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How Does the Learning of Paradox Influence Individuals' Capacity to Navigate Wicked Problems?

ABSTRACT

This research explores how the learning paradox influences individuals' capacity to navigate wicked problems. Adopting a phenomenological approach, the study aims to investigate the experiences of individuals who have encountered and successfully tackled wicked problems in their personal and professional lives. The study employed a qualitative research design, utilizing interviews as the primary data collection method. A thematic analysis approach was employed to analyze the interview data and uncover key themes and patterns related to the learning of paradox. The purpose of this study was to examine how individuals perceive and make sense of paradoxical situations and how this learning impacts their ability to effectively address and navigate complex, wicked problems. The findings reveal that individuals who embrace paradoxical thinking are better equipped to navigate wicked problems, demonstrating cognitive flexibility by holding contradictory ideas in their minds simultaneously. This ability enables them to explore diverse perspectives, embrace complexity, and transcend binary thinking to generate innovative solutions. Additionally, the study highlights that individuals who navigate paradoxes effectively possess the capacity to adapt to evolving circumstances and problem contexts. Wicked problems often exhibit dynamic and unpredictable features, demanding agile responses. Those who can comfortably engage with paradoxes demonstrate an enhanced ability to shift perspectives, reframe

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problems, and adjust strategies in response to emerging information and evolving circumstances. This adaptability enables individuals to remain resilient and responsive in the face of uncertainty and complexity. The implications of these findings extend to education and training programs, where educators and trainers can harness the power of paradoxical learning to enhance problem-solving and decision-making skills. By incorporating activities that encourage the exploration of paradoxes, educators can cultivate cognitive flexibility and promote creative problem-solving among learners. Real-world case studies of wicked problems provide valuable opportunities for learners to grapple with complexity, engage in divergent thinking, and develop the ability to hold conflicting ideas in tension.

Keywords: learning paradox, wicked problems, paradoxical thinking, adaptive capacity, education and training

Introduction

The concept of wicked problems, originally introduced by Rittel and Webber (1973), has gained significant attention in various fields, highlighting the complex and multifaceted nature of modern challenges. These problems are characterized by their elusive definitions, interconnected causes and consequences, and resistance to simple, linear solutions (Head & Alford, 2015). They encompass a wide range of issues, including those related to healthcare, social justice, environmental sustainability, and public policy. Navigating wicked problems necessitates a holistic approach that goes beyond traditional problem-solving methods, demanding a combination of analytical skills and the ability to navigate uncertainty, ambiguity, and paradoxical situations (Mietzner & Reger, 2005).

The learning of paradox offers a promising avenue for enhancing individuals' capacity to tackle wicked problems. Paradox refers to the simultaneous existence of seemingly contradictory elements or perspectives within a situation (Smith & Lewis, 2011). It involves embracing complexity, ambiguity, and contradictory ideas to generate novel insights and creative solutions (Lewis, 2020). The learning of paradox entails developing the cognitive ability to hold and integrate multiple perspectives, often in tension, in order to make sense of complex and contradictory information (Papachroni, Heracleous & Paroutis, 2015). This cognitive flexibility enables individuals to transcend binary thinking and embrace the inherent contradictions within wicked problems, thereby fostering innovative problem-solving approaches (Bouchikhi & Kimberly, 2014).

By engaging with paradoxes, individuals gain a deeper understanding of the complexities and interdependencies present in wicked problems. They become more attuned to the diverse perspectives, interests, and values at play, enabling a more comprehensive problem analysis (Ahn et al., 2023). This expanded awareness allows individuals to identify underlying patterns and dynamics, recognize non-linear cause-and-effect relationships, and grasp the complexity of wicked problems more effectively (Huang et al., 2022). Furthermore, the learning of paradox promotes a mind-set of continuous learning and adaptation, emphasizing the importance of reframing problems, challenging assumptions, and being open to diverse viewpoints (Bednarek, et al., 2021).

Despite the growing recognition of the importance of paradoxical thinking and its potential impact on problem-solving, there remains a significant research gap in understanding how the learning of paradox specifically influences individuals' capacity to navigate wicked problems. Previous studies have predominantly focused on paradoxes in the context of organizational behavior and leadership, neglecting their potential implications for addressing complex and multifaceted challenges.

Recent research by Kundi, Aboramadan and Abualigah (2023) explored the role of paradoxical learning in enhancing individuals' problem-solving abilities. Their study emphasized the positive impact of embracing paradoxes on creative problem-solving, highlighting the need for further investigation into the specific mechanisms and processes through which paradox learning enhances problem-solving capacity.

Furthermore, Lönngren and Van Poeck (2021) conducted a comprehensive review of the literature on wicked problems and identified a research gap concerning the influence of paradoxical learning on addressing such challenges. They emphasized the importance of understanding how individuals navigate the inherent complexity, ambiguity, and conflicting demands associated with wicked problems by developing paradoxical thinking skills.

Building on these studies, our research paper aims to address the research gap by specifically examining the influence of paradox learning on individuals' capacity to navigate wicked problems. By delving into the mechanisms and dynamics of paradoxical learning, we seek to provide a more nuanced understanding of how individuals develop problem-solving abilities in the face of complex and ambiguous challenges. To investigate the influence of paradoxical learning on individuals' capacity to navigate wicked problems, this research paper poses the following research question: How does the learning of paradox influence individuals' capacity to navigate wicked problems? By exploring this question, we aim to shed light on the mechanisms and dynamics through which the learning of paradox enhances individuals' problem-solving abilities in the face of wicked problems.

Literature Review

Wicked problems are multifaceted challenges characterized by their complexity, ambiguity, and absence of a clear solution. Paradoxical learning, on the other hand, refers to the ability to embrace and navigate contradictions, dilemmas, and tensions inherent in complex situations. This literature review aims to examine the influence of paradoxical learning on individuals' capacity to effectively tackle wicked problems. By understanding the impact of paradoxical learning on problem-solving approaches, individuals can enhance their ability to navigate and address the intricate nature of wicked problems.

This research paper is grounded in the sense making theory proposed by Weick (1995). According to sense making theory, individuals actively construct meaning and make sense of complex situations through the interpretation of cues and the integration of contradictory information. The theory posits that paradoxical thinking plays a vital role in sense making

processes, as individuals grapple with conflicting demands and strive to reconcile opposing perspectives.

Paradox Learning

Paradoxical learning is a multifaceted and dynamic process that encompasses recognizing, engaging with, and embracing the contradictions and tensions inherent within a given situation or problem. It entails a deep appreciation for complexity, ambiguity, and contradictory perspectives, which serve as catalysts for generating creative and innovative solutions (Smith & Lewis, 2011). Through paradoxical learning, individuals are encouraged to cultivate the ability to hold multiple, often opposing, ideas in tension, allowing for the exploration of potential insights and synergies that arise from such paradoxes (Lewis, 2020).

In the context of paradoxical learning, recognition involves acknowledging and accepting the existence of paradoxes within a problem or situation. This recognition is essential for individuals to move beyond binary thinking and embrace the inherent tensions and contradictions that arise. As individuals engage with paradoxes, they develop a deep understanding of the intricate and multifaceted nature of the problem at hand. This understanding goes beyond surface-level complexities and enables a more comprehensive analysis and evaluation of the underlying dynamics, interdependencies, and trade-offs within wicked problems (Eisenhardt & Martin, 2000).

Furthermore, paradoxical learning emphasizes active engagement with contradictory perspectives. By appreciating and exploring divergent viewpoints, individuals gain a broader spectrum of insights and alternative solutions. This open-mindedness allows for the synthesis of seemingly conflicting ideas, leading to the emergence of novel and innovative approaches to wicked problems (Smith & Lewis, 2011). As demonstrated by research, the exploration of contradictory perspectives stimulates cognitive flexibility and promotes the generation of diverse ideas, ultimately fostering creativity and innovation in problem-solving (Li et al., 2020).

Therefore, paradoxical learning encourages individuals to move beyond the constraints of linear thinking and embrace the inherent tensions and contradictions present within wicked problems. By recognizing, engaging with, and embracing complexity, ambiguity, and contradictory perspectives, individuals can unlock new possibilities and develop creative and innovative solutions that address the intricate challenges posed by wicked problems.

Wicked Problems

Wicked problems, a concept originally introduced by Rittel and Webber (1973), encompass complex social or organizational challenges that defy straightforward solutions. These problems exhibit a high degree of

complexity, interconnectedness, and uncertainty, rendering them resistant to traditional problem-solving approaches. The characteristics of wicked problems include interdependencies among various elements, incomplete information, and diverse stakeholder perspectives, making them exceedingly difficult to define and address (Buchanan, 1992).

One defining aspect of wicked problems is their lack of clear boundaries. Unlike well-defined problems, wicked problems are often amorphous and ill-structured, making it challenging to discern where the problem begins and ends. This ambiguity adds to the complexity of the problem, requiring a more nuanced understanding and examination of its multiple facets (Head, 2022). Moreover, wicked problems are subject to changing requirements. As the problem context evolves, new dimensions and considerations emerge, necessitating ongoing adaptation and flexibility in problem-solving approaches (Camillus, 2008).

Interconnectedness is another characteristic inherent in wicked problems. These challenges are embedded within complex systems and influenced by numerous interconnected factors. Changes in one aspect of the system can have ripple effects throughout, making it crucial to consider the broader context and interconnected relationships when attempting to tackle wicked problems (Davidson, Bremner & Perkins, 2022). Additionally, wicked problems are influenced by diverse stakeholder perspectives. The involvement of various stakeholders with differing values, interests, and goals adds layers of complexity to problem-solving efforts, requiring collaboration, negotiation, and consideration of diverse viewpoints (Stichler, 2009).

Paradoxical Learning and Wicked Problems

Paradoxical learning serves as a powerful framework for individuals to navigate the complexities of wicked problems by embracing the inherent tensions and contradictions within them. This approach encourages individuals to actively engage with paradoxes, enabling them to develop a more nuanced understanding of the problem's complexity and facilitating improved problem framing (Eisenhardt & Martin, 2000). By recognizing and embracing contradictions, individuals gain a broader perspective that allows them to identify underlying patterns, dynamics, and interdependencies within wicked problems. This expanded perspective empowers individuals to devise more effective problem-solving approaches, considering the intricate web of factors and relationships that influence the problem (Ahn et al., 2023).

One of the key benefits of paradoxical learning is its ability to stimulate divergent thinking, fostering creativity and innovation in tackling wicked problems (Li et al., 2020). By embracing contradictory perspectives and tensions, individuals are encouraged to transcend binary solutions and explore new possibilities. This process opens up avenues for unconventional

and ground-breaking approaches to problem-solving. As individuals navigate paradoxes, they are driven to think outside the box, challenge traditional assumptions, and generate novel ideas that can lead to transformative solutions (Smith & Lewis, 2011). This culture of exploration, experimentation, and risk-taking is essential for addressing the complexities and uncertainties associated with wicked problems (Wang, Xiao & Jia, 2023).

Moreover, paradoxical learning significantly contributes to adaptive decision-making in the context of wicked problems. It equips individuals with the skills and mind-set necessary to navigate and reconcile conflicting priorities and trade-offs inherent in complex challenges (Bouchikhi & Kimberly, 2014). By embracing paradoxes, individuals are encouraged to consider multiple viewpoints and evaluate diverse alternatives. This multifaceted approach allows for a comprehensive analysis of the problem, taking into account the various stakeholder perspectives, potential trade-offs, and the dynamic nature of the problem itself (Smith, 2016). In the face of evolving circumstances, wicked problems demand adaptive decision-making strategies that can respond to changing contexts. Paradoxical learning empowers individuals to make informed choices that balance opposing tensions and adapt their solutions to address emerging challenges (Rittel & Webber, 1973; Atmoko, 2023).

In conclusion, the influence of paradoxical learning on individuals' capacity to navigate wicked problems is substantial. By embracing paradoxes, individuals enhance their problem-framing, enabling a deeper understanding of the complexities involved. This, in turn, leads to more effective problem-solving approaches by uncovering underlying patterns and interdependencies within wicked problems. Paradoxical learning also fosters creativity and innovation by encouraging divergent thinking and exploration of contradictory perspectives, generating novel ideas and solutions. Additionally, it promotes adaptive decision-making by enabling individuals to navigate conflicting priorities and adapt their strategies in response to evolving circumstances. The integration of paradoxical learning into educational and professional contexts holds promise for enhancing individuals' problem-solving capabilities and addressing the multifaceted challenges of wicked problems.

Method

This research study adopted a phenomenological approach to gain insights into the lived experiences of individuals who have encountered and navigated wicked problems in various aspects of their personal and professional lives. Phenomenology, as an approach to research, focuses on understanding and describing the essence of human experiences (Creswell, 2013). By delving into the first-hand accounts of individuals who have

grappled with wicked problems, this study aimed to uncover the intricacies, challenges, and strategies employed in navigating such complex issues.

Participants

To ensure a diverse and comprehensive sample, participants for this study were purposefully selected based on their extensive experience in encountering and navigating wicked problems. A total of 10 individuals, representing a range of professional domains, including healthcare, education, social justice, and environmental sustainability, were invited to participate in the research. This diverse group of participants provided a rich array of perspectives and insights into the complexities of wicked problems across various contexts.

Data Collection

Semi-structured interviews served as the primary data collection method for the contemporary research study. The interviews were conducted in a conversational and open-ended manner, allowing participants to freely share their experiences, challenges, and strategies in dealing with wicked problems. An interview guide was developed to ensure consistency across interviews while still allowing for flexibility to explore individual narratives in-depth. All interviews were audio-recorded and transcribed verbatim for subsequent analysis and interpretation.

Data Analysis

The data collected from the interviews underwent a rigorous process of thematic analysis, which is a widely used qualitative analysis technique for identifying patterns and themes within textual data (Braun & Clarke, 2019). Multiple readings of the interview transcripts were conducted to gain a holistic understanding of the participants' narratives. Initial codes were generated by systematically identifying significant statements and ideas within the data, capturing both explicit and implicit aspects of the participants' experiences. These codes were then grouped based on their similarities and organized into overarching themes that reflected the central phenomena of the participants' experiences.

Throughout the analysis process, the researchers employed a reflexive and iterative approach, engaging in discussions and reflections to ensure the trustworthiness and credibility of the findings. Member checking, a technique where participants are given the opportunity to review and provide feedback on the analysis and interpretations, was utilized to enhance the validity of the study (Nowell et al., 2017). By involving the participants in the analysis phase, the researchers ensured that the findings aligned with the participants' lived experiences and perspectives.

Approach and Ethical Considerations:
Participants were approached through personalized invitations explaining the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses. Informed consent was obtained from each participant prior to the interviews, ensuring that they were aware of the study's objectives, the data collection process, and their rights as participants. To maintain the anonymity and confidentiality of participants, all personal identifiers were removed from the collected data and replaced with pseudonyms.

Method Variance Control
To control for method variance and enhance the reliability of data collection, several measures were implemented. First, the interviewer underwent extensive training in qualitative research methods and interview techniques to minimize potential biases and ensure consistency in data gathering. Additionally, a pilot study was conducted with a small subset of participants to refine the interview guide, identify any ambiguities, and address potential methodological issues. The pilot study data were not included in the final analysis but served to strengthen the rigor of the interview process.

In conclusion, this research study employed a phenomenological approach to explore the lived experiences of individuals who have encountered and navigated wicked problems. By conducting in-depth interviews and employing thematic analysis, the study aimed to uncover the essence of these experiences and provide valuable insights into the complexities, challenges, and strategies employed in tackling wicked problems. The diverse sample of participants and the rigorous analysis process enhanced the credibility and validity of the study's findings.

Results and Analysis

The interview data were analysed using a thematic analysis approach, which involved several iterative steps to derive meaningful themes and patterns. The analysis process encompassed both deductive and inductive coding techniques (Guest et al., 2021). Initially, a deductive approach was employed, where a coding framework was developed based on the research questions and relevant literature. This framework provided a preliminary structure for coding categories related to paradoxical learning and navigating wicked problems.

Open Coding
The first phase of coding involved open coding, wherein each interview transcript was meticulously read and annotated to identify initial codes and concepts. This open coding process allowed for the identification of

emerging themes and concepts that may not have been initially anticipated in the coding framework. To ensure rigor and reliability, two independent researchers individually coded a subset of the transcripts, and any discrepancies were resolved through discussion and consensus.

Axial Coding

The second phase of coding involved axial coding, where the initial codes were refined, grouped, and interconnected to develop broader themes and subthemes. This process involved systematically examining the relationships between the codes, comparing and contrasting participants' responses, and exploring the connections and patterns that emerged. Through axial coding, the researchers sought to identify commonalities, variations, and relationships within the data.

Ensuring Validity of Responses

To ensure the validity of the responses, several measures were implemented. First, participants' responses were transcribed verbatim, ensuring the accuracy of their statements. Additionally, member checking was conducted, wherein participants were given the opportunity to review and provide feedback on the initial findings and interpretations derived from their interviews. This member checking process aimed to validate the accuracy and credibility of the data interpretation by involving participants as active collaborators in the research process.

Deriving Commonalities

To derive commonalities from the data, the researchers engaged in a process of constant comparison and triangulation. The coded data were systematically analyzed across interviews, comparing responses from different participants and exploring the converging and diverging themes. Through this iterative process, commonalities and patterns that emerged consistently across participants were identified and documented.

The results of this research paper provide valuable insights into how the learning of paradox influences individuals' capacity to navigate wicked problems. Through the analysis of participants' experiences, several key themes emerged, highlighting the various ways in which the learning of paradox influences problem-solving in complex and challenging contexts.

One significant theme that emerged from the participants' narratives is the importance of embracing paradoxical thinking. Participants who demonstrated the ability to hold conflicting ideas and concepts in their minds simultaneously were found to be better equipped to navigate wicked problems. They described how the willingness to embrace paradoxes enabled them to explore multiple perspectives and consider a broader range of potential solutions. By embracing paradoxical thinking, these individuals

were able to transcend traditional binary approaches and tap into their creative and innovative capacities (Lewis, 2020). This ability to generate novel solutions is essential when tackling wicked problems that defy straightforward answers.

Furthermore, the results highlighted the role of adaptive capacity in navigating wicked problems. Participants who embraced paradoxical thinking demonstrated a higher level of adaptability in the face of changing circumstances. They were able to pivot their strategies, adjust their approaches, and explore new avenues when confronted with unexpected challenges (Bouchikhi & Kimberly, 2014). This adaptive capacity enabled them to maintain a sense of control and progress in their problem-solving efforts, even in the midst of complex and uncertain situations.

Collaborative problem-solving emerged as another crucial theme in the participants' narratives. They emphasized the significance of engaging diverse perspectives and fostering constructive dialogue when addressing wicked problems. Participants who embraced paradoxical thinking were found to be more effective in facilitating collaborative problem-solving processes. Their ability to hold contradictory ideas in tension allowed them to appreciate and integrate diverse viewpoints, leading to more comprehensive and robust problem analysis (Smith, 2016). By encouraging open and respectful discussions, these individuals created an environment that fostered collective intelligence and creativity, which are vital for addressing the multifaceted challenges inherent in wicked problems.

Additionally, participants highlighted the role of reflection and continuous learning in the learning of paradox. They described how engaging with paradoxes prompted them to challenge their assumptions, reconsider their mental models, and explore new perspectives. This reflective approach facilitated a deeper understanding of the complexities and interdependencies within wicked problems (Papachroni, Heracleous & Paroutis, 2015). It also nurtured a growth mindset, encouraging participants to continually expand their knowledge and skills to better navigate wicked problems over time.

The findings of this research have important implications for individuals and organizations grappling with wicked problems. Embracing paradoxical thinking can enhance problem-solving abilities by fostering creativity, adaptability, and collaborative approaches. Educators and trainers can leverage these findings to design educational programs and training initiatives that cultivate paradoxical thinking skills. By incorporating activities that encourage the exploration of paradoxes, promoting interdisciplinary perspectives, and facilitating collaborative problem-solving exercises, these programs can empower individuals to navigate wicked problems more effectively (Simons, 2016).

In conclusion, the results of this research shed light on the ways in which the learning of paradox influences individuals' capacity to navigate wicked problems. By embracing paradoxical thinking, individuals are better equipped to generate novel solutions, adapt to changing circumstances, facilitate collaborative problem-solving, and engage in continuous learning and reflection. These insights provide valuable guidance for individuals, educators, and organizations seeking to tackle the complex challenges posed by wicked problems.

Discussion

The purpose of this qualitative research paper was to explore how the learning of paradox influences individuals' capacity to navigate wicked problems. The findings of this study suggest that individuals who are able to embrace paradoxical thinking are better equipped to navigate wicked problems than those who approach problems in a linear and analytical manner. This capacity allows them to hold conflicting ideas and concepts in their minds simultaneously, generate novel solutions, and adapt to changing circumstances. These findings have important implications for education and training programs.

The findings of this study are consistent with previous research on the benefits of paradoxical thinking in navigating complex problems (Pradies et al., 2021; Fortes et. al., 2023). Participants in this study who were able to embrace paradoxical thinking were better equipped to navigate wicked problems, as they were able to hold seemingly contradictory ideas and concepts in their minds and reconcile them to generate novel solutions. This capacity allowed them to maintain a sense of control over the problem and to continue making progress towards a solution.

Furthermore, the findings of this study suggest that the learning of paradox is not only beneficial in generating creative solutions to wicked problems, but also in adapting to changing circumstances. Participants who were able to embrace paradoxical thinking demonstrated a higher level of adaptive capacity, which allowed them to pivot when confronted with unexpected challenges. This adaptability allowed them to maintain a sense of control over the problem and to continue making progress towards a solution.

The findings of this study also suggest that collaborative problem-solving is an important component of navigating wicked problems. Participants emphasized the need for diverse perspectives and the ability to engage in constructive dialogue with others. Participants who were able to embrace paradoxical thinking were better able to facilitate collaborative problem-solving, as they were able to hold multiple perspectives and engage in constructive dialogue.

In conclusion, this qualitative research paper explored the lived experiences of individuals who have encountered and navigated wicked problems and found that the learning of paradox influences individuals' capacity to navigate wicked problems. Individuals who are able to embrace paradoxical thinking are better equipped to navigate wicked problems, generate novel solutions, adapt to changing circumstances, and facilitate collaborative problem-solving. These findings have important implications for education and training programs, as they suggest that the learning of paradox should be incorporated into curricula and training programs to better equip individuals to navigate complex and dynamic problems.

Conclusion

The purpose of this qualitative research study was to explore how the learning of paradox influences individuals' capacity to navigate wicked problems. Through a series of in-depth interviews with participants who have encountered and navigated wicked problems, the contemporary research study found that the learning of paradox is critical to navigating complex and dynamic problems. Moreover, this study has contributed to a better understanding of the role of paradoxical thinking in navigating wicked problems. The findings of this study have important implications for education and training programs, and highlight the need for further research in this area.

Theoretical Implications

This study contributes to the literature on paradox by demonstrating the importance of paradoxical thinking in navigating wicked problems. The findings of this study suggest that the learning of paradox can enhance individuals' capacity to manage ambiguity and complexity in problem-solving, which has important implications for individual and organizational performance.

Specifically, this study extends the literature on paradox by exploring the role of paradoxical thinking in the context of wicked problems. While previous research has identified the importance of paradoxical thinking in managing paradoxical tensions, this study demonstrates the relevance of paradoxical thinking in navigating problems that are characterized by complexity, uncertainty, and ambiguity. By highlighting the role of paradoxical thinking in navigating wicked problems, this study contributes to a deeper understanding of the mechanisms underlying effective problem-solving.

In addition, this study provides insights into the development of paradoxical thinking. The findings suggest that the learning of paradox can be facilitated through a range of experiences, including exposure to paradoxical situations, reflection on past experiences, and engagement in

diverse perspectives. By identifying the potential sources of paradoxical thinking, this study provides a theoretical basis for the development of interventions aimed at enhancing individuals' capacity to navigate wicked problems.

Finally, this study has implications for the broader literature on problem-solving and decision-making. The findings suggest that the ability to manage paradox and ambiguity is a key determinant of effective problem-solving in complex and dynamic environments. By highlighting the importance of paradoxical thinking in navigating wicked problems, this study extends the literature on problem-solving and decision-making by identifying a key cognitive capacity that is critical for success in such contexts.

Overall, the theoretical contributions of this study provide a basis for future research aimed at further exploring the role of paradoxical thinking in problem-solving and decision-making. Future studies could investigate the mechanisms underlying the development of paradoxical thinking, as well as the potential moderating factors that may influence its effectiveness in problem-solving. Additionally, future research could explore the implications of paradoxical thinking for organizational behaviour and management, as well as the potential for interventions aimed at enhancing individuals' capacity to navigate wicked problems.

Practical Implications

The findings of this study have important policy and managerial implications for organizations and policymakers who are interested in enhancing individuals' capacity to navigate wicked problems. This section discusses some of the key implications of the study for policy and managerial practice.

First, this study highlights the importance of promoting diversity and inclusion in organizations. The findings suggest that exposure to diverse perspectives and experiences is an important factor in the development of paradoxical thinking. Therefore, organizations that value diversity and inclusion are more likely to foster the development of paradoxical thinking, which may enhance their capacity to navigate wicked problems (Dieste, Sauer, & Orzes, 2022).

Second, this study has implications for the design of training and development programs aimed at enhancing problem-solving skills. The findings suggest that interventions that expose individuals to paradoxical situations, encourage reflection on past experiences, and promote the adoption of diverse perspectives may be effective in promoting the learning of paradox. Therefore, organizations and policymakers who are interested in enhancing individuals' capacity to navigate wicked problems may benefit from investing in such interventions.

Third, this study highlights the importance of promoting a culture of experimentation and learning in organizations. The findings suggest that

individuals who are willing to experiment and learn from failure are more likely to develop paradoxical thinking, which may enhance their capacity to navigate wicked problems. Therefore, organizations that promote a culture of experimentation and learning may be better equipped to navigate complex and dynamic environments (Bellemare et al., 2020).

Fourth, this study has implications for the design of organizational structures and processes. The findings suggest that organizations that are able to balance stability and change, and manage paradoxical tensions effectively are more likely to navigate wicked problems successfully. Therefore, organizations that design their structures and processes with this in mind may be better equipped to manage wicked problems (Burke & Wolf, 2021).

Finally, this study has implications for policymakers who are interested in promoting effective problem-solving in complex and dynamic environments. The findings suggest that policies that promote diversity and inclusion, experimentation, and learning, as well as the development of paradoxical thinking, may enhance individuals' capacity to navigate wicked problems. Therefore, policymakers who are interested in promoting effective problem-solving in such contexts may benefit from investing in policies and initiatives that foster these capacities (Maggetti & Trein, 2022).

Overall, the practical implications of this study highlight the importance of investing in the development of paradoxical thinking, diversity and inclusion, experimentation, learning, and effective organizational structures and processes. By doing so, organizations and policymakers may be better equipped to navigate wicked problems successfully.

Limitations and Directions for Future Study

Despite the valuable insights gained from this study, there are several limitations that should be considered when interpreting the findings. First, the sample size was relatively small, which may limit the generalizability of the findings to other contexts. Future studies could include a larger and more diverse sample to increase the external validity of the findings.

Second, this study relied on self-reported data from participants, which may be subject to biases and inaccuracies. Future studies could employ alternative methods, such as observation or case studies, to provide a more comprehensive and nuanced understanding of how the learning of paradox influences individuals' capacity to navigate wicked problems.

Third, this study did not explore the potential moderating effects of contextual factors, such as the nature of the problem or the level of complexity involved. Future research could examine how contextual factors interact with the learning of paradox to influence problem-solving outcomes.

Finally, this study was limited to individuals who had already encountered and navigated wicked problems. Future research could examine

how the learning of paradox influences individuals who have not yet encountered such problems, or who are in the process of navigating them.

In terms of directions for future study, the findings of this study suggest several potential avenues for further research. For example, future studies could explore the potential impact of training programs on the development of paradoxical thinking and problem-solving capacity. Additionally, future research could examine the potential role of cognitive processes and individual differences in the development of paradoxical thinking.

Furthermore, as the concept of paradox continues to receive increased attention in the management literature, there is a need for further research to clarify the nature and mechanisms of paradoxical thinking. Future studies could explore the theoretical underpinnings of paradoxical thinking and its potential implications for organizational behaviour and management.

In a nutshell, while the contemporary research study has shed light on the importance of learning paradox in navigating wicked problems, there is still much to be explored in this area. The limitations of this study provide opportunities for future research to build on the findings and deepen our understanding of the role of paradoxical thinking in problem-solving.

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