



REFLECTION SCIENCE & EXECUTIVE FUNCTIONING LITERATURE REVIEW

Prepared for AASA, The School Superintendents Association

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INTRODUCTION

The Association of School Superintendents (AASA) is dedicated to providing its members with resources to ensure superintendents can adapt, persevere, and lead effectively in any situation. Throughout 2023, AASA has collaborated with Hanover Research (Hanover) to create comprehensive reports, toolkits, infographics, and presentations. These materials aim to educate superintendents on how to adopt and apply strategies that will make them more nimble, resilient, and resonant leaders.

AASA aims to enrich its existing resource pool for superintendents by incorporating practical examples that demonstrate how current or recent superintendents have effectively utilized their skills and strategies for leadership. This includes implementing change, enhancing learning environments, uniting communities, boosting academic success for all students, and building sustainable, efficient, and effective educational systems in any context. Furthermore, leaders require guidance on how to learn from the experiences of successful leaders. By applying reflection science concepts, including those related to executive functioning, leaders can develop their abilities through systematic reflection on case studies of current or recent leaders. To support AASA's efforts in supporting superintendents' leadership capabilities, Hanover created the following literature review exploring how executive function and reflective practice can support educational leaders in being nimble, resilient, and resonant. This report contains the following sections:

- **Section I: Executive Functions** offers in-depth understanding of the complex cognitive processes that make up executive functions and their role in promoting nimble leadership; and guidance for leaders on how to apply skills to enhance nimble leadership.
- **Section II: Reflective Practice** combines academic research and practical advice from leadership experts, providing strategies for improving leaders' resiliency and resonance skills through self-reflection.

RECOMMENDATIONS

Based on our findings, Hanover suggests AASA consider the following recommendations:



Assist educational leaders' nimbleness through coaching and simulations designed to enhance executive function. Studies show executive functioning skills enable leaders to be more flexible, handle complex tasks, and respond effectively to stressful situations. Leaders can enhance these skills with the help of a coach, by engaging in simulations that provide immediate feedback, and through certain physical exercises which are known to boost cognitive abilities related to executive functioning.



Help build resiliency in education leaders through best-self and perspective-taking reflections. Individuals can improve resiliency by evaluating objectives and determining steps to achieve them. The practice of best-self reflection provides a framework for goal setting. Leaders can also employ perspective-taking techniques to transition from automatic reactions to thoughtful responses, fostering resilient relationships and a healthy work culture.



Encourage resonance in education leaders through contemplative reflection. For adult learners, contemplative reflective practices that consider physiognomy can be particularly beneficial. Contemplative reflection allows leaders to explore their emotions related to work and daily interactions, fostering a more compassionate approach toward themselves and their colleagues. Leaders can utilize structured reflection methods, such as guided questions or oracle cards, to gain a deeper understanding of their feelings about certain situations and devise better strategies for handling them in the future.

KEY FINDINGS



Effective leaders excel at nimbly solving high-stakes problems that do not have ready solutions. They accomplish this, in part, through executive function. According to foundational executive function researcher Philip Zelazo, executive function is ‘the conscious control of thoughts and action.’ Executive function helps leaders nimbly accomplish multi-step, ambiguous, or complex tasks associated with their jobs. The skills people use to executively function help them regulate their ability to pay attention and consciously decide where to direct their attention. When people are able to control where they direct their attention, they are better able to take conscious steps to accomplish their aims.



Flexible leadership simulations with reflection components can help leaders grow in their executive abilities and nimble leadership skills. A 2022 study by Paul Balwant measured 72 students’ ability to grow in their leadership skills through a simulation and subsequent reflective essay. Quantitative study findings demonstrate that after the simulation and reflection, participants perceived skills and abilities increased significantly. Crucially, participants recognized the significance of adaptable leadership and articulated strategies for implementing a nimble approach.



According to Philip Zelazo, the ability to reflect is crucial for individuals to lead nimbly through executive function. Reflection gives individuals mental space to think about their goals and determine the cognitive strategies required to achieve them. In executive functioning terms, when people are reflecting, they are planning on how they will direct and regulate their attention in the future while simultaneously strengthening those skills in the present moment. Reflection can help people take a pause before they respond to emotionally heightened situations and generally develop a greater awareness of their behavior and emotions.



Reflective practice researchers Noemie Le Pertel, Jonathan Fisher, and Nick Van Dam link reflection with resonance, explaining that people require reflection to shift embedded ideas and beliefs. From a neurological perspective, the act of reflection loosens the neural connections linked to limiting beliefs and substitutes them with new connections related to preferred ideas and beliefs. The reflective process of creating new neural connections helps people foster more empathetic outlooks and behaviors.



Research finds directed self-reflection can help leaders build resiliency.¹ Researcher Remy Jennings and colleagues conducted a study in 2021 to explore how regular self-reflection can positively impact leadership ability. Jennings’ research concludes that daily reflections on one’s “best self” foster leadership resiliency, particularly in the areas of assistance and visioning, by promoting a more positive attitude. Reflecting on clout also helped leaders feel confident in their positions by feeling more adept at their daily tasks. Research authors conclude best-self reflections are effective in improving employees’ leadership resiliency skills.



Resonant reflection structures that exist outside traditional learning settings can be especially helpful for adult learners. Reflection is both a cognitive and a physiological phenomenon. Contemplative practices are often effective in achieving this goal of combining cognitive and physiological reflection. For adult learners, reflective practices that consider physiognomy can be particularly beneficial. This is due to the fact that adults often have deeply rooted experiences and beliefs entrenched in their neurobiology, which they can reassess using a fresh approach. Contemplative practices are often effective in achieving this goal of combining cognitive and physiological reflection.

¹ [1] Jennings, R.E. et al. “Reflecting on One’s Best Possible Self as a Leader: Implications for Professional Employees at Work.” *Personelle Psychology*, 2021. <https://onlinelibrary.wiley.com/doi/10.1111/peps.12447> [2] Beasley, B. “How Self-Reflection Can Improve Your Leadership.” Notre Dame Deloitte Center for Ethical Leadership. [3] Loughran, Op. cit., p. 137-138.




SECTION I: EXECUTIVE FUNCTIONS

Superintendents and other district leaders have complex and multifaceted roles. A key aspect of their jobs is to forge connections with people while also participating in strategic planning and overseeing day-to-day operations.² Executive functioning skills can help educational leaders complete these complex tasks by helping them dedicate measured attention to each task while also fluidly moving between them.³ The following section illustrates the complex cognitive processes that make up executive function and then outlines how leaders can use and improve their executive functioning skills in the workplace.

COMPONENTS OF EXECUTIVE FUNCTION FOR NIMBLE LEADERS

Effective leaders excel at nimbly solving high-stakes problems that do not have ready solutions. They accomplish this, in part, through executive function.⁴ According to foundational executive function researcher Philip Zelazo, executive function is “the conscious control of thoughts and action.”⁵ Executive function occurs in the lateral prefrontal brain cortex where individuals set goals, regulate their emotions, and plan. Executive function helps leaders nimbly accomplish multi-step, ambiguous, or complex tasks associated with their jobs.⁶ Neuroscientist and executive function researcher Adele Diamond groups executive function into three components: cognitive flexibility, working memory, and inhibitory control. These components are defined in Figure 1.1 based on both Diamond and Zelazo’s research.

Figure 1.1 Three Components of Executive Function

 COGNITIVE FLEXIBILITY	Ease in shifting perspectives and adjusting to new challenges and opportunities.
 WORKING MEMORY	Sustaining selective attention on multiple levels of information at one time, and relating them to each other.
 INHIBITORY CONTROL	Overriding impulses and emotions when necessary to deliberately suppress attention to something, such as a distraction.

Source: *Journal of Cognition and Development*, Mindful Leader⁷

The skills people use to executively function help them regulate their ability to pay attention and consciously decide where to direct their attention. When people are able to control where they direct their attention, they are better able to take conscious steps to accomplish their aims. Research also finds that sustained and controlled attention abilities impact how people regulate their emotions. The emotions associated with executive function are characterized as “cool” emotions and “hot” emotions. Cool emotions are more

² “Superintendent Governance Standards.” California School Boards Association. <https://www.csba.org/GovernanceAndPolicyResources/EffectiveGovernance/ProfessionalGovStandards/ProfessionalGovernanceStandardsForDistrictSuperintendents.aspx#gsc.tab=0>

³ [1] Ibid. [2] Gabatino, B.B. and B.T. Afalla. “Establishing a Nexus between Executive Functions and Management Efficacy of Academic Leaders.” *International Journal of Evaluation and Research in Education (IJERE)*, 10:3, 2021. <http://ijere.iaescore.com/index.php/IJERE/article/view/21515>

⁴ Kleiner, A., J.M. Schwartz, and J. Thomson. “Challenges of Strategic Leadership: Mastering Executive Functions.” *Mindful Leader*, 2023. <https://www.mindfulleader.org/blog/40819-challenges-of-strategic-leadership>

⁵ Lahat, A. et al. “Neurophysiological Correlates of Executive Function: A Comparison of European-Canadian and Chinese-Canadian 5-Year-Olds.” *Frontiers in Human Neuroscience*, 2010. p. 1. <https://www.proquest.com/docview/2293907725/abstract/6753174E30D44862PQ/1>

⁶ Kleiner, Schwartz, and Thomson, Op. cit.

⁷ Figure content verbatim from [1] Ibid. [2] Zelazo, P.D. and S.M. Carlson. “Reconciling the Context-Dependency and Domain-Generality of Executive Function Skills from a Developmental Systems Perspective.” *Journal of Cognition and Development*, 24:2, 2023. p. 206. <https://doi.org/10.1080/15248372.2022.2156515>

cognitive in nature, and hot executive function skills hold deeper emotional meaning.⁸ Hot and cool executive function skills are outlined in Figure 1.2.

Figure 1.2 Philip Zelazo's Executive Function Framing

COOL EXECUTIVE FUNCTION SKILLS	HOT EXECUTIVE FUNCTION SKILL
<ul style="list-style-type: none"> ▪ Working memory ▪ Cognitive flexibility ▪ Inhibitory control 	<ul style="list-style-type: none"> ▪ Intentional reevaluation

Source: *Journal of Cognition and Development*⁹

Strong executive functioning skills aid educational leaders in building nimbleness. For example, flexible planning and following through on goal achievement.¹⁰ A recent study of 54 academic leaders finds a significant relationship between educational leaders' executive functions and management efficacy. This means leaders who demonstrated proficient executive functions, based on certain criteria, also met or surpassed the standards for management. These successful leaders showed exceptional skills in executive functions, including "self-monitoring, task monitoring, planning/organization, initiation, shifting, and inhibition."¹¹ Nimble leaders also exhibited strong emotional control, which assist them in strategic planning and problem-solving. This emotional control enables handling of diverse and complex organizational tasks and the ability to build connections between separate areas of education departments to enhance unity.¹² Figure 1.3 provides the executive function and management criteria used in the study to illustrate how these two components relate to one another in the educational leadership space.

Figure 1.3 Dimensions of Executive Function and Management

EXECUTIVE FUNCTION	
CONSTRUCT	DESCRIPTION
Inhibition	The capacity to monitor urges and to restrain one's actions at the right time.
Shift	The flexibility to respond to actions that are adaptable to changing circumstances' demands.
Emotional Control	The ability to modify feelings and emotions.
Self-Monitor	The potential to consider the impact with one's own actions on others.
Initiation	The ability to engage tasks and autonomous production of proposals, techniques, and reactions.
Working Memory	The willingness to keep knowledge in perspective with a view to achieving an assignment.
Plan/Organize	The capacity to handle existing and future-oriented responsibilities.
Task Monitor	The ability to track work and results either during or instantly after the completion of an activity.
Materials Organization	The ability to sustain systematized work, function and shared storage.
MANAGEMENT EFFICACY	
CONSTRUCT	DESCRIPTION
Management Skills	The success in preparing, arranging, handling, and governing.
Communication Skills	The extent to which there is accuracy in communication both verbally and in writing.
Interpersonal Relations	The success in dealing with other leaders, subordinate, peers, and students
Decision-making	The efficiency of problem identification and the selection of effective action.

⁸ Zelazo and Carlson, Op. cit., p. 206.

⁹ Figure content verbatim from Ibid., p. 205.

¹⁰ [1] Ibid., p. 1. [2] Gabatino and Afalla, Op. cit., p. 398.

¹¹ Gabatino and Afalla, Op. cit., p. 943.

¹² Ibid.

Initiative and Creativity	The willingness to take responsibility, come up with new ideas and cope with unexpected circumstances at work.
Adaptability	The capacity for adjustment to cope.

Source: *International Journal of Evaluation and Research in Education*¹³

APPLICATIONS TO NIMBLE EDUCATION LEADERSHIP

Zelazo and Diamond’s conceptions of executive function center around being nimble, a leader’s ability to use cognitive control to mindfully switch between various tasks, and to adjust cognitive strategies to address unforeseen situations.¹⁴ Further researchers such as Ellen Galinsky echo these claims, stressing the importance of inhibitory and cognitive flexibility to consider diverse perspectives and approaches.¹⁵ To assist employers and employees in embodying adaptability in daily work life, researcher Oscar Ybarra introduces a four-category framework (C+MAC), a validated model for workplace adaptability.¹⁶ Figure 1.4 provides C+MAC skills, as well as how these skills are used by organizational leaders.

Figure 1.4 C+MAC Skills and Leadership Applicability

SKILL	DEFINITION	APPLICATION TO LEADERSHIP
COGNITION	Skills related mainly to mental activity, thinking about information, and mentally figuring things out.	<ul style="list-style-type: none"> Understand the environment in which the organization operates: threats, constraints, demands, and opportunities. Apply tools for analyzing the different aspects of the environment to plan and problem-solve.
MOTIVATION	Skills related mainly to having the drive and energy to engage with activities or topics, and a desire to complete goals.	<ul style="list-style-type: none"> Use a growth mindset to take a positive approach to learning. Replace status-quo thinking with considering shifting opportunities and landscapes.
ACTION	Skills that go beyond motivation and are related mainly to taking action to change something or make something happen.	<ul style="list-style-type: none"> Develop goals and vision to further the effectiveness and growth of the organization. Use leadership, influence, and execution to ensure others buy into goals and can achieve them.
CONNECTION	Skills related mainly to social interaction, building relationships, and getting along with others.	<ul style="list-style-type: none"> Use tact and communication to network effectively and represent the organization to other parties. Keep organizational members informed about strategy and progress toward goals.

Source: *PLoS One*¹⁷

Diamond and Zelazo both assert that people of all ages can strengthen their executive functions.¹⁸ While previous theories suggest cognitive functions such as temperament and impulse control are predetermined at birth, Diamond’s research indicates that through learning and practice, individuals can enhance their executive functioning skills. Diamond likens executive function to physical workouts: initially, when individuals start to exercise their mental abilities, it may seem challenging and uncomfortable. However, as they adapt to new thought patterns, these new cognitive methods become instinctive.¹⁹ Figure 1.5 outlines

¹³ Ibid., p. 940.

¹⁴ Zelazo and Carlson, Op. cit., p. 206. [2] Kleiner, Schwartz, and Thomson, Op. cit.

¹⁵ Galinsky, E. and N. Gardner. “Good Guidance.” *Teaching Young Children*, 9:4, 2016. pp. 7–8.

<https://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=117310569&site=ehost-live>

¹⁶ Ybarra, O. “The Skills That Help Employees Adapt: Empirical Validation of a Four-Category Framework.” *PLoS One*, 18:2, 2023.

<https://www.proquest.com/docview/2779729981/abstract/9BF968DC34AB48B2PQ/1>

¹⁷ Figure content verbatim with modifications from Ibid., pp. 9–16.

¹⁸ Kleiner, Schwartz, and Thomson, Op. cit. [2] Zelazo and Carlson, Op. cit.

¹⁹ Kleiner, Schwartz, and Thomson, Op. cit.

strategies for strengthening executive functions in order of research backing, with all methods having “broad conclusive effect but no conclusive research yet.”

Figure 1.5 Strategies to Strengthen Executive Function

STRATEGY	DESCRIPTION	RESEARCH BASIS
Mindful Movement	Exercises like tai chi in which performers pay close and precise attention to their bodily movements during practice.	Growing evidence of effectiveness.
Learning-Oriented Relationships	People help each other develop executive function through active mentor or trainer relationships.	Emerging evidence of effectiveness.
Emotional Commitment	People improve their executive function when they genuinely enjoy the activities they are engaging with.	Hypothesis of effectiveness based on related research.
Skill Building Awareness	People build skills with a deep understanding of how those skills will help improve their executive function.	Hypothesis of effectiveness based on related research.

Source: Mindful Leader²⁰

Flexible leadership simulations with reflection components can help leaders grow in their executive abilities and nimble leadership skills.²¹ A 2022 study by Paul Balwant measured 72 students’ ability to develop leadership skills through a simulation and subsequent reflective essay. The simulation cast students as a leader in a restaurant chain. They were prompted to respond to a series of messages, which required them to make difficult decisions and, in some instances, give feedback to their colleagues. In the second part of the simulation, participants evaluated their responses and contemplated how they could improve in the future. Quantitative findings demonstrate that after the simulation and reflection, participants perceived skills and abilities increased significantly. Themes from the qualitative portion of the study find participants enjoyed the study, felt the simulation was realistic, and were able to identify steps they could take to improve their leadership style. Crucially, participants recognized the significance of adaptable leadership and articulated strategies for implementing a nimble approach.²² Figure 1.6 provides an example of the structure of the simulation, and how it provided users with feedback on leadership.

Figure 1.6 Flexible Leadership Simulation Sample

PROMPT	Hi again_____. I’m following up on our informal chat regarding the desserts on offer at the restaurant. During your leave, we have not had a single complaint. Also, sales appear to me to be consistently good each week based on our outputs in the kitchen. Please let me know if you wish to have a follow-up chat or meeting.
PARTICIPANT RESPONSE	a. Great job on the pastries as always – keep up the good work! b. Thanks for the feedback and I’m happy to hear that our sales are consistently good. Could we arrange to meet to discuss a few of your ideas for further improving our desserts? c. (chosen response) Thanks for the feedback. Good work on keeping the customers coming back for more of your delicious desserts. I would like to arrange a meeting with you to discuss a few ideas I had that seem perfect for our Caribbean vibe.
FEEDBACK	Often, the first instinct in this scenario is to respond with praise (affiliative style). But, given the scenario, such praise may encourage mediocrity. Instead, it is better to use moderate praise with another style such as authoritative (suggesting enhancements that are aligned to the organization’s vision) or democratic (involving

Source: *Journal of Education for Business*²³

²⁰ Figure content verbatim with modifications from Ibid.

²¹ Balwant, P.T. “Teaching Flexible Leadership via an Experiential Learning Exercise: A Simulation and Self-Reflection.” *Journal of Education for Business*, 97:8, 2022. <https://doi.org/10.1080/08832323.2021.2005511>

²² Ibid., pp. 564–572.

²³ Figure content verbatim from Ibid., p. 569.

SECTION II: REFLECTIVE PRACTICE

The following section combines academic research and practical advice from leadership experts, providing guidance on how individuals can improve their nimble, resilient, and resonant leadership skills through self-reflection.

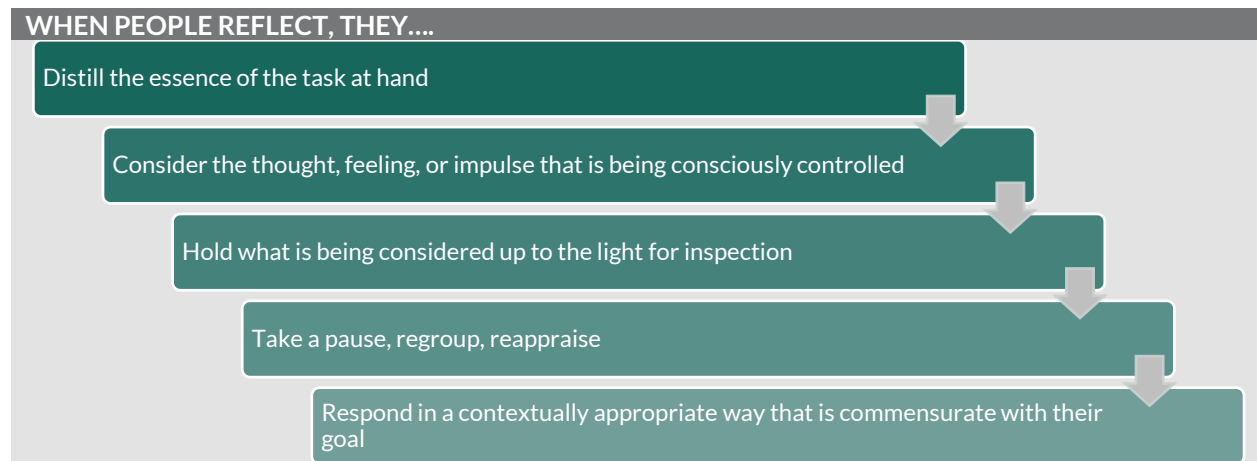
COMPONANTS OF REFLECTIVE PRACTICE

The following subsection summarizes foundational reflective practice research in relation to nimble, resilient, and resonant leadership.

RELATIONSHIP BETWEEN EXECUTIVE FUNCTION, REFLECTION, AND NIMBLE LEADERSHIP

According to Zelazo, the ability to reflect is crucial for individuals to lead nimbly through executive function. Reflection gives individuals the mental space to think about their goals and determine the cognitive strategies required to achieve them. In executive functioning terms, when people are reflecting, they are planning on how they will direct and regulate their attention in the future while simultaneously strengthening those skills in the present moment. Reflection can help people take pause before they respond to emotionally heightened situations and generally develop a greater awareness of their behavior and emotions.²⁴ Figure 2.1 illustrates how the cognitive process of reflection can improve executive function.

Figure 2.1 Cognitive Reflection Process for Executive Function



Source: *Journal of Cognition and Development*²⁵

Building on Zelazo's claims, executive and leadership coach Palena Neale asserts self-reflection is rooted in people's ability to consider their personal experiences with the intention of learning and growing from them. Therefore, self-reflection in leadership designates the reflective intention as improving leadership capacity to be nimble.²⁶ According to Neale, when leaders self-reflect, they should make note of their strengths along with their areas of growth, and how their personal forms of communication and self-expression impact those around them. Neale posits that when leaders actively reflect, they more quickly grow their leadership capacity and are better able to empathize with the people they work with.²⁷

²⁴ Zelazo and Carlson, Op. cit., pp. 206–207.

²⁵ Figure content verbatim from Ibid., p. 213.

²⁶ Neale, P. "Council Post: Seven Tips For Designing A Leadership Self-Reflection Practice." Forbes, 2021.

<https://www.forbes.com/sites/forbescoachescouncil/2021/12/22/seven-tips-for-designing-a-leadership-self-reflection-practice/>

²⁷ Ibid.

RELATIONSHIP BETWEEN REFLECTION AND RESILIENT, RESONANT LEADERSHIP

Research over the past twenty years increasingly finds a connection between leadership and emotions.²⁸ Professor John Loughran asserts leadership duties deeply intertwine with feelings and emotions. Initial research on leadership in the 1940s concentrates on various leadership styles, including democratic, autocratic, transformational, and transactional. However, research in the past two decades has pivoted to acknowledge and examine how leaders emotionally respond to their colleagues and their work environment.²⁹ Loughran summarizes these conceptual shifts, as outlined in Figure 2.2.

Figure 2.2 Summary of Research on Emotional Leadership

1995	Daniel Goleman originates the concept of emotional intelligence.
2000	Daniel Goleman suggests that leaders require emotional intelligence to employ diverse leadership styles.
2000	Jennifer M George reframes the role of emotions in leadership. She argues that emotions are not a cognitive hindrance to leadership, but rather, they are an asset that can be refined to enhance leadership skills.
2002	Steven B. Wolff suggests that empathy is a necessary trait for effective leadership.
2002	Ronald H Humphrey states that empathy is central to how emotional leadership is recognized, displayed, and enacted.

Sources: *Journal of Educational Administration and History*³⁰

Reflective practice researchers Noemie Le Pertel, Jonathan Fisher, and Nick Van Dam also link reflection with resonance, explaining that people require reflection to shift embedded ideas and beliefs. From a neurological perspective, the act of reflection loosens the neural connections linked to limiting beliefs and substitutes them with new connections related to preferred ideas and beliefs. The reflective process of creating new neural connections helps people foster more empathetic outlooks and behaviors.³¹

APPLICATIONS TO RESILIENT AND RESONANT EDUCATION LEADERSHIP

The following subsection describes strategies leaders can use to strengthen their reflection skills for resilience and resonance.

REFLECTION FOR RESILIENT LEADERSHIP

Research finds that directed self-reflection can help leaders build resiliency.³² Researcher Remy Jennings and colleagues conducted a study in 2021 to explore how regular self-reflection can positively impact leadership ability. Jennings used control theory to explore how leaders' capacities improved when they reflected daily on their "best self," or their ultimate vision of the kind of leader they want to be. This reflection focused on the areas of "positive affect, helping, visioning, enacted leader identity, and clout."³³ To accomplish this, the research team provided participant with the prompt:³⁴

²⁸ Loughran, J. "Understanding Self as a Leader: Emotional Leadership and What It Means for Practice." *Journal of Educational Administration and History*, 53:2, 2021. <https://doi.org/10.1080/00220620.2020.1805418>

²⁹ Ibid., pp. 132–134.

³⁰ Scholarly summaries adapted from Ibid., p. 143.

³¹ Le Pertel, N., J. Fisher, and N. van Dam. "Neuroscience of Embodied Reflection: Somatic/Mindbody/Contemplative Practices, Health, and Transformative Learning." *Reflective Practice*, 21:6, 2020. pp. 803–804. <https://doi.org/10.1080/14623943.2020.1827492>

³² [1] Jennings, R.E. et al. "Reflecting on One's Best Possible Self as a Leader: Implications for Professional Employees at Work." *Personelle Psychology*, 2021. <https://onlinelibrary.wiley.com/doi/10.1111/peps.12447> [2] Beasley, B. "How Self-Reflection Can Improve Your Leadership." Notre Dame Deloitte Center for Ethical Leadership. [3] Loughran, Op. cit., p. 137-138.

³³ Jennings, R.E. et al. "Reflecting on One's Best Possible Self as a Leader: Implications for Professional Employees at Work." *Personelle Psychology*, 2021. pp. 65–77. <https://onlinelibrary.wiley.com/doi/10.1111/peps.12447>




³⁴ Beasley, Op. cit.

- Think about your best possible self in a leadership role sometime in the future; Imagine that, in this leadership role, everything has gone as well as it possibly could for you. Think of this as the realization of the best possible leader you could ever hope to be.

The research team then directed participants to write two to six sentences about how they could use their abilities to achieve their vision.³⁵

Jenning's research concludes that daily reflections on one's "best self" foster leadership resiliency, particularly in the areas of assistance and visioning, by promoting a more positive attitude. Reflecting on clout also helped leaders feel confident in their positions by feeling more adept at their daily tasks. Research authors conclude that best-self reflections are effective in improving employee's leadership resiliency skills.³⁶ In other words, reflecting on their future best-self helped leaders feel more positive about their current best self, which gave them the impetus to express their ideas with more clarity and collaborate with others in the company more often. When participants took these "leadership" actions, it reinforced their positive beliefs about themselves as effective leaders, creating a positive action cycle of resiliency.³⁷ Figure 2.3 provides key takeaways from Jennings' study, summarized by academics at Notre Dame University.

Figure 2.3 Leadership Visualization Self-Reflection Practice

	LOOK INWARD	View leadership as a state of mind instead of a position and ask yourself, "What would take for me to become a leader or a better leader?"
	DEFINE YOURSELF AS A LEADER	No matter your position, think of yourself as a leader, define for yourself what being a leader means, and follow through on your vision in day-to-day work.
	MAKE SELF-REFLECTION A HABIT	Block of eight minutes of leader reflection time daily for the best possible effects. Eight minutes of self-reflection in the morning can make a difference twelve hours later.

Source: Notre Dame Deloitte Center for Ethical Leadership³⁸

Further research adds context to how resiliency can be fostered through self-reflection practices.³⁹ Neale echoes Jennings' claims, stating that when leaders home in on their values and goals, they are better able to work toward them and become more resilient to challenges. And similar to Jennings' findings, Neale recommends leaders commit to daily reflective practice where they write and reflect for ten to thirty minutes.⁴⁰ Loughran adds context to research on reflective practice by emphasizing the need to reflect on instinctive reactions in order to build resilient relationships. Through thematic analysis of prior research, Loughran concludes fostering a positive and resilient work environment requires leaders to think about how they habitually respond to stressful situations, and how they can shift those reactions to respond in a more mindful way. To shift from automatic response behaviors, leaders can analyze their actions in various situations and identify patterns to determine what circumstances trigger undesired reactions. Leaders can then consider different ways to respond, being mindful that they are not being defensive or finding reasons to justify harmful or unproductive behaviors.⁴¹ Figure 2.4 outlines desired and undesired behaviors for resilient leadership relationships.

³⁵ Ibid.

³⁶ Jennings et al., Op. cit., p. 83.

³⁷ Beasley, Op. cit.

³⁸ Figure content verbatim with modifications from Ibid.

³⁹[1] Neale, Op. cit. [2] Loughran, Op. cit.

⁴⁰ Neale, Op. cit.

⁴¹ Loughran, Op. cit., pp. 137–138.

Figure 2.4 Resilient Leadership Behaviors

✓ DESIRED BEHAVIORS	✗ UNDESIRED BEHAVIORS
<ul style="list-style-type: none"> ▪ Speak from a place of mindfulness and recognize when a triggering situation warrants a pause and thoughtful, compassionate response ▪ Use behaviors that align with organizational values and model desired behaviors of colleagues 	<ul style="list-style-type: none"> ▪ Speak from a place of default and inadvertently display behaviors that are unsettling to others or detract from making progress in a team/with a task ▪ Break confidence and trust through behaviors that contradict spoken values and guidelines

Source: *Journal of Educational Administration and History*⁴²

REFLECTION FOR RESONANT LEADERSHIP

Resonant reflection structures that exist outside traditional learning settings can be especially helpful for adult learners.⁴³ Reflection is both a cognitive and a physiological phenomenon. Contemplative practices are often effective in achieving this goal of combining cognitive and physiological reflection. For adult learners, reflective practices that consider physiognomy can be particularly beneficial. This is due to the fact that adults often have deeply rooted experiences and beliefs entrenched in their neurobiology, which they can reassess using a fresh approach. Contemplative practices are often effective in achieving this goal of combining cognitive and physiological reflection.⁴⁴ Figure 2.5 provides a list of contemplative practices that can generate resonant reflection.

Figure 2.5 Resonant Reflective Contemplative Practices

Meditation	Mindfulness	Compassion Science	Visualization	Arts	Journaling and Poetry	Dance
Reflection	Mandala Practice	Gratitude Practice	Calligraphy	Tai Chi and Chi Gong	Yoga	Mantra or Affirmation

Source: *Reflective Practice*⁴⁵

Expanding on the cognitive elements of reflection, Loughran elaborates on reflective practices that individuals can engage in for resonant leadership. Specifically, he advises leaders to make an effort to view themselves from others' perspectives. In this perspective-taking exercise, leaders can move away from attempting to fully understand others' viewpoints and instead just recognize the existence of varied perspectives. The approach of beginning with recognition is due to the highly subjective nature of perspective, which is influenced by an individual's mindset and life experiences, making it particularly challenging for an outsider to comprehend. Once leaders recognize diversity of perspectives, the best way for them to begin to understand themselves, and perceive how others view them, is through slowly building trust with colleagues and learning from interactive and collaborative experiences. Perspective taking can be an uncomfortable and painful process, and leaders are encouraged to approach the practice bravely and with self-compassion.⁴⁶

Observational research findings posit that contemplative reflection can help leaders grow in their resonance.⁴⁷ In 2020, esteemed reflective practice researchers Noemie Le Pertel, Jonathan Fisher, and Nick Van Dam collaborated with a large global consulting firm to introduce contemplative reflective practices to

⁴² Figure content adapted from Ibid.

⁴³ Le Pertel, Fisher, and van Dam, Op. cit., pp. 806–807.

⁴⁴ Ibid., p. 808.

⁴⁵ Figure content verbatim from Ibid., p. 809.

⁴⁶ Loughran, Op. cit., pp. 138–140.

⁴⁷ Le Pertel, Fisher, and van Dam, Op. cit.

employees in leadership roles below the partner level. Through these exercises, participants could confront vulnerabilities that emerge in the workplace and utilize these experiences to expand their self-view as leaders. At first, the contemplative practice appeared unconventional to participants, but as they grew more accustomed to it, they started to uncover new approaches for addressing obstacles and making decisions. A significant number of participants expressed plans to continue using the contemplative practice on their own.⁴⁸ Figure 2.6 outlined the contemplative practice Le Pertel et al., used in the study.

Figure 2.6 Leadership Contemplative Self-Reflection Practice

METHOD	SAMPLE SESSION
<ul style="list-style-type: none"> ▪ A facilitator worked with participants in a supportive group setting. Participants set group norms at the outset to foster a safe learning environment. ▪ Participants sat in a circle on the floor and used a deck of Native Spirit Oracle Cards to complete the contemplation practice. ▪ Oracle cards operate on the principle of pre-cognition, which means that participants have thoughts and energy in their bodies about something that is related to their intuition or 'gut feelings.' The cards by themselves do not hold inherent power. It is the interpretation of the meaning that gives them power. ▪ Oracle cards were introduced to participants as a tool to help reveal clues about what is happening in their personal and/or professional lives, as well as a way to make conscious choices as well as for them to begin to see patterns (good or bad), that are repeated through their lives so they can be more mindful of what renews them emotionally and spiritually. 	<ul style="list-style-type: none"> ▪ The exercise begins with a mindfulness practice where participants are invited to close their eyes, guided take a deep breath in, and on their exhale, ask themselves silently 'What do you want me to know?' They are prompted to feel the question in their bodies as they breathe. ▪ After opening their eyes, they are guided to draw three cards from the deck without seeing the visuals and spread them on the floor in a way that they only see the back of the cards. Then, participants draw them out one by one and answer, "Why do you think you drew these cards?"; "What about these cards is meaningful for you?"; How would you interpret these cards given a question you had in mind?" ▪ Participants are asked to write the answers in their learning journals. They are then welcomed to share a story for each card they drew with the group.

Source: *Reflective Practice*⁴⁹

Neale echoes Le Pertel et al.'s findings that self-care is central to effective reflection. Neal encourages leaders to think through challenges and reflect on learning moments to both grow as executive actors and as people.⁵⁰

Research from Harvard University's Center on the Developing Child suggests adults can enhance their executive functions at any stage of their life by focusing on strengthening individual abilities related to executive functioning. To achieve this, professionals should evaluate their work environment and identify the executive functioning skills required to excel in that setting. They should also pinpoint challenging situations and contemplate alternative approaches to handle them. This involves assessing their instinctive reactions and figuring out how to manage them for a more balanced response. Setting goals and visualizing achievement is another effective strategy. Finally, acknowledging and recording successes can help establish a positive cycle of robust executive functioning.⁵¹

⁴⁸ Le Pertel, Fisher, and van Dam, Op. cit.

⁴⁹ Figure content verbatim with modifications from Ibid., pp. 805–806.

⁵⁰ Neale, Op. cit.

⁵¹ "How to Build Executive Function Skills for Adults." Center on the Developing Child at Harvard University. <https://developingchild.harvard.edu/innovation-application/key-concepts/adult-capabilities/>

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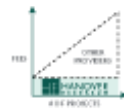
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