

The Impact of Individual Differences and Characteristics on Decision-Making in Crisis Situations

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Abstract—Decision-making in crisis situations is a complex process influenced not only by situational factors but also by individual differences among decision-makers. Crisis situations are characterized by uncertainty, high emotional strain, and limited time for reaction. In such contexts, decision-making is often heavily determinate by personality characteristics, such as levels of anxiety, self-control, conscientiousness, and emotional stability. This article explores the role of personality traits, cognitive abilities, emotional intelligence, and prior experience in shaping crisis-related decisions. Theoretical frameworks, including the Recognition-Primed Decision Model and naturalistic decision-making approaches, provide insight into how individuals process information under high-stress conditions. Empirical evidence suggests that traits such as conscientiousness, low neuroticism, high emotional intelligence, and prior experience enhance decision quality and adaptability in emergencies. The Big Five personality traits model suggests that all people, regardless of gender, age, or culture, share the same basic traits, but differ in the degree of their manifestation. Understanding these individual differences has significant implications for personnel selection, training, and leadership in high-risk environments. Finally, recommendations for future research emphasize the need for integrating psychological assessment and experiential training in crisis management programs.

Keywords—crisis, decision-making, five-factor model, individual characteristics, personality traits

I. INTRODUCTION

Decision-making is a fundamental cognitive process that influences every aspect of human behaviour—from routine personal judgments to a complex of difficult choices at professional and global levels. In times of crisis, this process demands rapid responses, effective organization and communication, as well as accurate evaluation of potential risks and courses of action. Crises, defined as sudden and unexpected events with the potential for severe consequences, pose significant challenges to individuals, organizations, and institutions, as well as to their decision-making teams. Examples include natural disasters, industrial accidents, and economic, political, technological, or military crises. Decision-making under such circumstances is typically characterized by high uncertainty, limited information, time pressure, and intense emotional strain [9].

Each crisis is unique, emerging within a specific system and in a manner that cannot be exactly replicated. At the

same time, crises share common characteristics, forms, structures, and developmental patterns. A crisis inherently carries the risk of escalation and may trigger uncontrollable chain reactions. Its consequences can inflict damage that severely affects elements of systems not directly involved in the initial events. Crises unfold rapidly, leaving little time to resolve arising contradictions or restore the disrupted functioning of the system. In this sense, the quality of decisions made during a crisis can determine not only immediate outcomes but also the long-term recovery process, underscoring the importance of understanding the factors that influence decision quality.

Contemporary research on decision-making in critical situations increasingly highlights the role of individual differences—such as personality traits, cognitive style, and emotional intelligence—in shaping decision outcomes under pressure [12]. Although situational factors have traditionally been central to crisis management research, individual characteristics may both enhance and impede decision quality, particularly in high-stakes contexts.

II. THEORETICAL FRAMEWORK

A. Decision-making Models in Crisis Situations

Traditional decision-making models, such as the *Rational Choice Model*, formulated by John von Neumann & Oskar Morgenstern in their *Theory of Games and Economic Behaviour* in 1947, assume that individuals evaluate all available options and select the one that maximizes expected outcomes. According to this model, decision-makers assign value or utility to each option and choose the alternative that optimizes the expected result.

The *Bounded Rationality Model* developed by Herbert Simon, suggests that decision-makers are constrained by their cognitive limitations, available information, and time. As a result, they seek satisfactory rather than optimal solutions. In crisis situations, however, the rational model often proves inapplicable due to time constraints and incomplete information. Instead, *naturalistic decision-making* approaches—such as Gary Klein's *Recognition-Primed Decision (RPD) Model* [11]—offer a more realistic explanation of how experienced individuals make quick and effective choices. The RPD model emphasizes pattern recognition, mental simulation of potential outcomes, and intuitive judgment.

Other theoretical perspectives, such as the *Theory of Intuitive versus Analytical Decision-making*, propose that

Received: 01.12.2025

Published: 27.12.2025

<https://doi.org/10.47978/TUS.2024.75.03.003>

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individuals rely either on intuitive judgments or systematic reasoning depending on the context and their personal cognitive style.

In the late 1990s, Robert McCrae and Paul Costa developed the *Five-Factor Theory (FFT)*, which sought to integrate empirical data on personality traits with processes of personality development and functioning. The theory explores the interaction between biological and cultural factors in shaping habits, values, roles, and interpersonal relations. The *Big Five Personality Traits* model exerts substantial influence on how individuals make decisions during crises or in critical situations [4].

The *Biased Rationality Model* further argues that individuals are not entirely rational but instead exhibit “bounded” or “biased” rationality through the use of heuristics—mental shortcuts that can lead to systematic errors or cognitive distortions, especially under crisis conditions [9], [10]. The *Recognition-Primed Decision model* highlights intuitive assessment, mental simulation, and the generation of feasible courses of action, focusing on the evaluation of plausibility rather than the comparison of multiple alternatives [11].

Understanding these theoretical models is essential for analyzing how individual differences affect the decision-making process under pressure and in crisis contexts.

B. Individual Differences and Characteristics

Cognitive Abilities and Styles: cognitive style determines how individuals process incoming information and make judgments. During crises, analytically oriented individuals perform well in structured environments due to their systematic and detail-oriented nature. However, they may struggle under extreme time pressure. In contrast, intuitive decision-makers—who rely on holistic and rapid processing—can quickly identify feasible options through pattern recognition based on prior experience [10].

Analytical thinkers excel at solving complex, multi-faceted problems but may encounter difficulties when faced with ambiguity and uncertainty [14]. Conversely, individuals with an intuitive style adapt better to uncertain environments, though they sometimes overlook important details, which can lead to flawed strategies and poor decisions. Analytical individuals typically depend on logical reasoning and systematic evaluation, while intuitive thinkers rely on experience and rapid pattern recognition. Each style offers distinct advantages depending on the nature and urgency of the crisis [6].

Cognitive abilities—including working memory, attention, and problem-solving skills—play a vital role in processing complex information swiftly. Working memory and attentional control are especially crucial for maintaining situational awareness in dynamic and multi-component crisis scenarios.

Experience and Expertise: experience enhances effective decision-making in crises by enabling individuals to recognize patterns quickly and trigger appropriate responses. Firefighters, military personnel, and emergency medical teams often rely on implicit knowledge acquired through repeated exposure to high-pressure situations. Experts can anticipate cascading effects and dynamically adjust their decisions, thereby reducing the likelihood of critical errors [5]. Prior crisis experience significantly improves decision-making performance. Experienced individuals are more capable of recognizing patterns,

anticipating potential outcomes, and responding appropriately under stress. Expertise supports the rapid mental simulation of scenarios and reduces the cognitive load associated with complex decision-making processes [11].

Emotional Intelligence and Decision-Making: emotional intelligence refers to the ability to perceive, understand, and regulate emotions. It is particularly important in crises, where stress and interpersonal tension are heightened and the risk of escalation is substantial. Emotional intelligence fosters resilience and adaptive behaviour under stress. Leaders with high emotional intelligence can regulate their own anxiety, provide clear direction, and maintain team cohesion, all of which enhance the quality of collective decision-making. Effective emotion regulation also allows for more efficient allocation of attention and reduces cognitive overload during complex crisis scenarios. Individuals with high emotional intelligence can manage their emotions, remain composed, and support team members, thereby improving overall decision quality [13]. The influence of individual personality characteristics on decision-making is summarized in Table I below.

TABLE I
PERSONALITY CHARACTERISTICS IN DECISION-MAKING

Characteristic	Influence on Decision-Making	Summary
Analytical Thinking	Produces strong results in structured, information-rich environment; slower performance under extreme time pressure	More suitable for planned responses; potential difficulties in novel crisis situations (Evans, 2008)
Intuitive Thinking	Enables rapid decision-making under time constraints; relies on pattern recognition	Critically important in uncertain or high-risk situations (Klein, 1998)
Working Memory and Attention	Maintain situational awareness and enable efficient processing of complex information	Essential for managing multiple variables simultaneously
Experience/Expertise	Enhances pattern recognition, scenario prediction, and adaptive responses	Experienced responders make faster and more accurate decisions (Driskell et al., 2006)
Emotional Intelligence	Regulates stress, supports team dynamics, sustains focus	High emotional intelligence is associated with better coordination and reduced error rates (Mayer et al., 2004; Mann et al., 2017)

III. THE BIG FIVE PERSONALITY TRAITS AND DECISION-MAKING IN CRISIS SITUATIONS

The Big Five Personality Traits Model provides a stable framework for understanding individual behavioural tendencies. For instance, individuals high in *conscientiousness* tend to make organized and deliberate decisions, which is particularly beneficial in critical situations [8]. In contrast, *neuroticism* is often associated with heightened anxiety and impaired judgment under stress or crisis conditions [12]. The five major dimensions of

personality—*Openness to Experience*, *Conscientiousness*, *Extraversion*, *Agreeableness*, and *Neuroticism*—exert significant influence on the decision-making process [4]. To facilitate recall, these traits are commonly summarized with the acronym **OCEAN**, representing:

- **O**penness to Experience
- **C**onscientiousness
- **E**xtraversion
- **A**greeableness
- **N**euroticism

A. *Openness to Experience*

Individuals high in *openness* are typically creative, intellectually curious, and inclined to explore new ideas and experiences. They exhibit imagination, insight, and introspection. In decision-making contexts, such individuals are often adaptive and flexible, thinking beyond conventional boundaries and generating innovative solutions. Their creativity allows them to devise novel approaches when standard methods fail. In rapidly changing crisis environments, high-openness individuals are more likely to experiment with unconventional strategies—such as remote coordination or alternative resource allocation—to adapt to unforeseen circumstances. However, their tendency toward experimentation can also lead them to take unnecessary risks or neglect practical considerations, resulting in impulsive or untested decisions.

B. *Conscientiousness*

Conscientiousness reflects an individual's orientation toward achievement, self-discipline, and sense of duty. Conscientious individuals are organized, reliable, competent, cautious, and detail-oriented [2]. They tend to plan ahead, adhere to established protocols, and maintain emotional control under pressure. During crises, they excel at structuring teams, managing resources efficiently, and ensuring that crucial procedures are not overlooked. Their systematic approach and attention to detail often yield effective outcomes. However, in situations that demand rapid adaptation, excessive conscientiousness may hinder flexibility and slow decision-making, especially when information is incomplete.

C. *Extraversion*

Extraversion denotes an individual's tendency toward enthusiasm, sociability, and engagement with the external environment. Extraverts seek stimulation and social interaction and typically experience positive emotions more intensely [1]. They are energetic, optimistic, assertive, and communicative [4]. In crisis contexts, extraverts often assume leadership roles, make quick decisions, and coordinate teams effectively. Their confidence and interpersonal skills are essential in crisis communication. Nonetheless, their impulsivity and preference for social dynamics over analytical reasoning can sometimes lead to hasty or insufficiently evaluated decisions.

D. *Agreeableness*

Agreeableness is characterized by empathy, cooperation, and a desire to maintain harmonious interpersonal relationships. Agreeable individuals tend to be

compassionate, trusting, and collaborative. They prioritize collective well-being and are sensitive to the needs of others, facilitating group cohesion and collective decision-making during crises. Their ability to build trust and cooperation contributes to team effectiveness and morale. However, their inclination to avoid conflict can lead to indecisiveness or overly conciliatory decisions, potentially slowing action or resulting in suboptimal compromises.

E. *Neuroticism*

Neuroticism is associated with a higher frequency of negative emotions such as anxiety, irritability, and depression, as well as feelings of vulnerability and guilt [4]. Individuals high in neuroticism tend to be emotionally reactive and less confident in their judgments. Under pressure, they may struggle to think clearly as anxiety and stress dominate, potentially leading to impulsive or panic-driven decisions. In highly stressful situations, they may experience decision paralysis or avoidance behaviours. Emotional instability can impair judgment and delay effective action. Although neurotic individuals may be more cautious and risk-averse, their heightened sensitivity to stress often results in overthinking, fixation on worst-case scenarios, and hesitation.

Overall, the Big Five traits influence crisis decision-making in distinct ways. *Openness to Experience* fosters creativity and adaptability—key qualities for solving problems under uncertainty [3]. *Conscientiousness* supports structured and well-organized responses [8], while *Extraversion* and *Agreeableness* enhance communication, collaboration, and team coordination. Conversely, *Neuroticism* is linked to emotional reactivity that can undermine decision quality [2], [3].

It is important to note that each trait represents a continuum between two poles, and in reality, most individuals fall somewhere in the middle of these extremes.

IV. THE INFLUENCE OF INDIVIDUAL DIFFERENCES ON DECISION-MAKING IN CRISIS SITUATIONS

Researchs in the field of decision-making and the influence of individual personality characteristics show that personality traits affect both the style and the effectiveness of decision-making in crisis situations (Table2). Conscientious individuals tend to carefully assess relevant information and follow established procedural norms, which reduces the likelihood of errors in high-risk situations [7]. Such people are more organized, inclined toward in-depth analysis and effective planning.

Conversely, high levels of neuroticism are associated with increased anxiety, indecisiveness, and internal tension, which may reduce cognitive resources (concentration and clarity of thought), hinder adequate reactions, delay decisions, or lead to more significant errors. Extraverts often demonstrate good team coordination, but their impulsive tendencies can result in gaps in the analysis of a crisis situation and thus lead to poor decisions. Individuals with high openness to experience show greater flexibility when considering unconventional solutions in crisis situations.

The impact of personality traits on individual performance is not isolated - it strongly depends on situational factors and the interaction between traits. For example, high *openness* may support innovation, but when

combined with low *conscientiousness*, it may result in unstructured or impractical decisions [3].

TABLE II
PERSONALITY TRAITS (BIG FIVE) AND THEIR INFLUENCE ON DECISION-
MAKING IN CRISIS SITUATIONS

Personality Traits	Influence on Decision-Making During Crisis	Notes
Conscientiousness	Encourages careful, organized, goal-directed decision-making; reduces the likelihood of errors	High conscientiousness is linked to better performance under stress and pressure [7].
Neuroticism	(Low levels) Increase emotional stability and resistance to stress	High neuroticism is linked to indecision and anxiety.
Openness	Facilitates flexible thinking and the generation of creative solutions in new crisis situations	Encourages adaptability and innovative thinking under uncertainty or lack of sufficient information [3].
Extraversion	Supports effective communication and team coordination	Extraverts perform well in collective crisis responses.
Agreeableness	Improves cooperation and team cohesion	Encourages positive interpersonal interactions in high-risk situations

Emotional intelligence plays a critical role as a moderator between personality traits and decision-making effectiveness. People with high emotional intelligence manage stress better, maintain clearer focus, and communicate more effectively [13]. This ability can compensate for potential weaknesses, such as high neuroticism, through emotional regulation and adaptive responses.

A. Empirical Evidences

Numerous studies highlight the effects of individual differences on decision-making in crisis situations. For example, research among emergency service personnel shows that conscientiousness and low neuroticism predict faster and more accurate decision-making in high-stress simulations [3]. Similarly, studies involving medical teams report that high emotional intelligence correlates with better coordination, fewer errors, and better patient outcomes under stressful conditions [12].

Experimental studies comparing analytically oriented and intuitively oriented decision-makers show that analytical individuals perform better in structured scenarios, whereas intuitive decision-makers excel in situations with high time pressure and incomplete information [10]. Experience is also consistently associated with improved performance—experienced personnel make faster and more adaptive decisions compared to newcomers, especially in unpredictable conditions.

These and other studies emphasize the importance of individual characteristics in assessing decision-making abilities in crisis contexts.

B. Practical Applications

Understanding individual differences in the decision-making process during crises has important practical applications in organizational and institutional contexts. Recruitment and selection processes for high-risk positions can be enhanced through the use of psychological assessments of personality traits, cognitive abilities, and emotional intelligence. Training programs can be adapted to develop stress-management skills, promote intuitive decision-making, and simulate high-pressure scenarios to build experience.

Furthermore, the composition of crisis-response teams can be optimized by combining complementary personality and cognitive profiles—for example, pairing analytically strong individuals with emotionally intelligent leaders—to improve collective decision-making under uncertainty, pressure, or crisis.

V. CONCLUSION

Understanding how individual differences and personality characteristics affect the decision-making process in crisis situations is essential for improving management effectiveness, preparation, leadership, and team performance [5]. Individuals do not react the same way under stress or uncertainty—their personality traits, cognitive abilities, emotional intelligence, experience, emotional stability, openness to experience, conscientiousness, level of neuroticism, and other factors significantly influence their ability to evaluate information, make quick and adequate choices, manage emotional tension, and make situation-appropriate decisions [4], [7].

People with high conscientiousness and emotional stability generally perform better in crises due to structured thinking and emotional regulation. Traits such as openness and extraversion contribute to creative and rapid leadership, whereas high neuroticism or excessive agreeableness may hinder effective decision-making.

Beyond individual traits, cognitive thinking styles (intuitive or analytical), as described by authors such as Kahneman [9] and Klein [11], also influence decision quality under high pressure. For example, experts often rely on pattern recognition and past experience, while more analytical processes may be useful in new or unfamiliar situations [10].

The context in which crises occur—cultural, organizational, institutional, interpersonal, or global—also moderates the effects of personality traits on behaviour [3]. This requires integrated approaches that combine personality assessment, cognitive styles, emotional intelligence, and adaptive training strategies for leaders.

Future research should examine how dynamic variables—such as training, experience, and group dynamics—interact with more stable personality characteristics to shape effective decision-making in real crisis situations. It is also necessary to consider cultural differences and organizational climate specifics, which may alter the impact of certain personality traits.

Effective decision-making in crises is not solely a result of the situation but represents a complex interaction between individual personality qualities, cognitive mechanisms, emotional regulation, experience, and knowledge. Viewing these factors as interconnected rather

than isolated is key to improving preparedness and response during future crisis events.

ACKNOWLEDGMENT

The research in this article is supported by PhD Students trained at institute of Information and Communication Technologies – Bulgarian Academy of Sciences (Grant agreement 338/ Dec.20, 2024).

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