightly different guides were used (see Appendix A and B). A few days before each interview, the purpose of the study, interview guide, and definitions of VUCA and NFC were sent to the participant. All interviews started in a general manner where we introduced ourselves, the study, conditions of participation, and asked about the participants role and expertise. Following this, both groups were presented with a set of predetermined questions which had been formulated and inspired by the NFC and VUCA framework (see Appendix A and B). For the HR-practitioners, a set of recommendations from the experts were then presented and the participants were able to give their practical viewpoint on these recommendations. Some questions were strictly asked in each interview whereas others were only used as guidance in order to allow for other explorations.

When choosing which specific questions to ask it was important to formulate them in a way which did not require previous knowledge about the NFC or VUCA concepts. Instead we attempted to dissect the NFC and VUCA concept and formulated questions with the use of “everyday” vocabulary as we hoped this would enable participants to more easily think of an answer without worrying about saying the wrong thing in relation to our study. However, after introducing our study at the beginning of the interviews, some participants expressed

hesitation as they were unsure of how they could contribute. However, when presented with the questions, these participants were able to provide relevant insights and knowledge to our research. In large, credibility was increased through consistently explaining terminology to participants in a manner which was easy to understand and applicable to real life settings. This enabled us to create a shared understanding of the concepts during the interviews (Bryman, 2018).

During the interviews, HR-practitioners frequently mentioned similar or identical recommendations as the experts and sometimes the participants answered several questions within one question. This impacted the use of the interview guide and led to us researchers choosing to skip some questions and recommendations which we felt had already been discussed.

2.3.3 Literature

The literature used in this study serves three purposes: (1) to account for and provide readers with a nuanced understanding of the relevant concepts and theories, (2) to provide us researchers with a basis upon which we could formulate and design interviews and the study as a whole (Bell et al. 2019; Sekaran & Bougie, 2016), and (3) to see if closely related research fields include recommendations which might apply to the NFC concept.

To find relevant literature we used several databases, such as EBSCO, SCOPUS, ScienceDirect, and Libris. When initially making narrow searches, such as “Need For Closure” in combination with “mitigate”, “complex” and “organization”, we quickly realized that we needed to search much more broadly as these searches gave limited results. Due to the NFC research field being relatively small, the relevant literature could be easily identified both in the databases, and by tracing referenced literature in articles and books.

Regarding literature which was not directly connected to the NFC concept, the search was more difficult. An initial approach was to research the VUCA field which resulted in many useful articles, however, VUCA related literature did not always come close enough to the purpose of this study. The continued search led us to the complexity field, more specifically the authors Jennifer Garvey Berger, Kieth Johnston, Dave Snowden, and Mary J. Boone; sources which propose recommendations and frameworks for how individuals and leaders

should make sense of and adapt to an increasingly uncertain and complex world. The broad extent to which these sources are used in this study is somewhat problematic as it implies that the collected information is biased by the few authors. However, due to the lack of studies done within our research field, the broad extent to which these sources are used is motivated by the fact that they, in our judgment, come closest to the purpose of this study. Nevertheless, it is important to be aware of the implications that using these sources have on the credibility of our conclusions.

Literature used in this study includes peer-reviewed articles published in journals and books to ensure credibility (Sekaran & Bougie, 2016). Furthermore, the majority of the literature used in this study was published in the last 20 years, this is due to the ambition of using up-to-date sources which are relevant to the current environment we operate in. The ambition was to use as current literature as possible. However, considering the fast pace of change in the world, as implied by the VUCA concept, research from 20 years ago might already be considered irrelevant. Despite this, the use of older sources was necessary in order to account for what is already known and try to make sense of a research area which is relatively unexplored.

2.4 Data Analysis

To be able to fulfill the purpose of this research and answer the research question, a thematic analysis method was most appropriate as it involves identifying themes and finding meanings from the qualitative data collected (Bryman, 2018; Saunders et al. 2009). In this study, this analysis method was first conducted when identifying which recommendations to present HR-practitioners with, and then again after all the data had been collected. On a more practical note, the starting point of this analysis was to transcribe each interview as this decreases the risk of misinterpreting data, facilitates the comparison between subjects, and enables the researchers to be able to give direct quotes (Bryman et al. 2018; Saunders et al. 2009). Transcriptions were first made by an AI-tool and then we listened to each interview and corrected mistakes made by the AI-tool.

Following the transcriptions, each one was re-read and the data was entered into tables representing different overall categories (Galletta & Cross, 2013). While summarizing, condensing, and discussing the data collected, the initial categorizations were changed as we

noticed more emerging patterns. For example, we began categorizing the empirical data as belonging to different levels (individual, leadership, and organizational), however, these levels were later dissected to be more specific and recommendation-related, such as “psychological safety” or “collaboration”. This is one of the benefits of using the thematic analysis method as it allows for a flexible approach when working with the data (Bryman, 2018). The aim of the analysis was to identify categories and themes in the recommendations presented by participants, in order to bring structure to the many perspectives of what HR-managers should to mitigate the negative aspects of an employee’s high NFC.

Despite being efficient and flexible, the thematic analysis method used also comes with weaknesses. As we categorized and made sense of data there was a risk of us interpreting it in a different way than the participants intended (Seale, 1999; Seymour, 1992). As researchers, we were aware of this challenge from an initial stage and therefore strived to avoid making quick judgements, interpretations and preconceived notions of the collected data. Being two researchers was beneficial in this sense as it fostered dialogues about how to interpret participants' answers and allowed for questioning of the meanings we attached to the data, decreasing the risk of biases and subjective notions influencing the results. Additionally, there is also a risk of data being misrepresented due to us researchers translating it from Swedish to English when presenting it in the results. Although the ambition was to seek the underlying meaning and subjective reality of each participant (Saunders et al. 2009), our analysis is, in essence, only one perspective of the qualitative data and other perspectives may exist.

2.5 Methodological Discussion

Many methodological challenges and critical reflections have already been presented in this chapter. Therefore, this subchapter will present and focus more on a critical reflection of the method as a whole, addressing saturation, transferability, and ethical considerations.

2.5.1 Saturation

In addition to the weaknesses presented in *2.3.1 Sampling*, the critique of this study as a whole also needs to shed light on the issue of achieving saturation when using a relatively small and broad sample group. Saturation refers to the point in a study's data collection process where all significant issues or information has been covered by the data collected (Hennink & Kaiser, 2022). As the exact sample size for this study was not predetermined, but

rather a result of available participants and time constraints, we were only able to assess whether saturation had been researched after the finished data collection process. Hennink and Kaiser (2022) found that when using in-depth interviews as your data collection method, saturation was generally reached after 9-17 interviews, indicating that the sample group for this study (with 11 participants) should be enough to reach saturation. Hennink and Kaisers (2022) emphasize that their findings should not be used to justify a small sample group, however, it could indicate that, in comparison with other similar studies, ours was not an exceptionally or problematically small sample group.

Considering the expert group, it quickly became apparent that many of them brought up similar concepts and recommendations during the interviews, with some varying exceptions. The same was apparent with the HR-practitioners who also provided us with overlapping answers. Due to interviews resulting in repetitive data, it could be argued that some level of saturation has been reached. Conclusively, although a degree of saturation can be claimed to be reached in this study, a more comprehensive sample group would have been beneficial in order to increase credibility of the results.

2.5.2 Transferability

The concept transferability (also referred to as generalizability and external validity) refers to the extent to which the results and conclusions apply to other settings and can be generalized, which introduces a limitation of this study (Bell et al. 2019; Seal, 1999; Saunders et al. 2009). The sample group for this study is relatively small and not representative of all HR-practitioners, experts, or other possibly interesting groups of people to look at in relation to our study. This makes the ability to transfer or generalize the results to other contexts and settings largely impossible (Bell et al. 2019). However, the purpose of this study, and qualitative studies in general, is not to generalize the findings to other populations (Bell et al. 2019). Instead this study aims to initiate the exploration of what HR-managers should do to mitigate the negative aspects of an employee's high NFC in order to increase awareness and provide practical recommendations. Despite transferability not being the purpose of this study, we have aimed to account for a *thick description*, including all details, of how this study has been designed and conducted (Bell et al. 2019; Saunders et al. 2009). The purpose being that this will provide others with a foundation upon which they can judge the transferability to other specific contexts.

2.5.3 Ethical Considerations

Ethical considerations are particularly aimed at ensuring integrity and safety for the participants throughout the research process (Bryman, 2018). Participants in this study were informed about the conditions of their participation as well as the purpose of the study both in the email leading up to their interview, and during the interview itself. The interview guide (see Appendix A & B) included the following details about the conditions of their participation:

- You will remain anonymous.
- All gathered data will solely serve the purpose of this study and will be deleted after the study is completed.
- You are free to decline answering any question.
- Interviews will be recorded for transcription purposes to ensure accuracy.

To secure anonymity and confidentiality of the participants, we researchers have taken several measures. These include using pseudonyms for the participants, not specifying the specific organization they work for, and deleting all data after the study is completed; including transcripts, emails with participants and audio recordings (Bryman, 2018).

3. Theoretical Framework

This chapter presents the theoretical framework used for the purpose of this study. Firstly, the characteristics of a VUCA world and its implications are presented. Following this, the concept of NFC is accounted for in greater detail, presenting definitions, advancements in the field, and influencing variables. Lastly, we present recommendations for how to make sense of complexity and a VUCA world from the complexity research field.

3.1 VUCA

The world of complexity has been described and discussed in many contexts and is especially talked about in the business field. In modern times, VUCA has become the most common term - and somewhat of a “buzzword” - to describe the complexity that organizations face. Although this term is only one way to describe the current landscape, in this study, using it serves the purpose of finding a language and framework for how to talk about complexity and the rapidly changing world. Despite the extent to which this term has been discussed in the business field, many organizations and leaders today are overwhelmed by its implications and question if they are able to keep up (Berger & Johnston, 2015). This sub-chapter aims to clarify the characteristics of a VUCA world and its implications.

Experts and leaders across all sectors of society have asserted that we are currently living and operating in a VUCA world (Begeç & Akyuz, 2023; Bennett & Lemoine, 2014; Forsythe et al. 2018; Horney et al. 2010; Saleh & Watson, 2017). The acronym which stands for volatility, uncertainty, complexity, and ambiguity and was first introduced by the US Army to describe the dynamic nature of the post-cold war operational context. Today it is broadly used in society, particularly within the business field, to describe the dynamic, radical, and constant change of the environment (Begeç & Akyuz, 2023; Forsythe et al. 2018; Horney et al. 2010; Saleh & Watson, 2017). However, it is important to note that not all aspects of the world can, or should, be described as “VUCA”, and as Berger and Johnston (2015) asserts, one of the key challenges for organizations is to understand when to allow the “VUCA-ness” of a situation or circumstance change the way the organization operates, and when to simply, simplify things. Although not every situation is VUCA, the ability for an organization to handle a situation when it in fact is VUCA, lies in understanding its true meaning and implications.

The VUCA landscape, as described by Bennet and Lemoine (2014), has profound impacts on organizations and the people within them, presenting both challenges and opportunities. With an exceeding rate of change, the future becomes less predictable, options increase, more information is available, and things are more interconnected (Berger & Johnston, 2015). This results in a need for leaders and organizations to think differently, not only about the complexity itself, but also *how* they think (Berger & Johnston, 2015). Horstmeyer (2019) argues that VUCA has altered the learning aspect of organizations, pushing professionals to adapt faster. Similarly, other authors discuss and describe the VUCA world as being characterized by rules and protocols quickly going out of fashion, boundaries around organizations being blurred, global networks and relations becoming increasingly interconnected, and labor conditions and contracts being less stable (Begeç & Akyuz, 2023; Coopersmith, 2022; Horney et al. 2010; Jain, 2019). As Bennett and Lemoine (2014) emphasize, being able to utilize the opportunities that come with a VUCA world and finding successful strategies within it, requires an understanding of each of the underlying concepts. Hence, a brief description of each of the the parts of VUCA is presented below, preceding, and laying, a foundation for the strategies presented in *3.3 Making Sense of Complexity*.

Volatility refers to the accelerating speed, volume, and dynamics of internal and external organizational change (Begeç & Akyuz, 2023; Forsythe, 2018; Horney et al. 2010; Horstmeyer, 2019; Saleh & Watson, 2017). Bennett and Lemoine (2014) describe a volatile situation as being one where information is available and the circumstances may be understandable, but change occurs consistently and is largely unpredictable. Examples of volatile situations include a high change in staff, technological development, and M&As' (Horstmeyer, 2019). The second part of VUCA is uncertainty which concerns the inability to predict and foresee problems and events. (Begeç & Akyuz, 2023; Forsythe, 2018; Horney et al. 2010; Horstmeyer, 2019; Saleh & Watson, 2017). Bennett and Lemoine (2014) describe uncertainty as a situation where the cause and effect might be comprehensible, but it is hard to predict whether an action or event will lead to change.

Complexity refers to the general interacting and interconnected forces and chaos around an organization (Begeç & Akyuz, 2023; Forsythe, 2018; Horney et al. 2010; Horstmeyer, 2019; Saleh & Watson, 2017). Although interconnectedness and chaos are key characteristics of complexity, this does not necessarily imply change (Bennet & Lemoine, 2014). As Berger

and Johnston (2015) proposes, complexity has to do with understanding what is *possible* rather than what will *probably* happen (which is discussed further in 3.3.3 *Three Habits of Mind*). Lastly, ambiguity concerns the haziness of reality and the multiple interpretations that can be made about circumstances and conditions (Begeç & Akyuz, 2023; Forsythe, 2018; Horney et al. 2010; Horstmeyer, 2019; Saleh & Watson, 2017). In an ambiguous situation the cause and effect are not understood and it is difficult to make predictions and foresee what might happen (Bennett & Lemoine, 2014).

3.2 Need for Closure

This chapter will account for the NFC concept and its implications. Before delving into the concept, it is important to once again highlight that the NFC framework is one way of conceptualizing individual needs and how one might respond to uncertainty and ambiguity, real-life situations may differ from this theoretical model.

3.2.1 Definition and Explanation

Need for Closure (NFC) is defined as “the need to settle for any answer, as opposed to further sustaining ambiguity” (Roets & Van Hiel, 2007, p.267). It reflects how an individual approaches new knowledge with the goal of finding certainty (Baldner et al. 2019; Heaton & Kruglanski, 1991; Kossowska et al. 2018). NFC arises from two tendencies; urgency and permanence (Kruglanski, 1989; Kruglanski & Webster, 1996; Roets & Van Hiel, 2007). The urgency tendency reflects the inclination to quickly seize on information that secures closure. The permanence tendency reflects the inclination to freeze on the obtained answer, in other words to hold on to and protect that answer (Roets & Van Hiel, 2007; Roets et al. 2015). In essence, NFC is related to an *epistemic quest*, which refers to the journey of understanding, interpreting and acquiring new knowledge. When individuals are confronted with questions to which they do not have an answer, the individual either finds an answer or quits trying to find one, putting an end to the quest (Baldner et al. 2019). After closure is attained, the individual becomes resistant to additional information (Heaton & Kruglanski, 1991).

The NFC is considered to be both a situationally induced form of motivation as well as a stable individual trait (Webster & Kruglanski, 1994). Situational factors that increase NFC are for example, time pressure, environmental noise, or a task that is boring or unpleasant to the individual. In these situations, individuals are motivated to quickly solve the problem they

are faced with, in order to reach closure (Baldner et al. 2019; Roets & Van Hiel, 2007; Webster & Kruglanski, 1994). In contrast, when an individual is faced with an, for the individual, engaging task, the NFC can be lowered (Baldner et al. 2019). Furthermore, NFC can also be measured as an individual trait; individuals high in NFC seek knowledge that is stable and unchallenged by other perspectives or opinions. Their urgent need to make decisions stems from the discomfort of being in ambiguous and uncertain situations (Roets et al. 2015; Webster & Kruglanski, 1994). These characteristics are intertwined and together create the individual level of NFC, which can further be measured through the Need for Closure Scale (NFCS) (Roets & Van Hiel, 2007; Webster & Kruglanski, 1994), as elaborated on in 3.2.3 *Need for Closure Scale*.

3.2.2 Individual High vs. Low NFC

NFC as an individual trait comes partly from genetics, but is also dependent on socialization and cultural norms (Roets et al. 2015). This subchapter will delve into the individual differences between, and implications of, high and low NFC. As previously mentioned, when individuals are surrounded by informational complexity exceeding their capacity, it is in their nature to strive for simplification, predictability and stability in their beliefs as a mechanism to deal with the overwhelming complexity (Roets et al. 2015). These habits reduce the experienced uncertainty and enable individuals to attain a sense of comfort and closure.

As previously mentioned, NFC stems from individuals' tendency to want quick answers, as well as an inclination to hold on to any answer given as it offers stability (De Keersmaecker & Roets, 2017; Kruglanski, 2004). The absence of clarity and structure may cause distress and anxiety for an individual high in NFC. Additionally, having a high or a low NFC comes with positive and negative aspects. When the NFC is high, it can lead to individuals drawing hasty conclusions based on limited information, relying on heuristics and stereotypes, as well as a resistance to explore multiple perspectives (Baldner et al. 2019; Roets et al. 2015). However, a high NFC can also be beneficial as it, for example, generally increases engagement and information-seeking in individuals when they face a difficult task (Roets et al. 2015). It is important to mention that not all individuals will fulfill all the tendencies and inclinations presented as the negative aspects of a high NFC, however, these behaviors are more common under a high NFC as it is a process that offers stable knowledge. On the contrary, the benefit of having a low NFC is that the comfort with uncertainty allows for

more creativity and flexibility (Kossowska et al. 2018). The negative aspect of having a low NFC is that it may hinder productivity and lead to unnecessarily long decision-making processes, due to the reluctance to commit to an answer (Roets et al. 2015).

Contradictory to what one might expect, a growing body of research in recent years has identified that people who are high in NFC engage in effortful, complex, and prolonged processing of information, and to an even greater extent than people low in NFC (Kossowska et al. 2018; Roets et al. 2015). For example, when an individual high in NFC is presented with a difficult task, they increase their investment in the task more than those low in NFC, with the goal to find an answer and thereby reach closure (Roets et al. 2015). However, although these studies indicate individuals with a high NFC engage more with a difficult task, this does not necessarily mean that the answer they reach is a better one in relation to that of an individual with a low NFC.

3.2.3 Need for Closure Scale

The Need for Closure Scale (NFCS) was initially developed by Webster and Kruglanski (1994) to measure individuals' desire for certainty, and was later modified by Roets and Van Hiel (2007). The test is based on five items: the need for order, the need for predictability, decisiveness, avoidance of ambiguity, and closed mindedness (Roets & Van Hiel, 2007; Webster & Kruglanski, 1994). These needs create a spectrum, where on the one end there is a strong strive for closure (high NFC) whilst on the other there is a strong resistance to reach closure (low NFC) (Kruglanski, 1989; Webster & Kruglanski, 1994).

When using the NFCS, participants rate statements from 1-6, ranging from strongly agree to strongly disagree, with the scores being computed into a total NFC score (Roets & Van Hiel, 2007; Webster & Kruglanski, 1994). The first subset of items measures preference for *order and structure*, for instance through the statement “I think having clear rules and order at work is essential for success” (Webster & Kruglanski, 1994, pp. 1050). The second subset of items measures the emotional unease with *ambiguity*, for instance through the statement “I'd rather know bad news than stay in a state of uncertainty” (Webster & Kruglanski, 1994, pp.1050). The third subset of items assess the need to quickly assure closure when making judgments and decisions (*decisiveness*), eg. through the statement “When I am confronted with a problem, I'm dying to reach a solution very quickly” (Roets & Van Hiel, 2007, pp.279). The

fourth subset of items, assess the need for *predictability*, eg. “I don't like to go into a situation without knowing what I can expect from it” (Webster & Kruglanski, 1994, pp.1050). The fifth subset, assess *close-mindedness*, eg. “I do not usually consult many different opinions before forming my own view” (Webster & Kruglanski, 1994, pp.1050).

3.2.4 Ability to Achieve Closure vs. Need for Closure

The NFC represents a *need* to reach closure, but not the *ability* to achieve it, making it important to distinguish the NFC from the Ability to Achieve Closure (AAC) (Roets et al. 2015). Roets and Van Hiel (2008) suggest that a high NFC can increase feelings of distress, while a low AAC may lead to frustration and helplessness, both alternatives resulting in reduced well-being. Furthermore, for individuals with a high NFC to reach the closure they desire successfully they also need to be good at achieving closure (Roets & Van Hiel, 2015).

Pelham and Neter (1995) and Bar-Tal et al. (1997) suggest that when motivation is high and the task is easy or involves high AAC, performance usually improves. In contrast, performance tends to lower when the task is difficult or the situation implies low AAC (Roets & Van Hiel, 2007). Kossowska and Bar-Tal (2013) found that when individuals high in NFC also have high AAC, they tend to use heuristic information processing and are good at ignoring irrelevant information. However, if they have low AAC, their high NFC makes them prone to use more irrelevant and inconsistent information instead (Roets et al. 2015).

As previously mentioned, individuals high in NFC, tend to make decisions based on limited information, however, this is only true if they believe they have the ability to find the information needed to reach closure (Kossowska & Bar-Tal, 2013; Kruglanski, 2004). If they do not have the ability (AAC), individuals high in NFC tend to engage in more complex and time-consuming decision-making processes (Kossowska & Bar-Tal, 2013; Roets et al. 2015). Additionally, it has been shown that a positive mood or feelings of empowerment can influence the AAC, whilst things such as threats to self-image can lower the AAC (Roets et al. 2015). In sum, heuristic processing (a thinking process that relies on shortcuts) is often perceived as an easy way to reach closure. However, it has been shown to not be that simple, as some level of ability is required in order for the heuristic processing to successfully lead to closure (Roets et al. 2015)

3.2.5 Advancements of the NFCS

The original NFCS by Webster and Kruglanski (1994) proposed that the NFCS is a unidimensional measure. In other words, a measurement that focuses on a single trait, meaning that all items within the measure are intended to evaluate the *need* for closure. However, researchers have encountered difficulties understanding what the test actually measures, as there is conflict regarding what the underlying elements measure (Kossowska et al. 2002; Mannetti et al. 2002; Neuberg et al. 1997; Roets & Van Hiel, 2007). In contrast to Webster and Kruglanski (1994), some argued that the NFCS is multidimensional, meaning it measures more than a single trait (both *ability* and *need*). To specify, the decisiveness item of the original test is argued to measure an *ability* rather than a *need* (Neuberg et al. 1997; Roet & Van Hiel, 2007).

The original test as a whole has therefore been criticized as the validity of the decisiveness item was unclear (Kossowska et al. 2002; Mannetti et al. 2002; Neuberg et al. 1997; Roets & Van Hiel, 2007). To fulfill the purpose of the NFCS as measuring a *need* rather than an *ability*, Roets and Van Hiel (2007) made changes to the decisiveness item. For instance, statements were changed from “I usually make important decisions quickly and confidently” (indicating an ability) to “When I am confronted with a problem, I’m dying to reach a solution very quickly” (indicating a need) (Roets & Van Hiel, 2007, p.279).

The lack of clarity regarding the dimensionality of the NFCS has led to some researchers excluding the Decisiveness item when applying the scale, others refraining from applying the concept of NFC at all, whilst others apply it without any changes (Chaiken et al. 1999; Neuberg et al. 1997; Manetti et al. 2002; Roets & Van Hiel, 2007).

3.2.6 NFC in an Organizational Setting

This subchapter will address relevant research in relation to NFC in an organizational context. This includes: explicit task conditions, groups, leadership, and change.

Explicit Task Conditions

Studies have shown that when an individual high in NFC is explicitly required to multitask, they demonstrate increased multitasking performance, compared to situations where multitasking is not an explicit requirement (Kossowska et al. 2018). Furthermore, they have

a greater inclination to adjust their multitasking approach to external norms, compared to those low in NFC. The inclination to conform to external norms when multitasking may limit their ability to think creatively and explore new ideas. This aligns with previous research which has indicated a negative correlation between high NFC and creativity levels. However, this relationship could be reversed in environments that actively foster creativity through effort and persistence (Kossowska et al. 2018). These findings imply that the organizational environment may have a stronger influence on individuals high in NFC, than those with low NFC, given their increased performance under explicit task conditions with clear rules (Kossowska et al. 2018).

Groups

Prior research indicates that productive teams are characterized by continuous information-sharing as well as an inclination to update current beliefs and ways of thinking (Kossowska et al. 2018). However, in order to gain advantages from this exchange of ideas and beliefs, members need to be open to new information and perspectives, a trait which individuals high in NFC tend to lack. Despite this, participating in information sharing might also be attractive to a person with a high NFC as this context can serve as a source of knowledge, which could help them reach the closure they desire (Baldner et al. 2019; Kossowska et al. 2018).

It has been found that individuals and groups high in NFC have tendencies to behave in ways that prioritizes the beliefs and perspectives of the group, rather than being open to different viewpoints and independent thinking (Baldner et al. 2019; Dugas & Kruglanski, 2018; Roets et al. 2015). In addition to this, they are more prone to ingroup favoritism, particularly when similarities between members of the group are high (Baldner et al. 2019). Individuals and groups high in NFC are also more likely to adhere to a shared reality, as knowledge shared by others creates stable knowledge and reduces uncertainty (Dugas & Kruglanski, 2018). This suggests that individuals high in NFC prefer an autocratic group decision structure where consensus is likely to occur (Roets et al. 2015).

Although a shared reality and ingroup favoritism is frequently observed in groups high in NFC, exposure to multiculturalism has been shown to gradually lower individuals NFC and reduce prejudice (Dhont et al. 2011; Tadmor et al. 2012). This in turn may reduce in-group

anxiety as well as reinforce positive beliefs about groups previously viewed negatively (Tadmor et al. 2012). In other words, when people participate in a multicultural environment, their NFC can be lowered as a necessity, as they have to adapt to the new setting (Roets et al. 2015).

Leadership

One study suggests that employees with high NFC showed improved job performance and increased effort when led by an authoritative and hard-powered leadership style. Conversely, their job performance and effort decreased when led by softer leadership styles (Pierro et al. 2012; Roets et al. 2015). Furthermore, Orehek et al. (2010) concludes that individuals with high NFC prefer decisive, rigid, political leaders, whereas individuals low in NFC prefer flexible and open-minded leaders.

Pierro et al. (2012) implies that individuals high in NFC prefer prototypical leaders, which refers to the degree to which a leader is viewed as similar to the group. The preference for prototypical leaders in employees high in NFC was associated with increased job satisfaction, perceived effectiveness of leadership, self-rated performance, and lower turnover intentions (Pierro et al. 2005; Roets et al. 2015). Moreover, procedural fairness is vital for employees high in NFC, as it reduces the experienced uncertainty and anxiety connected to it (Pierro et al. 2014). Additionally, Pierro et al. (2012) emphasize the importance of a leader-follower-fit and individual-group-fit, as a match between leaders' power tactics and employees NFC enhances performance, whilst a mismatch lowers it.

Change

Available research suggests that NFC is negatively associated with an individual's ability to cope with change across different organizational settings and among a diverse group of employees (Roets et al. 2015). Individuals with a high NFC tend to prefer homogeneity as it creates an environment of stable knowledge, this indicates that they might feel uncomfortable and may have a limited ability to cope with change as it often requires one to change opinions, attitudes, and behaviors (Baldner et al. 2019; Roets et al. 2015). As organizations face more change today than before, it may be particularly challenging for individuals high in NFC to cope, as their desire for stability and permanence is not being met, resulting in feelings of discomfort (Roets et al. 2015). As individuals high in NFC tend to align with

group norms, if the norm supports innovation and change, individuals tend to adapt more to those and therefore better cope with change (Kruglanski et al. 2006).

3.3 Making Sense of Complexity

This subchapter will present recommendations for how to make sense of complexity based on literature from the complexity and VUCA research fields. Since there are no recommendations for how to mitigate the negative aspects of an employee's high NFC, this subchapter aims to account for the relevant recommendations from complexity theory which might apply to the NFC field and thereby help us answer the research question.

Several attempts have been made to conceptualize strategies for how to successfully deal with and adapt to the VUCA world. As an example, Saleh and Watson (2017) identified 16 critical success factors in order to deal with VUCA conditions and Horstmeyer (2019) suggest a strategy centered around curiosity with the sub-criteria of inquisitiveness, creativity, openness and disruption tolerance. The general consensus among researcher seems to be that there is a need to focus on people, learning, training leaders to be adaptable to rapidly changing contexts, fostering agility within teams, and embracing new circumstances with openness (Begeç & Akyuz, 2023; Coopersmith, 2022; Berger & Johnston, 2015; Horney et al. 2010). Two particularly influential authors within the complexity field are Jennifer Garvey Berger and Ketih Johnston, who discusses complexity in organizational settings and proposes many strategies as to how employees, leaders, and organizations should adapt to a VUCA context. This subchapter is largely, but not solely, influenced by their work and aims to give clarity into the different organizational recommendations which exist in complexity research today.

3.3.1 Cynefin Framework

The Cynefin Framework is a well known theory within the complexity field which has been developed to help leaders see things from new perspectives and understand how to make sense of real-world situations and contexts they face (Snowden & Boone, 2007). The framework consists of five defined contexts which are based on the relationship between cause and effect: simple, complicated, complex, chaotic, and disorder. These distinctions have been developed to help leaders navigate situations, make better decisions, and identify how to react accordingly (Snowden & Boone, 2007). The simple context is characterized, and

easily identified, by a clear cause-and-effect relationship where the right way forwards is evident and all actors share the same understanding of the situation. In the complicated domain there may instead be many right answers (Snowden & Boone, 2007). Here, the cause-and-effect relationship might still exist but not all individuals see this relationship and leaders must be able to sense and analyze the context.

In contrast to the complicated context, where at least one correct solution exists, the complex context is characterized by the fact that a correct answer can not be easily discovered (Snowden and Boone, 2007). In complex situations a form of synergy emerges where the whole system is more than the sum of its parts, or in other words, it is the domain of the “unknown unknowns”. Due to the nature of complex contexts being that one can only understand cause-and-effect in hindsight, Snowden and Boone (2007) argue that leaders must adopt a safe-to-fail approach where they experiment, look for patterns, and allow for the way forward to emerge during the process (which we will address further in 3.3.4. *Experimentation and Learning Culture*). The chaotic context is characterized by situations where cause-and-effect are impossible to identify due to them constantly changing (Snowden & Boone, 2007). Attempting to find solutions in these milieus is largely pointless and leaders should instead aim to establish order and stability where possible while aiming to bring the situation from chaos to complex. The last context of the Cynefin framework is disorder which occurs when it is unclear which of the four presented contexts is currently happening (Snowden & Boone, 2007).

Snowden and Boon (2007) argue that in order to lead and make good decisions in today's world, leaders need to know how to identify the context that they face and adapt their strategies and mindsets to the specific context. This implies that they must sometimes behave and take actions against their individual instincts and be able to know when to collaborate with others.

3.3.2 Mindset

As we will come to see, having the right mindset permeates all of the other topics in this chapter and plays an important role, not just in relation to complexity, but in all aspects of life. Dweck (2006) developed a theory about individuals having either a fixed (believing that your abilities and characteristics are a stable trait) or a growth mindset (believing that your

abilities and characteristics are changeable). Many studies have indicated that having a growth mindset improves individuals ability to learn from failure (Dweck, 2006; Berger & Johnston, 2015), which is an important part of being able to deal with complex and unpredictable situations. Having a growth mindset also improves a person's ability to hold several perspectives at the same time and understand the many different truths that can exist simultaneously (Dweck, 2006; Berger & Johnston, 2015). As Berger and Johnston (2015) has emphasized, and as we will come to see, organizations that are able to nurture and support employees' growth mindset will have a competitive advantage in a VUCA world.

3.3.3 Three Habits of Mind

Berger and Johnston (2015) propose that there are ways to deal with, and become more tolerant to, the complexity around us. Their approach includes the “three habits of mind”: (1) asking different questions, (2) taking multiple perspectives, and (3) seeing systems. These are presented below alongside other authors which argue for similar strategies.

Asking Different Questions

Contrary to the stereotypical image of a leader (as a charismatic visionary) one of the most important skills to have as a leader in the VUCA world is the skill of asking different questions (Berger & Johnston, 2015). The value of asking different questions lies in understanding what is unknown and daring to ask about those things (Berger & Johnston, 2015). By analyzing the questions that are currently being asked and making an intentional shift to questions which have not been asked previously, leaders can enable a nuanced exploration of the uncertainty and volatility of a particular situation. Reaching this deeper understanding of the complexity of a situation through asking questions and having dialogues is also highlighted by Sloan (2020) in relation to strategic thinking. Continuously practicing critical inquiry and discussion gives leaders confidence and a foundation upon which they can start to talk about complexity (Sloan, 2020).

Gaining awareness about which questions are being asked can be beneficial to identify a person's underlying mindset (Berger & Johnston, 2015). It is important to mention that someone's mindset largely impacts which questions they ask. Asking different questions, therefore, is closely dependent on shifting one's mindset to be curious about what is unknown. Berger and Johnston (2015) gives the example of an individual whose mindset is

characterized by threat and wanting to make quick decisions (a description which correlates closely to that of someone with a high NFC). Although such a mindset is beneficial when action needs to be taken quickly, it is problematic when it comes to finding solutions to complexity (Berger & Johnston, 2015). Asking different questions is a learnable skill, where the primary challenge is to remember to do it (Berger & Johnston, 2015).

Taking Multiple Perspectives

The next part of Berger and Johnstons (2015) “three habits of mind” centers around the value of understanding different perspectives and being able to learn from them. A key aspect of leadership has to do with aligning people despite their different individual goals and understandings, hence, the ability to understand others perspectives is a critical tool in achieving alignment. The reason this is so important in relation to alignment is that it is difficult to influence or learn from an individual if you do not comprehend their viewpoint. To be able to do this, leaders must understand that the actions people take tend to come from them believing it is the right thing to do (Berger & Johnston, 2015). Additionally, being able to take on different perspectives helps broaden your scope and thereby improves your ability to handle complexity (Berger & Johnston, 2015; Sloan, 2020).

Understanding different perspectives is pivotal when it comes to strategic and divergent thinking in a complex context (Jain, 2019; Sloan, 2020). Having this skill allows individuals to see the ambiguity of a situation or issue, interpret a lot of information at the same time, and improves their ability to think about the issue at hand from a new lens (Sloan, 2020). Furthermore, interviews done by Sloan (2020) with executives propose that the best way to practice this skill is by simply talking to people and being curious about their experiences. Due to people interpreting data differently, the ability to understand different perspectives when dealing with complexity becomes a crucial skill to have (Jain, 2019; Sloan, 2020).

Seeing Systems

Understanding how our brains make sense of complex information and being able to open up to seeing the complexity of a system (all influencing factors of a situation) is the third aspect of Berger and Johnstons (2015) “three habits of mind”. The human brain tends to simplify things in order to identify clear cause-and-effect relationships. This tendency to narrow down becomes problematic in relation to complexity where focusing on cause-and-effect might act

as a distraction from the many other things that are going on in a complex system (Berger & Johnston, 2015). Beyond wanting to find cause and effect, the human brain also seeks to create linear narratives about what we experience which, although completely natural, is problematic when talking about complex situations where things are nonlinear (Berger & Johnston, 2015).

To address this issue, Berger and Johnston (2015) argues that leaders must first identify the context they are in (and refers to the Cynefin Framework) in order to know how to respond accordingly. If the situation is identified as complex and including uncertainty and ambiguity, individuals must change their thinking patterns from searching for what is *probable* to what is *possible* (Berger & Johnston, 2015). Simply changing your viewpoint and starting to consider the world as a complex system, opposed to a linear one, challenges our brains and helps us see problems we face differently without applying assumptions and conclusions we regularly draw (Berger & Johnston, 2015). Additionally, when individuals begin to comprehend the complexity of a situation, the chance of thinking creatively increases and they can find more and better solutions to problems.

When trying to understand a specific situation or system, it is important to gather as much information and different perspectives as possible in order to identify *possible*, rather than *probable*, outcomes (Berger and Johnston, 2015). Once leaders and teams have gained a nuanced understanding of the system, they are better equipped to explore the many possible solutions that may exist. Similarly to Berger and Johnston (2015), Bennett and Lemoine (2014) also propose that information is a critical key to dealing with uncertainty. According to Bennett and Lemoine (2014), this can be actualized by considering which the primary information sources are and starting to gather new information from other directions. This would allow for new data to be gained, more dynamic planning, and fosters better understanding of a situation from several perspectives (Bennett & Lemoine, 2014; Saleh & Watson, 2017).

3.3.4 Experimentation and Learning Culture

In VUCA and complexity research, one of the most commonly mentioned approaches as to how to deal with ambiguity is to implement a learning culture within the organization that especially emphasizes experimentation (Bennett & Lemoine, 2014; Berger & Johnston, 2015;

Saleh & Watson, 2017). When faced with complexity and ambiguity, the starting point should be to try and understand the situation in question and then repeatedly try different solutions with the ambition of learning about the system and getting closer to a successful strategy (Berger & Johnston, 2015). For this experimentation to be feasible, a culture where it is safe to learn and safe to fail is critical. When Berger and Johnston (2015) describe the concept of *safe-to-fail* they emphasize the need for the focus to lie in trying to change how the system in question works, as opposed to working with the ambition to reach a specific outcome or establish a solid plan for the future.

The main reason that experimentation is such a vital part of dealing with complexity is because it helps individuals and groups expand, rather than narrow, their thinking processes (Berger & Johnston, 2015). Additionally, acknowledging and experimenting with - rather than simply dwelling on - things that you do not have any control over, will offer a challenge which initiates engagement and learning (Sloan, 2020). When faced with ambiguity, defining the problem, collecting data and then experimenting with different solutions should be a continuous cycle which aims to foster learning and eventually change a system (Berger & Johnston, 2015).

Another aspect of a learning organization is the role of collaboration. Developing not only collaborative individuals, but collaborative teams and organizations as a whole is vital for learning to take place (Begeç & Akyuz, 2023; Jain, 2019; Sloan, 2020). Collaboration between departments or diverse groups, where sharing knowledge and experiences takes place, increases the ability to be agile and creative while producing novel solutions to uncertain problems. As Jain (2019) emphasizes, HR-departments play an important role in designing organizations in a manner which allows for departments and individuals to meet and share their learnings and experiences.

Relating to experimentation and a learning culture is also the importance of psychological safety. Jain (2019) suggests that, when faced with uncertainty, one must challenge their individual thinking patterns and mindsets. For this to be successful, the role of psychological safety becomes evident as this allows for individuals to, without fear of rejection, voice their opinions and ideas and try out new ways of processing and working with information in order to learn (Edmondson, 2018).

One of the most common mistakes organizations make when they try to implement a learning culture is that they establish values and talk about learning but do not implement the processes and reward systems to support it (Berger & Johnston, 2015). As Forsythe et al. (2019) emphasizes, articulating values does impact the culture but leaders also need to set the tone and model the desired behavior. To do this the systems, structures, and processes must promote the values of divergent thinking and learning (Forsythe et al. 2019; Sloan, 2020). In practice this means that if an organization wants to promote experimentation and a safe-to-fail environment, individuals also need to be rewarded for such behaviors, and especially there can not be any negative consequences when an experiment does fail (Berger & Johnston, 2015).

3.3.5 Frequent High-Quality Feedback

The presence of effective high-quality feedback is crucial for excellence in individual leaders, employees, and teams, both in times of certainty and uncertainty (Berger & Johnston, 2015). In times of complexity and ambiguity particularly, the role of feedback becomes imperative and a distinguishing factor between great teams and those who can navigate complexity. Without high-quality feedback mechanisms embedded into the organizational culture, the opportunities to learn, grow and pick up on important indications of change, are lost (Berger & Johnston, 2015). In order to foster an environment where feedback is given and received frequently, there has to be a culture which supports and encourages a safe space where individuals are free to experiment and learn (Berger & Johnston, 2015). Having difficult conversations where feedback is included requires not only a supporting culture, but also the skill of giving and receiving feedback, as well as a growth mindset. As Berger and Johnston (2015) emphasizes, the ability to deal with complexity includes actively listening and as a result, being able to go against our impulses and develop new habits and behaviors.

3.3.6 Directional but Agile Visions

To successfully deal with volatility, Bennet and Lemoine (2014), Saleh and Watson (2017), and Horney et al. (2010), argue that agility is critical and should be central in leadership styles and visions. Contradictory, other research has indicated that when an organization's vision is too unclear and agile, employees tend to go back to their default and act based on previous patterns and habits (Berger & Johnston, 2015). These two forces, towards more or less clarity and direction, creates confusion about how to lead in a complex world.

Berger and Johnston (2015, p.87) asserts that to lead in a VUCA world, organizations need to implement visions which are “*directional without imposing too much (or too little) constraint on people*”. To clarify, in practice this means that leaders must establish visions which are clear enough to encourage action and ground the employees, but simultaneously allows for unexpected paths to emerge when necessary without the organization falling apart.

3.3.7 Clarity of Communication

Once directional and agile visions have been established, leaders and organizations must consider the importance of clarity in their communication of visions and information in order for employees to be able to make sense of complexity and uncertainty (Berger & Johnston, 2015; Jain, 2019; Saleh & Watson, 2017). The challenge lies in being able to clearly speak to different individuals and groups, staying in line with both the vision as well as the individual's understanding of the world, while simultaneously learning together in the moment (Berger & Johnston, 2015). Embracing an approach that emphasizes complexity, rather than a simple and linear approach, begins with communicating clearly and having a clear direction on the highest level and then adapting and varying that information on the individual level (Berger & Johnston, 2015).

Jain (2019) argues that the task of making sure clear communication takes place is best practiced by HR-departments who can establish and facilitate structures that enable employees to practice clarity in their communication. Berger and Johnston (2015) recommends that leaders should set the conditions for the direction they want the team or organization to go in as well as initial boundaries which help individuals gain a sense of where to start working and experimenting. In practice, setting standards for how to communicate needs to be a collective process. Additionally, leaders need to clearly communicate, not only the boundaries and visions, but also the mindset they would like the employees to have (Berger & Johnston, 2015).

Connecting the desired direction to previous successful experiments while actively listening to employees feedback and thoughts will help build trust and engage employees, foundational factors when dealing with complexity (Berger & Johnston, 2015). It is important to highlight that even though the desired destination might be unclear and uncertain, leaders can give

employees a sense of control and order by providing direction and being open about what is known and what they want to leave open (Berger & Johnston, 2015). When leaders choose not to be open about what is unknown to them, employees tend to interpret the lack of information as leaders keeping secrets which is detrimental to the trust between them.

3.3.8 Self-Awareness

The majority of people believe that they are aware and in control of their actions and behaviors, whereas in reality there lies a big issue in how unaware most are of their own awareness (Berger & Johnston, 2015). Humans are constantly influenced by their emotions and previous experiences which impact the decisions they make. Studies have shown that people tend to latch on to information which confirms their beliefs and disregard information which contradicts their beliefs or discomforts them (Berger & Johnston, 2015). Additionally, when making decisions individuals are heavily impacted by biases and heuristics which they might not be aware of, despite the solid logic they convince themselves has been foundational for a decision (Berger & Johnston, 2015). Conclusively, individuals are often fooling themselves when relying on their default logic which proposes a challenge when it comes to dealing with complexity.

Berger and Johnston (2015) as well as Sloan (2020), argue that because individuals can not fundamentally change the way their brain works, the best tactic to decrease the risk of errors and incorrect decisions being made, is to become aware of how they think and what impacts their thinking processes. By working on self-awareness, individuals can make the most out of their strengths while decreasing the consequences of their assumptions and default thinking processes (Berger & Johnston, 2015). The primary recommendation for how to develop self-awareness is to spend more time reflecting on one's behaviors and thinking patterns (Berger & Johnston, 2015; Sloan, 2020). This reflection can help individuals identify what they have control over and what they do not, and as a result make them better resilient to the stressors of the complex environment they face (Berger & Johnston, 2015). Sloan (2020) suggests that keeping a journal where individuals can reflect upon their behaviors, needs, and actions help to develop self-awareness.

3.4 Concluding the Theoretical Framework

The theoretical framework in this study has presented many important findings and recommendations in relation to individuals needs in a VUCA world. The NFC framework provides a more nuanced understanding of what the negative aspects of a high NFC are, which helps us later navigate which specific recommendations can and should be applied. The most important thing to take from the NFC-framework in this chapter are the identified negative aspects of a high NFC. In short, these are:

- decreased well-being when faced with uncertainty and ambiguity (Kossowska et al. 2018; Roets & Van Hiel, 2008)
- inclination to want quick answers and hold on to any answer given (De Keersmaecker & Roets, 2017; Kruglanski, 2004)
- tendency to rely on heuristics, prejudices, and stereotypes (Baldner et al. 2019; Roets et al. 2015)
- tendency to draw hasty conclusions based on limited information (Baldner et al. 2019; Roets et al. 2015)
- not open to other perspectives, especially those challenging ones answer (Baldner et al. 2019; Roets et al. 2015; Webster & Kruglanski, 1994)
- tendency to prefer shared-reality (Dugas & Kruglanski, 2018)
- prone to in-group favoritism (Baldner et al. 2019)
- lastly lowered ability to cope with change (Baldner et al. 2019; Roets et al. 2015)

As presented in this theoretical framework, there is little research within the NFC field that provides us with clear recommendations. However, there are recommendations from the complexity field that may be applicable to the NFC framework as the descriptions of human behavior and needs in relation to complexity are often aligned with the definition of NFC. These recommendations vary from individual and leadership tools, to organizational practices that can enhance one's ability to deal with a VUCA world.

4. Empirical Results

This chapter will present data and findings from the eleven interviews with experts and HR-practitioners. The data collected was analyzed and categorized according to the data analysis method (as presented in *2.4 Data Analysis*) into themes describing the areas HR-managers should consider when mitigating the negative aspects of an employees' high NFC. These areas have been used as the subchapters of the empirical results and include a more detailed report on relevance of each area, strength of data supporting the recommendation, and practical actions HR-managers should take to optimize conditions for employees, and related challenges.

As highlighted in *2.3.2 Semi-Structured Interviews* each interview was slightly different and dependent on the topics and discussion points brought up by the specific participant. This should be kept in mind while reading this chapter as it is possible that participants who are not mentioned in relation to a specific theme would still agree and support those results. To clarify, the lack of representation of a specific participant in a specific subchapter, simply means that the topic was not discussed with that participant during their interview.

Furthermore, it is important to note that in the presented results we often refer to HR-participants' responses to expert recommendations presented during the interviews. The recommendations they had the possibility of responding to were: develop self-awareness, identifying the context/problem, understanding different perspectives, experimenting, and creating supporting structures (for full interviews guide see Appendix B).

The tables below presents the participants of this study, their title, current position, and related expertise:

Table 1. Participants - Experts

Participant	Title and Current Position	Related Expertise
Participant 1	Psychologist with training in Social- and Organizational Psychology. Organizational Consultant.	Experienced in designing and facilitating learning- and development processes. Knowledgeable about systemic thinking, adult development and complexity theories.
Participant 2	Psychologist with training in Organizational Psychology. Organizational Consultant.	Experienced with organizational development, leadership training, and coaching in relation to complex challenges.
Participant 3	Psychologist working with Habilitation for Children and Young People.	Experiences in organizational consulting and designing learning processes. Previous experience in leadership and organizational development.
Participant 4	Professor at Ghent University in Social Cognition & Group Processes and Social Psychology.	Researcher on motivation determinants of judgment and decision making, especially the impact of the need for cognitive closure and stressors on decision making and (social) judgment.

Table 2. Participants - HR-practitioners

Participant	Current Role and Organization
Participant A	HR-country representative at a multinational company
Participant B	Workplace advisor and leadership development at a consulting company
Participant C	HR-manager in the public sector
Participant D	Founder and partner at a leadership consulting firm
Participant E	Head of People Attraction, Development & Analytics at a multinational company
Participant F	Interim HR-manager & People, Culture, & Organizational Consultant and Founder of consultancy firm
Participant G	HR-director at multinational company

4.1 Self-Awareness

Three of the experts (Participant 1, 2, and 3), in slightly different ways, emphasized the importance of working with self-awareness and reflection in order to mitigate one's NFC or be better prepared to deal with complexity. Participant 1 described how reflecting on what one is sensitive to in different situations increases self-awareness and can be helpful in uncertain situations as the individual will be able to identify their behaviors and stay in feelings of discomfort while remaining in contact with the self. The importance of not losing the sense of self in uncertain and complex situations was also highlighted by participant 2 and 3 who expressed that individuals need to be emotionally intact with the situation and pay attention to what emotions arise when faced with uncertainty and complexity.

During interviews with HR-participants, participant D and F, both mentioned the importance of working on self-awareness. F expressed how the role of an HR-manager or boss is to help the employee develop their self-leadership and self-awareness and that this will become increasingly important in relation to an increasingly complex environment. Additionally, participant D emphasized the importance of the emotional stability that comes with self-awareness and that individuals who have developed this awareness and stability will have better prerequisites to “*shake off*” the feelings of stress and uncertainty that come with a VUCA world.

When presented with the expert-recommendation of working with self-awareness, participants A, B, C, E, and G, all agreed that this is increasingly important in organizations today, gave examples of practical exercises, and highlighted challenges. To foster self-awareness in organizations, participant F said:

“... I believe that feedback is really important, but also to see yourself in the light of others, I work a lot with leadership programs where you always start with self-awareness and self-leadership, to understand oneself in a non-judgmental way and to see ones strengths and weaknesses, here you could conduct a personality test, you could do a 360-analysis, so there are many tools to increase your self-awareness, when the internal awareness meets the external view it is somewhere there the truth may lie”

Additionally, participant G suggests that coaching, when financially possible, is a good strategy for HR-managers to consider if they want to facilitate self-awareness in employees. Participant 3 recommended different theater exercises that help employees reflect on themselves. However, they emphasized the common misunderstanding of reflection as evaluation which often leads to an analytical viewpoint and closed mindedness rather than an open approach to learning from understanding how one works. An additional challenge highlighted by the HR-participants was that workshops and training are too costly and time consuming to provide each employee with.

Lastly, participants 2 and 3 both mentioned the philosophical perspective when it comes to how we make sense of and become aware in a world of complexity. Participant 3 brought up the philosophical critique of the world we live in today and how mitigating individual NFC is difficult in today's world considering the challenges presented by VUCA, such as climate change and wars. Participant 2 suggested that finding a general life-philosophy regarding how one relates to the environment is important, this includes looking at where the “*locus of control*” lies and being aware of what you can influence and what you can not.

4.2 Understanding Different Perspectives

Participants 1 and 2 highlighted the importance of understanding different perspectives when dealing with complexity. When discussing open-mindedness participant 4 said:

“... if people are like thrown into a multicultural environment experience, their original scripts and the way they think about the world does not really work well, that can diminish, out of necessity basically, their need for closure because they have to adapt even if they are initially not willing, I think some kind of exposure to different ideas can help. But of course you have to , ideally it has to be something that helps getting more predictability, more structure, more order. Because then people will probably be more motivated to be open to it”

Participants C and D mentioned that recruiting a diverse group of people can enhance both individuals and teams ability to understand different perspectives. Participant D particularly emphasizes the importance of a diverse group in order to be high performing and contribute creatively, as a diverse group of people enhances the ability to find new solutions to complex problems. Participant F acknowledges that the culture can be viewed as a tool to enhance this

ability to understand things from different perspectives, and that it also can be used as a means to stop undesirable behavior. Furthermore, participant G describes the ability to view things from a “system perspective”, referring to the ability to understand and analyze things within the context of a larger system or framework, and that this way of thinking is important when navigating complexity.

In a practical setting, several different exercises were presented by participants to help employees view things from different perspectives. For example, participant A mentioned an activity they called “the elevator”, which involves viewing problems from different floors, representing different perspectives, with the purpose of exploring possible narratives. An additional recommendation presented by participant 1, is “storytelling”, which functions as a tool to gather different experiences and perceived realities of how a problem has occurred. Lastly, participant 1 and G recommended leaders within organizations to expose teams to other realities than their own by reading books.

4.3 Tolerance Toward Uncertainty and Ambiguity

A few participants (1, 2, D, and F) emphasized that one way they believe a person can mitigate their NFC and be better equipped to deal with uncertainty and ambiguity is to work on their tolerance and acceptance of it. As participant 1 expressed:

“I don’t know if there is a concept for it, but like the ability to endure that you can not reach closure, and that there are loose ends, there isn’t one solution, but many possible ones. But it is cognitively very difficult, since our brains are drawn to closure.”

Similarly, participant 2 explained how people often prefer to be wrong and comfortable rather than the opposite, and continued to say that individuals need to work on being more comfortable with that their logic might not be right. Participant F also predicted that this tolerance to ambiguity and uncertainty will become desired at most workplaces in the future and that therefore, “*if you have a high NFC you have to work on this so that it doesn’t become a barrier for you*”. Participant D, emphasized that one way to make individuals more tolerant towards uncertainty is to increase the general tolerance to uncertainty in the culture. In their words: “*Do we have a culture which is permissive, open, tolerant, and you can make mistakes in? The more the culture is that way, the more people will dare to live in uncertainty.*”

Additionally, participant D gives this recommendation in relation to increasing ones tolerance:

"You might have to actively dare to practice submitting this memo with just one proofread instead of three. Then experiment with how you feel. It's the same thing here. I am not allowed to make a decision this week. I have to wait another week, this is how I usually make decisions, but now I'm going to practice letting it take an extra week. How do I feel then?"

4.4 Leadership

Leadership is a concept which encompasses many other sub-chapters in this chapter. However, this section concerns leadership *styles* and *qualities* specifically, rather than other data collected, such as creating a learning culture or providing clarity, which is, of course, also related to leadership.

Participant 1 and 3 emphasized the importance of a humble, transparent, and open leadership style in order to mitigate an employee's NFC or be better prepared to deal with complexity. Participant 3 highlighted the importance of being humble as a leader, and demonstrating that one does not have all the answers when faced with complexity and that leaders must:

"... become a bit more reflective, a bit more humble, a bit more cautious, a bit more responsible, and to take responsibility for both how I affect others and how I am affected by others. So, a bit more ethical"

During the interviews participants B, E, and G highlighted the importance for leaders to accept that they do not know everything. Participant G expressed that leaders should be curious and interested in others. Participants G and E emphasized situational leadership, and its important adaptive characteristic when managing different people and needs in a team. Participant G expressed the importance of adapting one's leadership in order to create a supporting structure for employees high in NFC. Furthermore, participant B described the role of self-leadership as being equally crucial as formal leadership; they believe that leadership should be seen as an ecosystem.

Participant E described two particular challenges as an HR-manager adopting these leadership styles. The first challenge was the already high workload, and how there is not much time to adapt one's leadership style to fit different individual needs. Secondly, participant E experiences many employees expecting clarity and solutions from their manager, but in reality they have to find clarity and answers together, in those events participant E recommends that HR-managers should lead by creating subgoals for their employees.

4.5 Identifying the Context

Participant 2 said that when the situation ahead of them is complex employees are often confused about how to start while at the same time wanting to take action quickly. Participant 2 further presented the importance, and challenge, of spending time on defining the situation ahead of you. They expressed that managers often either have a high NFC (due to employers often promoting people to managers who are solution focused), or are in high NFC situations (due to external pressure). Participant 2 proposes that when such situations arise, managers and teams should work on problem formulation which can slow down the process and decrease the risk of deciding on a solution too quickly. Participant F also described the importance of identifying what is what before starting to look at solutions - making sure everyone knows which circumstances are the same and which have changed. In addition to this, participant 4 added that:

“The best is basically, I am able to make decisions and stick to my decisions and I'm comfortable doing that, but I don't feel the urge to do so at all costs ... I'm comfortable also with revisiting my decision and my views”

When presented with the recommendation of defining the situation ahead, many HR-participants (B, E, F, and G,) agreed that this would be beneficial when trying to mitigate employees' high NFC as it would provide them with a sense of control. However, many also expressed time as a major barrier in relation to defining the situation they are in , especially in a world which moves at such a high speed. Among others, participant E expressed this concern:

“... there is a great value in that, but it takes some time and the challenge with complexity is that everyone has so much to do and everything moves so quickly, so we also want to deliver at the same speed. Even if it might be the right strategy, I think this is the challenge connected with it”

4.6 Clarity and Supporting Structures

A large amount of data collected through interviews, with experts and HR-participants alike, regarded clarity, supporting structures, and processes, as a tool to mitigate the negative aspects of an employees' high NFC. Participant 4 said:

“ideally it has to be something that helps getting more predictability, more structure, more order because then people will be more motivated”

Additionally, participant 1 explained that within this structure groups can start to take small steps forwards without necessarily needing to think of it as moving from point A to point B - within VUCA there *“is no linear process where we know exactly what steps to take”*. However, both participant 1 and 2 expressed the need for balance when it comes to structures - making sure that you do not implement too much structure since this can hinder out of the box thinking. This is also related to the well being of employees, especially those with a high NFC. As participant 2 formulated it: *“We all have our limits. You need to structure enough so that employees don't experience too much anxiety. It can be demanding but not so hard that you can not think”*. Participants B and E also highlighted this need for balance. E discussed the two opposing factors and said that too much clarity and structure can hinder creativity and autonomy so you need to find that balance.

Participant 3 added another dimension to the aspect of creating structure and related it to the need for habituation (a psychological concept which she describes as the process of parents *“holding”* their child and helping the child get a sense of security in the world while also setting boundaries). While explaining this concept participant 3 said: *“If you can't get habituated by yourself then you can get that from structure and clarity and deadlines”*. However, participant 3 also highlighted that there might be an issue if you think structure can solve the challenges in a VUCA world as there also needs to be openness.

During interviews participants A, B, C, D, E, and G all brought up the importance of providing employees with structure and clarity if you want to mitigate the negative aspects of their high NFC and help them be more tolerant of uncertainty and ambiguity. As an example, participant G expressed that: *“When we face change it is often complex and then we need to show clearly what the goal is, what the desired position or direction is, but also look at how it is today and how we move from there”*. Participant E also emphasized that from an HR-perspective it is important to create structures for others to hold conversations about uncertainty, for example by continuous reconciliations or “one-on-ones”. Additionally, participant E highlighted that although structures and processes should be put in place, they still need to be flexible and you should always *“keep an eye on the rail”*.

Many participants also expressed that how much structure is provided should depend on the individual and their level of NFC. Participant B said that although we need clear structures and processes we also need to adapt those structures to the individual, which is a large part of the HR-departments job. Participant E also highlighted this need for individual adaptation:

“Some people are able to find clarity themselves while others need clearly broken-down instructions in parts ... Needs are individual, I also work with structure in meetings and where there is unpredictability, the ones who don't need structure don't mind if we provide it.

Clarity can never be negative when given with heart, empathy and listening, this doesn't imply clarity like authoritarians, but individually adapted clarity”

When asking participants about how to provide structure and clarity in situations where those might not exist, some different recommendations were given. Participant C said that in such a situation *“you have to think about if there is any support you can lean against, otherwise you have to talk about what you can do, you have to find something to hold on to along the way and ‘eat the cake in small pieces”*. Additionally, participant A expressed that information is always key and said that the more you can inform about, the better. When information does not exist, participant A said that *“then you have to be transparent with that and when you don't have anything to inform about then you can inform about exactly that”*. Another important factor when dealing with a situation where you can not provide much structure or direction was highlighted by participant G who said that *“... it is super important that*

employees know why they are doing what they are doing and what the goal is if they want to be able to deal with uncertainty”.

4.7 Psychological Safety

Psychological safety was highlighted by the participants 1, 3, B, C, E, and G, as an important factor to mitigate the negative aspects of an employee's high NFC. Participant 1 provided some insight into why psychological safety is so important in relation employees ability to deal with uncertainty:

“We don’t get access to that part of the brain if we are unsafe, instead we are constantly in a sort of threat-system which makes our brains work in the opposite direction. So if you should solve or talk about problems that are complex and difficult, we need many possible solutions on the table, and then people need to be able to say: ‘Now I don't understand anything, I think it's so extremely annoying that we are still sitting here’”

Participant G mentioned that the concept of psychological safety is closely related to learning culture and feeling safe to try new things and express your opinions. Additionally, participant G emphasized that in order to foster experimentation in an organization, which is vital to deal with complexity, psychological safety has to exist. Participant B expressed *“we have to work with psychological safety, when it is unsafe around us it has to be safe to challenge and ask questions”*. Participants E and G suggested that the way that HR-departments and organizations can work to create psychological safety is by encouraging conversations about things outside of work, showing that you care about others, not hiding weaknesses, and actively listening to others.

4.8 Experimentation and Learning Culture

Something that was highlighted by nine participants (Participant 1, 2, A, B, C, D, E, F, G) is the importance of creating a learning culture within the organization where experimentation is encouraged. Participants 1 and 2 both mentioned the idea of making a prototype, rather than creating a solution in complex problem solving. Participant 1 highlights that processes are seldom linear, and we therefore have to adopt a circular approach that allows for

prototyping and experimentation in order to learn from mistakes. According to participant 2 this is important since *“it is better to be almost right than exactly wrong”*.

The participants F and G shed light on the importance for leaders to encourage new ways of thinking and to hold the belief that each individual is capable. Furthermore, participants 1, 2, A, B, C, D, E, F, G acknowledge that learning from mistakes is crucial in an organization. They emphasized the necessity of creating an environment where individuals feel safe to experiment, without fear of punishment, but rather with the incentive of being rewarded for such behavior. Participant 1 further adds that rewards should not only be given out after the project is finished, but when you have a project with situationally low NFC, it should be emphasized that this project requires, encourages, and rewards experimentation and learning. Similarly participant D said: *“... speak very openly about the fact that you are allowed to fail. I think that's very important. It's almost a merit if you fail. If you succeed too often, you're doing something wrong.”* Participant F also highlights:

“... to have a culture where failure is allowed, I think most people today understand that this is very important ... everything has to do with rewarding the desirable and putting a stop to everything that is undesirable. So not just positive reinforcement, but also managing what is not positive. We are good at reinforcing positive behaviors, but when it comes to handling mistakes, we often fail today”.

According to participant B and G, creating a culture of learning can be enhanced through working with feedback and a growth-mindset. Participant E also states that establishing a safe environment for learning can further be supported by creating a structure with recurrent meetings which has the purpose to foster learning opportunities. Participants 1 and D add to this by saying that there should be time allocated for when unpredictable things happen or for learning and experimentation in the calendar.

4.9 Collaboration

Participants 1, 2, and 3 all mentioned the vital aspect of collaboration in relation to complexity in general. Participant 3 said:

“ It can be painful and hard. So if we should be able to be in this mess we have to be emotionally mature, professional, mindful people who treat other instances ... as emotionally mature partners ”

Participant 2 speculated that if a collective process is in place then you are helping each other out and doing it together which might decrease the NFC. Additionally, during the interview with participant 1 they discussed the difficult and complex task of schools today needing to take responsibility for preventing criminality in Sweden. Participant 1 emphasized that *“it is a collective process that needs to happen, you can not just point at the individual teacher or individual parent solely”*.

During interviews with HR-participants the topic of collaboration was brought up by four of the participants (B, D, F, and G). Participant G expressed that there needs to be an increased amount of collaboration between departments. A consequence of collaboration which was brought up by participant F, is that friction will occur which should be seen as a beneficial way to discover something new rather than an issue. Additionally, they said that friction when collaborating, when handled correctly, leads to innovation which is beneficial when addressing complexity.

In order to facilitate collaboration in practice, participant 2 and B, highlighted the need for HR-departments to encourage and reward that behavior. In participant B's words: *“encourage initiatives that are taken between departments, lift those as a good example...”*. However, participant F shed light on the difficulty in getting many people to collaborate towards the same goal. Participant D highlights that the challenge of increasing collaboration is also best solved by collaborating. As emphasized by participant D: *“HR-managers can not do this themselves, it has to also happen through other managers, it has to be a team effort”*.

4.10 Right People for Right Role

Participant 4 expresses that:

“Having the right people in the right place is more important than changing them, it is not ideal to change people or their coping. There are some ways but I think it's kind of limited or maybe not ideal from a well-being perspective”

Participant 4 further emphasized how an individual high in NFC may be more suitable for tasks that are clear cut and straight forward, whilst a person low in NFC might counterproductively question everything. Additionally, participant 4 highlighted

“So in general, I think it's, I'm not sure whether the best approach is that people have to adapt to the world because our environment, we create our environment ourselves to some extent and also we select our environment. And it's really an issue about fit, the studies I know of who have applied needs for closure more in organizational settings, it's often, the best outcomes in terms of well-being, but also performance, often to do with fit, fit between like person's need for closure and leadership style, or the other members in the team”

Participants B, D, and F mentioned the importance of recruiting the right people, meaning that there should be a fit between the individual and the organization. Participant 4 and D both said that all individuals are not suitable for all roles, and further highlights HR-managers responsibility to match individuals with roles that match their needs. Additionally they said that a person high in NFC may need a plan to create structure and clarity in their role. Participant B underscores HR's responsibility to represent the organization truthfully and transparently. According to participant B, job applications should clearly state the environment in which the organization operates, whether it is predictable or unpredictable, and to further express expectations within the role.

As expressed by participant D, the key is to consider who has which role. However, when a person with a high NFC is already in a role which requires a low NFC, participant D advocates individual coaching as a means to provide this person support, structure, and clarity, as well as having someone to exchange ideas with.

5. Analysis & Discussion

The purpose of this study is to increase awareness about NFC in a VUCA world as well as provide HR-managers with recommendations about what they should do to help employees mitigate the negative aspects of a high NFC. To achieve this purpose we have conducted a theoretical framework and interviews with experts and HR-practitioners. The findings from the theoretical framework and empirical results will in this chapter be combined and discussed in order to answer our research question: *What should HR-managers do to mitigate the negative aspects of an employee's high Need for Closure?*

To answer the research question, the results indicate that HR-managers need to work in three different directions: to the individual, to leaders, and on a broader organizational level. Therefore, the subchapters in this chapter will be divided into individual level, leadership level, and organizational level.

5.1 Individual Level

In order to understand what HR-managers should do to mitigate the negative aspects of an employee's high NFC we have chosen to firstly present the findings relating to recommendations on an individual level. Findings on this level have been characterized as: self-awareness, seeing things from multiple perspectives, developing a tolerance towards uncertainty, and right people for the right role.

5.1.1 Self-Awareness

Developing self-awareness has been emphasized as an important starting point to mitigate the negative aspects of an employee's high NFC both in the empirical results and the theoretical framework. The empirical results suggest that HR-managers should work with helping individuals develop their self-awareness to better understand their own behaviors and needs when faced with uncertainty. In the theoretical framework, we also found that having self-awareness helps individuals recognize what they have control over and what they do not, which would make them more resilient to the stressors they experience in a VUCA-world (Berger & Johnston, 2015).

Another important finding in the theoretical framework was that individuals cannot fundamentally change how their brain works and that therefore, the best way to decrease the risk of incorrect decisions being made is to become more aware of one's own thinking process by reflecting (Berger & Johnston, 2015; Sloan, 2020). Similarly, the empirical results indicate that reflection methods should be provided to individuals with a high NFC as it is an important tool in developing self-awareness and thereby helps the individual stay in contact with the self while experiencing feelings of discomfort. In the empirical results HR-practitioners also gave practical recommendations for what HR-managers should do to help individuals with a high NFC develop self-awareness. These were: implementing structures for feedback giving, reflection exercises, exposing employees to different perspectives, and providing them with a coach who they can exchange ideas with.

Working with self-awareness has not been brought up in the NFC research as a tool to mitigate the negative aspects of a high NFC. However, our findings indicate that self-awareness can help an employee identify the behaviors, thinking processes, and needs that might hinder their ability to make good decisions in relation to complexity. For example, notice when they start to simplify information or draw hasty conclusions. By noticing these behaviors, thinking processes, and needs, they can start to develop the ability to mitigate these negative tendencies and refrain from decision making processes that are driven by the need to find quick and stable knowledge. In addition, by developing self-awareness, individuals can start to understand that their distress and discomfort comes from their dislike of uncertainty and ambiguity, enabling them to better manage their reactions.

5.1.2 Openness to Different Perspectives

Findings in the empirical results and theoretical framework highlights that seeing other perspectives, and considering many perspectives at the same time, is highly important in relation to complexity and uncertainty. This poses a challenge for employees high in NFC since they tend to be reluctant to multiple perspectives as well as opt for heuristics, prejudice and stereotypes as it offers stable knowledge (Roets et al. 2015; Webster & Kruglanski, 1994). However, one finding in the NFC framework indicates that when people are exposed to a multicultural environment, their prejudice reduces and their NFC can be gradually lowered as they have to adapt to the new setting (Dhont et al. 2011; Roets et al. 2015; Tadmor et al. 2012). This aligns with participant 4 who stated that exposure to different ideas and

perspectives may have the same effect as exposure to a multicultural environment. Conclusively, despite individuals with a high NFC's having the tendency to be reluctant to multiple perspectives, these findings indicate that exposing them to multiple perspectives may increase their open-mindedness.

Empirical and theoretical findings resulted in some recommendations for how HR-managers should help employees become more open-minded. Sloan (2020) recommends that to be able to see multiple perspectives, one must be curious about other people and their experiences. Additionally, Berger and Johnston (2015) highlight the importance of asking questions about the unknown, especially for individuals who tend to opt for quick decisions, in order to shift mindset and see new perspectives. During interviews with HR-practitioners, further recommendations were suggested, such as the "elevator" exercise and "storytelling". Similarly, two other participants recommended exposing individuals to other realities than their own as highly important to increase open-mindedness, for instance by reading books.

5.1.3 Right People for the Right Role

During interviews, two participants highlighted that all individuals are not suitable for all roles. When connecting this to employees with a high NFC, both participants indicated that it is HR-managers responsibility to make sure an employee with a high NFC is in a work position that matches their needs. However, as both participants expressed, if a person with a high NFC is already in the "wrong" position, HR-managers need to provide them with structure and clarity in their role to help them fulfill their tasks. These suggestions indicate that the role of an HR-manager should not only be to mitigate negative aspects of an employee's high NFC, but also to make sure that there is an initially good match between person and role.

5.2 Leadership Level

This subchapter will combine and discuss findings regarding what HR-managers should do to help leaders, who work directly with teams and employees, mitigate the negative aspects of an employee's high NFC. First we discuss leadership styles and skills and following this is a discussion about findings regarding how leaders can help employees understand the context they are in and thereby be more tolerant and equipped to handle uncertainty and ambiguity.

5.2.1 Leadership Styles

Presented in both the empirical results and theoretical framework are different leadership styles and skills that may be suitable for mitigating the negative aspects of an employee's high NFC. Some of the empirical results indicate that a humble, transparent, and open leadership style might make employees with a high NFC more tolerant to uncertainty and open to different perspectives. However, it has been found in the NFC framework that when individuals high in NFC are led by softer leadership styles, as opposed to hard-powered leadership styles, they show decreased job performance and effort (Pierro et al. 2012; Roets et al. 2015). Findings in NFC research further suggests that employees with a high NFC preferred prototypical and authoritative leadership styles characterized by decisiveness, rigidity, and procedural fairness (Pierro et al. 2012; Pierro et al. 2014; Roets et al. 2015). Despite individuals with a high NFC preferring a more authoritative leadership style and their effort increasing under such a leadership style, this does not necessarily mean that the outcomes are better in relation to the VUCA world or that the negative aspects of their high NFC are mitigated. Navigating which leadership style would best mitigate the negative aspects of a high NFC is therefore difficult. However, similarly to what some empirical results indicate, situational leadership may be most appropriate as this would enable leaders to provide employees with a high NFC with structure and support when needed without imposing too much direction and thereby hindering creativity and innovation.

5.2.2 Clarity

The findings in both the theoretical framework and the empirical results hint at the necessity of providing employees with a high NFC with some type of structure and clarity in order for them to engage with the project at hand. The empirical results indicate that this is especially important if the situation is uncertain and complex as their tendency otherwise would be to draw hasty conclusions and close themselves off to new perspectives and information. Additionally, as emphasized by participant 2, providing employees with a high NFC with structure and clarity is vital to mitigate their experienced anxiety. As the findings in the theoretical framework highlight, to handle complexity leaders need to be open enough to facilitate the exploration of possible solutions and action, but not so unclear that employees go back to their default thinking habits (Berger & Johnston, 2015).

In order to provide structure and clarity in situations where this does not exist, some empirical results highlight that HR-managers should encourage leaders to try to identify any support they can find from similar situations, “eat the cake in small pieces”, and always be transparent with information about what is known and unknown. Similarly, Berger and Johnston (2015) suggests that in these situations leaders can give employees a sense of control and order by providing structure and direction while being transparent. This could be done by working on seeing the systems or identifying the context based on the Cynefin framework as this can enhance structure as well as slow down the process and decrease the risk of deciding on a solution too quickly (Berger & Johnston, 2015, Snowden & Boone, 2007). However, it was evident during interviews that this is a challenging task as time is seen as a major barrier in relation to defining the situation, particularly when everything moves rapidly.

On the one hand, it can be argued that seeing the context and system as a whole may be too confusing and ambiguous for an employee with a high NFC as the information overload makes them more prone to take shortcuts in order to reach closure. On the other hand, defining the task at hand could also be argued to enhance clarity and structure even in complexity. This could also be related to the findings in the NFC framework which indicate that when individuals with a high NFC are presented with clear and explicit task conditions, they are more prone to engage with the information despite their uncomfot with the uncertainty (Kossowska et al. 2018). This may imply that the task of “seeing the system” or defining the context, if coupled with explicit and clear rules for individuals high in NFC, could enhance their ability to solve such tasks as well as mitigating the inclination to simplify.

The findings, although somewhat contradictory, indicate that HR-managers should encourage leaders to find a balance between providing employees high in NFC with structure and clarity, so that they engage with the task and gain a sense of control, while still making sure the working process is still open and agile, so that they can successfully deal with the uncertainty at hand.

5.3 Organizational Level

Both empirical results and findings in the theoretical framework indicate that HR-managers should work on adapting the organizational culture and supporting structures in a way which could mitigate the negative aspects of an employee's high NFC. This subchapter will therefore combine and discuss findings regarding supporting structure, experimentation and learning culture, and collaboration.

5.3.1 Experimentation and Learning Culture

The importance of creating a learning culture within the organization where experimentation is encouraged has been a recurring finding both in the empirical results and the theoretical framework. These findings overlap to a great extent and indicate that if HR-managers establish a norm of experimentation and learning in the organizational culture, individuals with a high NFC might be better at coping with change and become more tolerant towards uncertainty, making them less likely to simplify and rely on heuristics. The reason experimentation is so important in relation to complexity is that it helps individuals and teams expand their understanding of a situation rather than narrowing on finding a correct solution (Bennett & Lemoine, 2014; Berger & Johnston, 2015; Saleh & Watson, 2017).

As previously mentioned, individuals with a high NFC generally are uncomfortable with uncertainty and new perspectives, as well as do not prefer to revisit their answer (Roets et al. 2015). On the one hand, there is therefore reason to believe that implementing a learning culture with a focus on experimentation might heighten the negative aspects of an employee's high NFC rather than mitigate it, since the purpose of experimenting is to delay seizing on closure. On the other hand, Kruglanski et al. (2006) highlight that individuals with a high NFC tend to align with group norms and when a culture supports change and innovation, those individuals would adapt to the norm and thereby also cope with change better and engage in innovation. Therefore, it could possibly mean that when the group norm promotes experimentation and learning, employees high in NFC would adhere to that culture. Additionally, the empirical results suggest that increasing the general tolerance to uncertainty in the culture would also increase the individual's tolerance towards uncertainty. Considering these findings, there is reason to believe that if HR-managers implement a learning culture which encourages experimentation, individuals with a high NFC might adhere to that culture and thereby become more tolerant to uncertainty and change.

Both empirical and theoretical findings shed light on the fact that organizations that try to implement a safe-to-fail culture, must also state that projects require, encourage, and reward experimentation and learning, without punishing failure. It was further highlighted that attempts to implement a learning culture in an organization often fails as structures, processes and reward systems do not reinforce and support the desired behaviors (Forsythe et al. 2019; Sloan, 2020). An additional factor which could enhance a safe-to-fail culture, and that was highlighted in both the empirical results and the theoretical framework, is psychological safety. For learning and experimentation to be successful, individuals must feel safe, without fear of rejection, to voice their opinions and ideas without being judged or punished (Edmondson, 2018). Considering that individuals with a high NFC tend to perform better under explicit and clear task conditions and rules (Kossowska et al. 2018), it could be argued that reward systems that promote learning and experimentation may act as “explicit task conditions” which in turn would make employees high in NFC engage more with experimentation and learning. It could therefore be argued that HR-managers should implement such reward systems to mitigate the negative aspects of an employee's high NFC, as the reward systems may provide them with structure and predictability.

5.3.2 Collaboration

Findings from the theoretical framework (Begeç & Akyuz, 2023; Jain, 2019; Sloan, 2020) and empirical data suggest collaboration in order to successfully deal with the challenges of a VUCA world. On the one hand, some participants argued that if the problem solving process is of a collective nature where there is an openness to different perspectives, the individuals with a high NFC within the group might experience less discomfort with complexity as they are not alone in dealing with it. Literature also proposes that individuals with a high NFC might see collaborating with different perspectives and information as a good source to gain knowledge and thereby reach the closure they desire (Baldner et al. 2019; Kossowska et al. 2018). On the other hand, theoretical findings within the NFC framework indicate that individuals with a high NFC are generally not open to multiple perspectives, new information, prefer homogeneous groups and a shared reality (Baldner et al. 2019; Kossowska et al. 2018). It is therefore difficult to explicitly state what HR-managers should do in relation to collaboration.

Although it might be far-fetched, the findings in a study done by Tadmor et al. (2012), which showed that when individuals high in NFC are exposed to multiculturalism their NFC decreases, might be useful here. If the findings from this study would apply to the organizational setting, it could be argued that if HR-managers put an employee with a high NFC in a collaborative team consisting of a diverse group of people, they might adapt to this setting and out of necessity decrease their NFC. However, this connection is weak and the lack of literature and data collected regarding whether this would mitigate the negative aspects of a high NFC, makes us unable to draw any specific conclusions.

5.3.3 Supporting Structures

Supporting structures were highlighted by participants as important for HR-managers to implement in relation to mitigating the negative aspects of an employee's high NFC. Examples of such structures were: recurring meetings, one-on-ones, allocated time for unpredictable events, and frequent feedback sessions. An additional supporting structure that was highlighted in the NFC framework was to provide employees high in NFC with explicit task conditions and clear rules (Kossowska et al. 2018).

Empirical data and theoretical findings overlap when it comes to the importance of these supporting structures in order for other recommendations to be feasible. Based on these findings, it can be argued that these structures can further act as a means to provide predictability for employees high in NFC. Additionally, empirical findings suggest that these structures could make employees high in NFC more motivated to work with uncertainty and complexity at hand. Lastly, empirical findings point at HR-managers role in providing these supporting structures which can serve as a space and a forum to talk about uncertainty and a source of structure when other conditions are unstructured and confusing.

6. Conclusion

In this chapter we will attempt to answer the research question (including the recommendations), discuss contribution of this study, research limitations, and lastly present recommendation for future research.

6.1 Answering the Research Question

The problem identified in the background of this study is that the increasingly complex world individuals and organizations are faced with today, proposes a challenge for individuals' who are uncomfortable with uncertainty and ambiguity as their well-being and ability to solve complex problems may decrease. Putting this in an organizational context, this becomes a problem for HR-departments who are responsible for the well-being and competence development of employees. Therefore the purpose of this study is to increase awareness about this research topic as well as provide HR-managers with recommendations about what they should do to help their employees mitigate the negative aspects of a high NFC. To fulfill the purpose of this study we conducted a theoretical framework consisting of current NFC research as well as recommendations from the complexity field. Following this, we conducted semi-structured interviews with experts (psychologists and a former NFC-researcher) and HR-practitioners. By combining information and data from literature, experts, and HR-practitioners we gained a broad and varied foundation upon which we are able to explore possible answers to our research question: *“What should HR-managers do to mitigate the negative aspects of an employee's high need for closure?”*.

The diffuse and abstract nature of this research field, as well as the NFC framework not being an established truth or exact reflection of reality, presents a challenge when attempting to find an answer. However, as highlighted in *2.1 Research Approach*, applying the NFC framework was one way in which we could explore this research topic and answer the research question. In regards to the research question, it is also important to, once again, highlight that the choice of the word *should* in our research question allowed us to emphasize the importance of finding new ways of working in a VUCA world as well as taking a more narrow and action oriented approach. However, as *should* might indicate to readers that our answer would apply to all contexts, it is important to again shed light on the fact that what HR-managers should

do is dependent on specific contexts and individuals and therefore, the reader should apply the answer with caution and the transferability should be up to interpretation.

6.1.1 Recommendations

Presented below is our attempt to answer the research question through a summary of the key findings and recommendations identified of what HR-managers should do to mitigate the negative aspects of an employee's high NFC as well as an elaboration on the answer as a whole.

Individual Level

Provide employees with a high NFC with tools to develop self-awareness: This can be done by enforcing reflection exercises which helps increase their understanding of their behaviors and needs when faced with uncertainty and, in turn, could make them more resilient to the stressors they experience.

Expose employees high in NFC to diverse environments and different perspectives: This exposure can be facilitated in various ways, for instance by having them read books, or by putting them in a whole new setting with a diverse group of people. These methods could help mitigate their closed-mindedness.

Leadership Level

Adapt the leadership style to employee's with a high NFC: Do this by providing them with more clarity, structure, and support without imposing too much direction and thereby hindering creativity and innovation. This may give them a sense of certainty and predictability which could decrease their experiences of distress and thereby decrease the risk of them simplifying and drawing hasty conclusions.

Organizational Level

Implement a learning culture where experimentation is emphasized: This should be done by encouraging and rewarding desired behaviors within the culture. Since employee's with a high NFC tend to adhere to group norms, doing this may make them more inclined to delay seizing on closure.

Implement supporting structures: By implementing supporting structures such as recurring meetings, one-on-ones, feedback sessions, clear rules and explicit task conditions, employee's with a high NFC would gain a sense of predictability even if the situation at hand is unpredictable and uncertain. This could decrease discomfort with uncertainty and thereby mitigate the negative aspects of their high NFC.

Reflecting upon these recommendations as a whole, the theme seems to be that HR-managers should take different measures on an individual, leadership, and organizational level which in different ways provide employees with a high NFC with structure, clarity and a sense of predictability in uncertain and ambiguous situations. This structure, clarity, and sense of predictability could decrease feelings of distress and discomfort and thereby mitigate the negative aspects of an employee's high NFC; such as tendency to draw hasty conclusions, seize on these conclusions, simplify complexity, apply heuristics and prejudice, and closing themselves off to novel perspectives. A different approach was taken by some participants in the empirical results, who indicate that it is with HR-managers responsibility to make sure an employee with a high NFC, from the beginning, is in a position that matches their needs.

These recommendations of course come with challenges, as specifically highlighted in the empirical results, time, resources, workload, and money is a barrier in implementing these recommendations. Considering the rapidly changing organizational landscape and the fact that organizations must also deliver and keep up with the environment, time for these recommendations may not exist. Furthermore, not all contexts and situations require these recommendations. This also connects to findings in the empirical result and the theoretical framework which point at the importance of understanding the context you are in to then respond accordingly. Due to NFC being contextual, it can be beneficial to have an employee with a high NFC, as they are motivated to reach decisions quickly, in situations where time is of essence. As participant 4 highlighted in the empirical results: *“The best is basically: I am able to make decisions and stick to my decisions and I'm comfortable doing that. But I don't feel the urge to do so at all costs, (...) I'm comfortable also with revisiting my decision and my views”*

Lastly, it should be emphasized that although HR-managers are the focus point of this study, the recommendations may be applied to other departments and managers as well. In order for

HR-managers to successfully work with these recommendations, collaboration with other departments and managers has also been emphasized as necessary in the findings.

6.2 Contribution

The purpose of this study was to increase awareness and provide recommendations for HR-managers about what they should do in order to mitigate the negative aspects of an employee's high NFC. By exploring this topic from a theoretical, expert, and HR-perspective, we aimed to identify recommendations that were well grounded in multiple sources which would increase their credibility and applicability and further raise awareness about the research topic.

The conclusions drawn in this study may contribute to both NFC-research, the complexity field, and HR-studies. Due to findings between the theoretical framework and the empirical results largely overlapping, the findings resulted in some practical recommendations which could be valuable for HR-managers as well as leaders in various fields, especially those functioning in rapidly changing environments characterized by VUCA. By providing HR-managers with recommendations for how they can help employees with their changing needs in a VUCA world and enhance their well-being in times of uncertainty and ambiguity, the organization as a whole may become more tolerant and agile in relation to complexity.

6.3 Research Limitations

As introduced in *2.1 Research Approach*, the NFC framework is not widely researched and is an abstract concept that is not an exact reflection of reality. The available evidence upon which we could draw conclusions was therefore limited. Additionally, the abstract nature of the NFC framework can potentially lead to inconsistencies or ambiguities in the findings, as well as differences between theoretical assumptions and real life situations. This increases the subjectivity of the study, as there is a risk that biases, unwillingly, have impacted our interpretations of data and theories.

Moreover, the sample group in this study is relatively small and not representative of all HR-practitioners and experts, which present a limitation in regards to the transferability of the findings. As mentioned in *2.5.2 Transferability*, it is crucial to consider the context when

applying these research findings, as their transferability to different contexts may vary and should be judged by the interpreter.

6.4 Future Research

If we were to conduct this study again, we would have liked to conduct a broader theoretical search which would explore whether there were further relevant findings in other research fields closely related to the concept of NFC, such as cognitive biases and heuristics, or motivational theories. This is therefore a suggestion for future research on this topic. Additionally, we would have liked to have more interviews with the few researchers who have expertise in the NFC field which would have contributed to an ever more comprehensive data collection where data was directly related to the NFC framework.

Future studies could build upon our study and investigate the effects that implementing the recommendations we have proposed would have on employees' high NFC. Moreover, in accordance with Roets et al. (2015), the *ability* to achieve closure and its relationship with the *need* to reach closure sometimes cause confusion, proposing an area in the NFC framework that needs further research.

Overall, given the identified research gap, future studies should focus on the whole field of NFC, with particular emphasis on understanding NFC within an organizational setting. It is of interest to explore how employees, leaders, and the organization as a whole, can enable more effective management of complexity and enhance employee well-being. For instance, future studies could focus on those working more closely and operational with employees than the HR-domain, particularly those directly affected by problem solving in complexity. Lastly, future research could investigate what percentage of people actually have a high NFC and how great their experienced distress in a VUCA world is, to shed light on how big of a challenge this proposes for organizations.

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Appendix A

Interview Guide - Experts

Inform the participant about our study, research question, purpose, and who we are.

Practical Information and Consent:

- You will remain anonymous.
- All gathered data will solely serve the purpose of this study and will be deleted after the study is completed.
- You are free to decline answering any question.
- Interviews will be recorded for transcription purposes to ensure accuracy.

Any questions before we begin?

Questions:

- (1) Could you start by telling us about your current position and specialization?
- (2) What are important skills, competencies, and mindsets to acquire when working with complexity and uncertainty?
- (3) What can be done to be more tolerant in ambiguous situations?
- (4) What can be done to be more prepared to handle unpredictability?
- (5) What can be done to become more open-minded?
- (6) What can be done to better handle the need for order and structure?
- (7) What challenges do you see with mitigating the NFC?
- (8) What can a second person, such as a leader or an HR-manager, do to help individuals work on the negative aspects of their high NFC?
 - (a) Is there anything specific you should think about when it comes to the environment around them?
- (9) What relevance do you see in working with the negative aspects of an employee's high NFC in the future?

Appendix B

Interview Guide - HR-Practitioners

Inform the participant about our study, research question, purpose, and who we are.

Practical Information and Consent:

- You will remain anonymous.
- All gathered data will solely serve the purpose of this study and will be deleted after the study is completed.
- You are free to decline answering any question.
- Interviews will be recorded for transcription purposes to ensure accuracy.

Any questions before we begin?

Questions:

- (1) Could you start by telling us about your current position and previous experiences?
- (2) In general terms, what do you think HR-managers should do to create conditions for employees and the organizations to handle complexity and uncertainty?
- (3) In your experience, what are strategies for addressing employees with a high NFC when they face problems or situations where clarity and predictability cannot always be given?
 - (a) What do you think HR-managers should do to help their employees handle ambiguous situations?
 - (b) What do you think HR-managers should do to help their employees handle uncertain situations?
 - (c) What do you think HR-managers should do to help employees become more open-minded?
 - (d) What do you think HR-managers should do to help employees that have a high need for order and structure?
- (4) What challenges do you see with working to mitigate the negative aspects of an employee's high NFC?
 - (a) On the individual, leadership, and organizational level?

- (5) What relevance do you see in working with the negative aspects of an employee's high NFC in the future?

Present Recommendations From Interviews with Experts:

Before presenting the recommendations:

Now we would like to tell you about some of the recommendations that experts have proposed that HR-managers should do in order to mitigate the negative aspects of an employee's high NFC. We are very curious to get your thoughts on these recommendations considering your practical HR-perspective. We would like to know how you view these recommendations from a practical HR-perspective, if you have experience of working with any of them and if yes, what have the results been? And are there any practical challenges you see with implementing these recommendations as an HR-manager.

The recommendations:

1. Help employees with a high NFC develop self-awareness
 - a. Some experts have talked about the importance of being aware of your behaviors and needs when it comes to the ability to handle uncertainty and that the more aware a person with a high NFC is of their needs, the better they will be able to work with them.
2. Identifying the Context/Problem
 - a. Some experts have talked about the importance of identifying and defining which type of problem or situation you are in as this will help know which response is appropriate. They indicate that this is important in order to deal with complexity and uncertainty, but also that it might help individuals with a high NFC feel less distressed about the ambiguity of a situation.
3. Understanding Different Perspectives
 - a. Many experts have talked about the importance of being able to see multiple perspectives in relation to ambiguity. They mean that if employees with a high NFC are exposed to many perspectives this would make them better able to deal with the ambiguity that they face and are uncomfortable with.
4. Experimenting
 - a. Most of the experts have mentioned the importance of experimenting in relation to complexity. They suggest that HR-managers should help implement

a culture where learning and experimenting is encouraged and that this might mitigate the negative aspects of a high NFC.

5. Clarity and Supporting Structures

- a. The last recommendation is for HR-managers to implement supporting structures and encourage leaders to communicate clearly as this might help employees with a high NFC be more comfortable and gain a sense of control when dealing with uncertainty.