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Middle managers' experiences of resilience during crises: A neuropsychotherapy perspective

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Orientation: The increasing complexity of global crises, such as the coronavirus disease 2019 (COVID-19) pandemic, regional geopolitical tensions, and armed conflicts (e.g. the war in Ukraine, disputes in the South China Sea and conflict in the Middle East), have the potential to profoundly disrupt organisations. These crises require middle managers to sustain resilience, adapt to volatility and preserve operational continuity amid prolonged adversity and uncertainty.

Research purpose: This study investigates how middle managers sustain resilience during times of crises through a neuropsychotherapy perspective.

Motivation for the study: Occupying a uniquely demanding position within organisational hierarchies, middle managers must balance strategic directives from senior leadership with the needs of their teams, despite limited authority and autonomy. Although times of crises highlight their pivotal bridging role between organisational strategy and operational realities, their resilience strategies remain underexplored.

Research approach/design and method: A qualitative interpretive approach was adopted, utilising semi-structured interviews with eight middle managers.

Main findings: Four key themes concerning middle managers' resilience during crises emerged: (1) navigating control and uncertainty, (2) organisational and familial support, (3) evolving leadership in crisis and (4) coping strategies and personal well-being.

Implications for practice: Middle managers' resilience can be enhanced by addressing basic neuro-reflexive needs, namely control and orientation, attachment and pleasure and pain regulation, which collectively strengthen self-esteem.

Contribution/value-add: The study offers insights to support human resource (HR) practitioners and industrial psychologists in designing development programmes that enhance resilience capacity at the middle-management level.

Keywords: basic psychological needs; global and regional crises; middle management; neuropsychotherapy; resilience.

Introduction

Orientation

Global and regional geopolitical crises can profoundly disrupt organisational systems by straining supply chains, reshaping workforce structures and accelerating digital innovation, thereby producing chronic and emergent change (Organisation for Economic Co-operation and Development [OECD], 2023; World Economic Forum [WEF], 2022). For example, the coronavirus disease 2019 (COVID-19) pandemic forced organisations to transition rapidly to remote work and adopt new operational models. Similarly, geopolitical tensions, such as the Russia–Ukraine conflict, have created energy insecurity, financial volatility and strategic uncertainty (OECD, 2023; Sheffi, 2020; WEF, 2022). These crises are not isolated events but rather cascading stressors that impose significant strain on leaders generally, and middle managers specifically.

Leadership demands intensify in volatile environments. Middle managers are tasked with translating executive strategy into actionable directives for their teams, often under conditions of ambiguity, resource scarcity and heightened stress, while simultaneously playing a pivotal role in talent management and employee retention (Jooss et al., 2024). During periods of crisis, middle managers thus become essential in sustaining organisational stability, operational continuity and

employee morale. The increasing prevalence of remote and hybrid work structures further complicates this role. Virtual leadership requires the ability to build trust, sustain engagement and foster collaboration in the absence of physical proximity, which places greater reliance on digital communication, emotional intelligence and adaptive management (Neeley, 2021).

A critical aspect of the middle manager's role involves cultivating psychological safety that implies a team climate in which individuals feel secure to speak up, ask questions and voice concerns without fear of negative consequences. Crises often compromise this psychological safety because of increased stress, job insecurity and emotional fatigue. Middle managers are positioned to mitigate these risks by modelling transparency, empathy and inclusivity (Edmondson & Lei, 2014; Newman et al., 2017). Nevertheless, the cumulative demands of their role frequently go unrecognised, resulting in substantial emotional and cognitive strain that organisations seldom address adequately.

Research purpose and objectives

Existing scholarship on managerial resilience in the workplace has primarily emphasised cognitive and behavioural strategies. However, there are also neurobiological mechanisms that underpin adaptive functioning under stress and warrant consideration (Southwick & Charney, 2018). Prevailing resilience frameworks may not adequately capture the multidimensional challenges that middle managers face during crises, including emotional regulation, stress reactivity and relational dynamics. To address these complexities, an integrative framework is required.

Neuropsychotherapy provides such a model by synthesising psychological, relational and neurobiological domains. In contrast to traditional approaches that prioritise either cognition or emotion in isolation, neuropsychotherapy highlights the interdependence of stress physiology, autonomic regulation and neuroplasticity in shaping psychological functioning and resilience (Rossouw, 2014a; Siegel, 2020). Central to this model is the fulfilment of four basic psychological needs: (1) control and orientation; (2) attachment; (3) self-esteem; and (4) pleasure and pain regulation (Grawe, 2007; Rossouw, 2014a). When these needs are met, individuals are better equipped to sustain adaptive functioning, even under conditions of prolonged stress.

Accordingly, this study aimed to explore middle managers' experiences of resilience during global crises, with particular reference to the fulfilment of their basic psychological needs.

Literature review

Resilience

Resilience is increasingly understood as a multifaceted and dynamic capacity that enables individuals not only to adapt and recover from adversity but also to experience growth through it (Fletcher & Sarkar, 2013; Luthans, Youssef-Morgan, & Avolio, 2021). This perspective diverges from earlier trait-based models, which framed resilience as a stable and innate quality, and instead conceptualises it as a process shaped by psychological strengths, contextual resources and individual agency (Masten & Reed, 2020; Seligman, 2011).

Wissing et al. (2022) emphasise that resilience is not solely determined by individual attributes but is also profoundly shaped by social environments, relational resources and culturally embedded narratives that guide coping and well-being processes. Thus, resilience emerges as a systemic and culturally embedded phenomenon. This relational perspective aligns with emerging models of leadership resilience, which suggest that adaptive functioning is co-constructed through trust, interpersonal support and organisational culture (Teo et al., 2017). Similarly, emotional regulation frameworks underscore the importance of mindfulness, acceptance and positive reappraisal in sustaining psychological well-being during adversity (Tugade & Fredrickson, 2004). Effective emotional regulation plays a critical role in resilience (Southwick & Charney, 2018) by supporting stress management, emotional composure and the cultivation of psychologically safe team environments (Edmondson & Lei, 2014).

The Relational Activation of Resilience (RAR) model (Teo et al., 2017) conceptualises resilience as a dynamic, co-regulated process activated through the interplay between internal adaptive capacities and external relational resources. Internal capacities include cognitive, emotional and behavioural mechanisms such as self-regulation, problem-solving, emotional intelligence and leadership self-efficacy (Masten, 2021). Cognitive flexibility, which refers to the ability to reframe challenges, adapt to changing circumstances and employ alternative problem-solving strategies, is particularly central (Kashdan & Rottenberg, 2010; Kalisch et al., 2015; Southwick & Charney, 2018). It allows individuals to navigate adversity without becoming cognitively or emotionally overwhelmed. Self-efficacy, defined as an individual's belief in their ability to influence outcomes and manage challenges effectively (Bandura, 1997; Luthans et al., 2021), further enhances perceived control, promoting proactive coping, perseverance and adaptive problem-solving (Maddux & Kleiman, 2016). In leadership contexts, middle managers with strong self-efficacy are more likely to approach adversity with confidence, maintain focus on goals and sustain motivation despite uncertainty (Newman et al., 2017). This sense of control acts as a protective buffer against learned helplessness, supports emotional regulation and reinforces resilience under sustained pressure (Deci & Ryan, 2010).

While these internal capacities are essential, the RAR model highlights that they are insufficient in isolation. External relational resources, including social support, team cohesion, psychological safety, mentorship and trust-based organisational structures (Newman et al., 2017), play a vital

role in strengthening and sustaining adaptive capacities. Teo et al. (2017) further argue that liminality, defined as transitional periods of disruption or ambiguity, can act as catalysts for resilience. Navigating such thresholds requires individuals to suspend certainty and actively engage with their social contexts in order to construct new meanings and motivational frameworks. These relational engagements function as stabilising anchors, enabling managers to co-construct meaning, sustain agency and regulate emotions during organisational flux.

Wong (2023) expands the conceptualisation of resilience through his Faith-Hope-Love Model of Mental Health and Total Well-Being. This spiritual-existential framework identifies faith (a sense of purpose and existential meaning), hope (a future-oriented sense of optimism), and love (relational care and connectedness) as foundational components of what he terms spiritual-existential well-being. These dimensions may serve as protective mechanisms in times of adversity and are particularly relevant to the psychological demands faced by middle managers in high-stress, crisis-driven environments. Central to Wong's (2023) perspective is meaning-making, which refers to the cognitive process through which individuals reinterpret adversity as an opportunity for development and transformation. His model underscores the significance of purpose in sustaining resilience, particularly during prolonged crises. In leadership contexts, meaning-oriented resilience strengthens adaptive decision-making by aligning both personal and organisational responses with broader goals and values (Luthans et al., 2021).

In view of the profound impact of crises on middle managers' experiences, adopting a neuropsychotherapy perspective may contribute to a more nuanced conceptualisation of resilience.

Neuropsychotherapy

Beyond its psychological and relational foundations, resilience is increasingly recognised as a biologically grounded process, shaped by the stress-response system, neuroplasticity and autonomic regulation (McEwen & Akil, 2020; Porges, 2021). From a neurobiological standpoint, resilience reflects the brain's capacity to regulate physiological responses to stress, restore equilibrium, and adapt to changing demands. Kalisch et al. (2015) define this capacity as the ability of the brain to maintain or regain homeostasis through dynamic interactions between neurocognitive and affective systems, underscoring the central role of biological adaptability in resilient functioning. The environment plays a pivotal role in the development and expression of resilience, particularly through its epigenetic effects and impact on the autonomic nervous system (ANS), which collectively shape adaptive regulation (Arden, 2019; Rossouw, 2014a). Chronic stress disrupts hypothalamic–pituitary–adrenal (HPA) axis regulation (Herman et al., 2016; Kim et al., 2022; Sapolsky, 2015) and homeostasis, impairing both essential components of resilient functioning: emotional regulation and cognitive flexibility. Environmental interactions influence the formation of neural pathways involved in stress appraisal, coping and emotional regulation.

Environments can broadly be classified as either compromised or enriched (Grawe, 2007). Compromised environments are characterised by unpredictability, insecurity or threat (Rossouw, 2014a). These conditions undermine the perception of safety, triggering persistent activation of the stress-response system and leading to dysregulation of the ANS (Porges, 2021). Consequently, individuals may oscillate between hyperarousal (e.g. anxiety, vigilance) and hypoarousal (e.g. emotional numbness, withdrawal), both of which compromise adaptive coping. Over time, this neural dysregulation undermines resilience by reinforcing maladaptive motivational schemas.

In contrast, enriched environments foster a sense of safety, nurture secure interpersonal relationships and provide opportunities for mastery, autonomy and growth. Rossouw (2014a) argues that such contexts are conducive to neuroplasticity, enabling the formation of new, adaptive neural circuits. These enriched environments support the satisfaction of basic psychological needs (attachment, control and orientation, pleasure–pain regulation and self-enhancement), thereby promoting emotional regulation, psychological stability and long-term resilience. Accordingly, the Integrative Neuropsychotherapy model (INM) (Rossouw, 2014a) is grounded in the premise that psychological resilience is sustained through the regulation of neural systems involved in emotional, cognitive and relational functioning. This regulation is achieved through the fulfilment of the basic psychological needs, facilitated by enriched environments (Geldenhuys, 2020; Grawe, 2007; Rossouw, 2014a).

The social environment, in particular, shapes the motivational schemas that develop to either protect or fulfil these basic needs (Grawe, 2007; Rossouw, 2014a). Porges (2021) highlights the role of neuroceptive safety and social engagement in regulating stress responses and fostering resilience, while research on neuroplasticity (Davidson & McEwen, 2012; Vega-Fernández et al., 2025) demonstrates the brain's ability to reorganise in response to relational and emotional experiences, reinforcing adaptive coping mechanisms. Psychological safety originates from neuroceptive safety, serving as a crucial moderating factor in resilience development. Defined as the shared belief that individuals can express thoughts, concerns and emotions without fear of reprisal, psychological safety is consistently associated with adaptability and team functioning (Edmondson & Lei, 2014; Newman et al., 2017). For middle managers, cultivating psychologically safe environments amid crises enables both themselves and their teams to buffer the physiological toll of stress and engage in constructive coping strategies.

The four basic psychological needs further illustrate how safety can be facilitated. Attachment refers to the need for emotional and relational security (Grawe, 2007; Rossouw, 2014a), which in organisations manifests as belonging to a supportive team (Geldenhuys, 2020). Secure attachment relationships form the foundation for affect regulation, allowing individuals to co-regulate emotional experiences and manage stress effectively. When this need is fulfilled, it signals safety through the ANS, reinforcing neural pathways associated with trust, empathy and social engagement (Cozolino, 2017; Porges, 2021). Conversely, isolation activates the brain's threat-detection systems, fostering defensive motivational schemas and avoidance-based coping strategies that undermine resilience (Rossouw, 2014a; Siegel, 2020).

Control refers to the availability of options on which a person is free to act, while orientation denotes the ability to predict and comprehend the environment (Grawe, 2007; Rossouw, 2014a). Middle managers arguably require greater autonomy in decision-making during crises, thereby expanding their capacity to generate actionable options for themselves and their teams.

Pain avoidance pertains to the reduction of distress, while pleasure reflects a state in which current perceptions align with the attainment of basic psychological needs (Grawe, 2007). This regulation is linked to the dopaminergic reward system and broader stress-regulation circuitry (Rossouw, 2014a). Chronic exposure to pain, deprivation or adversity hyperactivates the salience network, including the stress-response system (Arden, 2019). As pain avoidance becomes a dominant goal, the default mode network becomes sensitised to negative appraisal, rumination and withdrawal (Siegel, 2020). This neurobiological dysregulation reduces the brain's capacity for flexible adaptation and reinforces maladaptive coping, ultimately eroding resilience. In disrupted environments, the need for pain avoidance may be heightened; however, meaning-making and the fulfilment of attachment needs can downregulate the stress-response system and mitigate these effects.

Self-esteem reflects an internalised sense of self-worth and the belief in one's competence, value and capacity to contribute meaningfully. Rossouw (2014a) contends that self-esteem emerges as a higher-order need from the dynamic interaction of the three neuro-reflexive needs, namely attachment, control and orientation, and pain avoidance versus pleasure maximisation. In contexts of crisis, disorientation and isolation may erode middle managers' sense of competence, particularly when performance metrics are under strain. Nonetheless, the extent to which these three neuro-reflexive needs are met may support self-esteem enhancement and personal growth during adversity.

By integrating these neuroscientific insights, the INM bridges the gap between psychological resilience and its biological foundations, offering a holistic framework. This biopsychosocial integration is especially pertinent for middle managers, who must regulate both internal and relational demands in high-stakes environments.

Research methods and design

Research approach and strategy

This study employed an interpretivist research approach to explore middle managers' subjective experiences of resilience during crises. Interpretivism emphasises the co-construction of meaning and the interpretation of lived experiences within their specific contexts (Creswell & Poth, 2018). This paradigm was particularly appropriate for investigating resilience as a dynamic, context-dependent process shaped by individual perceptions and social interactions. It aligns with an exploratory qualitative design by foregrounding subjective meaning-making and situating resilience within the lived realities of middle management.

Research strategy

This study employed an exploratory qualitative research strategy to examine middle managers' lived experiences of resilience during crises. An exploratory design is particularly appropriate in contexts where existing theoretical frameworks are limited or insufficient, and where new insights must emerge inductively from empirical data (Stebbins, 2001). Through the use of semi-structured interviews, this approach facilitated the identification of patterns, meanings and relational dynamics that may not have been adequately captured through predefined constructs. Given the complexity and context-dependent nature of resilience, the strategy offered the necessary flexibility to investigate how middle managers navigate crises within real-world organisational settings.

Research setting

A virtual setting was selected to accommodate the geographical diversity of participants and to enhance accessibility. This format offered flexibility, enabling participants to engage in the study at times and locations that suited their schedules. While none of the participants were physically situated in a war zone, several had colleagues or friends directly affected by the war in Ukraine. All participants were employed in organisations that faced substantial disruption, requiring rapid responses and strategic adaptations in response to both the COVID-19 pandemic and the onset of the war in Ukraine.

Entrée and establishing researcher roles

The researcher posted an invitation for participation, including the eligibility criteria, on their LinkedIn profile. Individuals who wished to participate in the study contacted the researcher directly. In assuming the dual roles of interviewer and interpreter, the researcher sought to maintain a balance between professionalism and empathy throughout the research process.

Establishing rapport with participants was prioritised to create an atmosphere of trust and open communication. The researcher employed active listening, empathetic questioning and a non-judgemental stance to encourage candid sharing of lived experiences. By fostering a respectful and supportive interview environment, participants felt more comfortable discussing sensitive aspects of their resilience and leadership challenges during crises.

Research participants and sampling method

The study employed purposive sampling, which enabled the selection of participants based on specific inclusion criteria aligned with the research objectives (Patton, 2015). The criteria required that participants occupy a middle management position, have a minimum of 5 years' experience, and have been actively engaged in leading their teams during either the COVID-19 pandemic or a regional crisis, within organisations directly affected by these crises. Data saturation was reached after eight interviews. Table 1 presents the demographic characteristics of participants and the crisis contexts in which they operated, providing an overview of their professional backgrounds and lived experiences of disruption.

Data collection methods

Data were collected through eight in-depth semi-structured interviews, which lasted between 45 min and 60 min. The interview questions were developed with reference to the basic psychological needs outlined in the INM and were approved by the higher education institution's Higher Degrees and Ethics Committee.

Data recording

Each interview was audio- and video-recorded, with participants' consent, using Microsoft Teams. The researcher manually reviewed and corrected each transcript to eliminate errors and ensure accuracy. This rigorous process ensured that participants' verbal expressions were faithfully captured, thereby providing a reliable foundation for subsequent data analysis.

Strategies employed to ensure data quality and integrity

The rigour and trustworthiness of the qualitative research were ensured through strategies consistent with Lincoln et al.'s (2018) criteria of credibility, transferability, dependability and confirmability. Credibility was enhanced through member checking, prolonged engagement with the data, peer debriefing with the research supervisor and continuous reflexivity. Dependability and confirmability were supported by maintaining a comprehensive audit trail of all research stages (recruitment, data collection, coding, theme development and interpretation), thereby grounding the findings in participants' narratives. Transferability was facilitated through the provision of a thick description of the research context, participant experiences and the analytical process.

TABLE 1: Participants' demographics and crisis contexts.

Participant ID	Industry	Country	Crisis context
Participant 1	Telecommunication	United Kingdom	COVID-19 pandemic
Participant 2	Tobacco	United Kingdom	Ukraine War
Participant 3	Learning and Development	South Africa	COVID-19 pandemic
Participant 4	Information Technology	Dubai	COVID-19 pandemic
Participant 5	Telecommunications	United Kingdom	COVID-19 pandemic
Participant 6	Property	United Kingdom	COVID-19 pandemic
Participant 7	Tobacco	Switzerland	COVID-19 pandemic
Participant 8	Marketing	South Africa	COVID-19 pandemic

COVID-19, coronavirus disease 2019; ID, identification.

Informed consent was obtained from all participants. Pseudonyms were assigned in transcripts to protect identities, and all personal identifiers were removed. Access to the data was restricted to the researcher, and data management adhered to institutional ethical guidelines and international data protection standards, including the General Data Protection Regulation (GDPR; European Parliament & Council of the European Union, 2016).

Data analysis

Data analysis was conducted using reflexive thematic analysis, a method recognised for its capacity to identify, analyse and interpret patterns within qualitative data (Braun & Clarke, 2006, 2022). Reflexive thematic analysis is particularly well suited to exploratory qualitative research within an interpretivist paradigm, as it acknowledges the researcher's active role in meaning-making and conceptualises themes as the product of a reflexive, iterative process (Creswell & Creswell, 2018).

The analytic process commenced with a familiarisation phase, during which the researcher repeatedly read the transcripts and revisited the audio recordings. In the initial coding phase, meaningful data segments were labelled inductively. These codes were then reviewed and clustered into preliminary themes that reflected broader experiential patterns. The themes were subsequently reviewed and refined. Next, the themes were named and clearly defined. Finally, the findings were written up, supported by direct participant quotations to illustrate and substantiate the interpretations.

Reporting

The findings of this study are presented thematically and narratively in the words of the participants, reflecting the structure of the reflexive thematic analysis employed.

Ethical considerations

Ethical clearance was obtained from the Ethics Review Committee of the Department of Industrial and Organisational Psychology, University of South Africa. The ethical clearance number is 2021_CEMS/IOP_015. Written informed consent was obtained by participants prior to data collection.

Findings

Four themes emerged from the data, namely: (1) navigating control and uncertainty; (2) organisational and familial support; (3) evolving leadership in crisis; and (4) coping strategies and personal well-being. Each theme is presented below, supported by illustrative participant quotations.

Theme 1: Navigating control and uncertainty

Participants described diverse ways of maintaining a sense of control during the global crises, particularly throughout the COVID-19 pandemic. This theme is characterised by participants' need to manage what can be controlled amid wider, uncontrollable circumstances. Most participants emphasised simplifying tasks and focusing on manageable aspects of their environment, both personal and professional, as a primary strategy for coping with uncertainty.

Participant E illustrated this focus on control by stating, 'I liked to control things […] it was easy to control because I knew where everyone was'. Similarly, Participant C noted, 'Yeah it's navigating it through it by simplifying it […] focusing on the things that I could control […]'. This approach is echoed by Participant D, who reflected, 'I dealt with it with this with as I deal with anything that touched me. And so, trying to let's say focus on the things I can directly control […]'.

On a broader scale, some participants recognised the overwhelming nature of the crises but found stability in controlling specific, immediate tasks. As participant F shared, 'I realised not everything could be controlled, so I focused on what I could do at home and at work'. Participant H sought a sense of control through facilitating safety for the team, 'So the control that I got out of that […] was just creating a safe place for the people that worked with me'. Unlike participants F and H, participant B expressed the feeling of being trapped: 'There was a big sense of well, events bigger than yourself forcing you into a corner […]'.

Theme 2: Organisational and familial support

This theme highlights the critical role of both organisational support structures and personal networks in sustaining resilience during crises.

Sub-theme 2.1: Organisational support initiatives

Formal organisational attempts to provide support during the crises were often perceived as inadequate or disconnected from participants' needs. While well-intentioned, initiatives such as virtual check-ins or mental health resources did not always align with expectations.

Participant D commented, 'Some of the measures […] were a bit weird […] coffee chats were not very useful'. Participant B similarly noted, 'There were noises of support and some initiatives […] but the support wasn't forthcoming […]'. Even where organisations did provide some support, the effect was often diluted, as participant A pointed out: 'Support from the business was there […] but it often got diluted through the layers of management'.

Sub-theme 2.2: Informal peer networks

In contrast, informal peer support networks, often self-organised by participants or within their teams, proved to be more responsive and effective. These networks provided emotional and practical assistance and played a vital role in fostering resilience.

Participant C explained, 'The sense of belonging was created among the teams […] self-organised support was more useful […]'. Participant G added, 'We relied on each other […] our own support systems were what got us through'. 'It just became so tedious […] so yeah, you invested more in fewer people. That actually meant more'.

Sub-theme 2.3: Familial support

Many participants underscored the role of family as a key source of resilience. Family members provided emotional stability and a counterbalance to workplace stress.

Participant F recalled, 'We swam every evening […] it was wonderful family time', while participant E expressed similar sentiments, saying, 'I really tried to be there for my team […] but my family was my main support system'.

Theme 3: Evolving leadership in crisis

This theme explores how leadership practices are adapted to the challenges of remote work, shifting organisational dynamics and personal development during crises.

Sub-theme 3.1: Adaptation and flexibility in leadership

Many participants discussed how their leadership styles had to adapt to the new realities of the pandemic and other crises, particularly in navigating remote work and shifting team dynamics. Flexibility became a key element in their leadership practices, with a focus on communication and empathy.

Participant D reflected, 'Leadership didn't change per se […] but the way it was delivered did'. Similarly, participant A noted, 'I had to rethink how I led […] it wasn't just about giving orders anymore'. This shift also required participants '[…] to change our approach […] leading remotely required new strategies'.

Sub-theme 3.2: Personal growth and self-discovery

For many, the crises became a catalyst for self-reflection and growth. Several leaders reflected on how the challenges forced them to confront their limitations, discover new strengths, and develop a deeper understanding of their capabilities.

Participant B described this experience, saying, 'Personal growth was phenomenal […] the last 18 months have been phenomenal for self-discovery'. Participant F echoed this sentiment, noting, 'I discovered new strengths […] things I

didn't know I was capable of'. For many, the crises were an opportunity for reflection and self-improvement, as participant C and H explained:

> 'The crisis forced me to reflect […] I grew as a leader and as a person.'

> 'It made me realise that a lot of the things that were what I just took for granted […] didn't have to be.'

Theme 4: Coping strategies and personal well-being

This theme highlights how participants managed stress and maintained well-being, particularly through physical activities and boundary-setting between work and personal life.

Sub-theme 4.1: Physical activities and hobbies

Engagement in physical activity or hobbies served as a critical coping mechanism, offering both stress relief and opportunities for maintaining health.

Participant B shared:

> 'So, the gardening for me was the place where I could sort of release a bit of that pressure. It wasn't solving anything, but it was helping me to just manage myself better […] I dug up half of our garden […] it was a sanctuary'.

Similarly, Participant F reflected on the benefits of physical activity, stating, 'We took up walking […] it helped clear my mind'.

Sub-theme 4.2: Setting boundaries for mental health

Participants also stressed the importance of establishing clear boundaries between work and personal life as a way of preventing burnout.

Participant D explained:

> 'Now I realise this became a little bit of a habit during COVID […] working long hours, not taking any pause […] and I'm trying now to re-educate […] I had to create boundaries […] to protect my mental health'.

Participant A similarly emphasised, 'Establishing boundaries was essential […] it was the only way to avoid burnout'. Participant E reflected on the consequences of neglecting this: 'I didn't realise that I wasn't giving myself the space that I needed. So, I definitely didn't. And that's why I ended up really burning out'.

Discussion

Each of the emergent themes reflects a multidimensional understanding of resilience, consistent with contemporary frameworks that integrate psychological adaptability, neurobiological regulation and relational dynamics (Rossouw, 2014a; Siegel, 2020). Table 2 provides a structured overview linking the core themes and sub-themes identified in participants' experiences with the relevant constructs from the literature.

The four themes that emerged in this study, ranging from cognitive control strategies to personal well-being practices, do not stand in isolation. Rather, they represent interdependent dimensions of a dynamic resilience process, underpinned by the INM (Rossouw, 2014a). Across the findings, all four basic psychological needs, namely: (1) attachment; (2) control and orientation; (3) pleasure maximisation and pain avoidance; and (4) self-esteem enhancement, were evident to varying degrees. While some needs, such as control and orientation and attachment, featured more prominently, others, such as pleasure regulation and self-esteem, emerged more subtly, often as downstream effects of relational and adaptive experiences. This pattern suggests a recursive, mutually reinforcing feedback loop of adaptation, which is supported by Arden (2019).

The need for control and orientation was most directly reflected in theme 1, navigating control and uncertainty, where participants described cognitive strategies, such as focusing on what could be controlled, prioritising tasks and creating structure. This need reappeared in theme 4, setting Boundaries for Mental Health, where participants established routines and limits to maintain psychological clarity and autonomy. In both cases, satisfying the need for control not only enhanced short-term coping but also triggered a feedback loop: a greater sense of orientation enhanced emotional regulation, which in turn enabled more constructive responses to ongoing stress.

TABLE 2: Integration of the empirical findings and the literature.

Theme	Sub-theme	Theoretical constructs	Supporting literature
1: Navigating control and uncertainty	1.1: Structured control through focus	Structured coping strategies; efforts to regain stability and predictability; fulfilment of the need for control and orientation	Rossouw (2014b); Grawe (2007); Teo et al. (2017); Southwick and Charney (2018); Masten (2014); Wong (2023)
2: Organisational and familial support	2.1: Organisational Support initiative, 2.2: Informal peer networks, 2.3: Family support	Attachment and relational needs; psychological safety; emotional regulation; relational trust; co-regulation; neuroception of safety	Grawe (2007); Rossouw (2014a); Porges (2021); Teo et al. (2017); Southwick and Charney (2018); Masten (2014); Wong (2023)
3: Evolving leadership in crisis	3.1: Adaptation and flexibility in leadership, 3.2: Personal growth and self-discovery	Self-reflection and meaning-making; emotional regulation; cognitive flexibility; mindful communication; fulfilment of the needs for self-esteem and meaning	Rossouw (2014b); Siegel (2020); Wong (2023); Southwick and Charney (2018); Masten (2014)
4: Coping strategies and personal well-being	4.1: Physical activities and hobbies, 4.2: Setting boundaries for mental health	Fulfilment of self-regulatory needs; self-agency; meaning-making; existential coping (faith–hope–love); pursuit of pleasure and avoidance of pain	Grawe (2007); Wong (2023); Masten (2021); Rossouw (2014b); Southwick and Charney (2018)

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In contrast, theme 2 revealed a misalignment between organisational support strategies and participants' psychological needs, resulting in incongruence. Southwick and Charney (2018) emphasised the importance of contextually relevant resilience interventions. When organisational supports lack congruence with employees' basic psychological needs, they may inadvertently erode trust or add to stress (Grawe, 2007; Rossouw, 2014a). Such incongruence compromised middle managers' needs for control and orientation. However, the need for attachment was met through informal peer networks and family relationships, which provided psychological safety, emotional validation and co-regulation. These findings align with both Polyvagal Theory (Porges, 2021) and the RAR Model (Teo et al., 2017).

Relational safety also appeared to support the flexible management behaviours described in theme 3, suggesting a feedback loop between interpersonal grounding and professional adaptability. To address the challenges of remote work, participants adopted more flexible and relational management styles. This shift was characterised by adapted communication practices, person-centred thinking and heightened emotional attentiveness, particularly in response to employees' stress and isolation. Middle managers who felt emotionally supported themselves were more likely to model empathy, maintain cohesion and manage uncertainty effectively. These behaviours reflect constructs of adaptive functioning and relational flexibility, central to resilience-building as outlined by Masten (2021), and align with Teo et al.'s (2017) emphasis on trust and collaboration in sustaining team resilience under pressure. From a neuropsychotherapeutic perspective, such strategies helped to satisfy attachment (through emotional presence and empathy) and control and orientation (through consistent guidance and communication). They also contributed to pleasure maximisation by reducing perceived threat and fostering achievement, connection and safety. Meeting these needs, as Rossouw (2014a) contends, is critical for adaptive functioning under stress. By attending to the basic psychological needs in uncertain environments, managers supported both their own and their teams' resilience.

In sub-theme 3.2, personal growth and self-discovery, participants reflected on how crisis experiences prompted self-reflection and transformation. Here, the triangle of human experience (Siegel, 2020) becomes particularly relevant, as participants described interconnections between mind, body and relationships in their growth journeys. Beyond the immediate challenges of crisis management, participants reflected on how these experiences prompted personal transformation and self-insight. This growth emerged not in spite of adversity, but because of it, reflecting a process of adaptive and existential transformation, as discussed by Masten (2021) and Wong (2023).

Such growth was often enabled by relational support (theme 2), whether from teams, peers or families, underscoring the importance of relational safety in fostering self-discovery (Porges, 2021). From a neuropsychotherapeutic lens, this reflects the fulfilment of control and orientation, pleasure and attachment needs, which in turn contribute to the development of self-esteem (Grawe, 2007; Rossouw, 2014b). Consistent support and the positive reinforcement of self-worth may also trigger neuroplastic adaptations that consolidate coherent self-narratives and a strengthened sense of identity (Cozolino, 2017; Siegel, 2020).

The personal transformation in leadership identity and self-awareness demonstrate the fulfilment of the need for self-esteem, as managers gained confidence amid uncertainty. Moreover, their experience of overcoming adversity and discovering personal meaning aligns with Wong's (2023) existential positive psychology, which highlights the human drive for coherence and purpose. Thus, evolving leadership during crises represents not only functional adaptation but also an integrative process supporting both neurobiological stability and psychological growth.

The elements of the INM were not neatly divided across themes but appeared in layered and overlapping ways. For instance, when participants engaged in physical activity (sub-theme 4.1), they satisfied not only pleasure but also reinforced control and orientation. Similarly, boundary-setting behaviours contributed to enhanced self-esteem and autonomy, reinforcing internal safety mechanisms (Grawe, 2007; Porges, 2021; Rossouw, 2014a) and sustaining performance.

Across all themes, evidence pointed to a neuropsychotherapeutic feedback loop. When one psychological need was met (e.g. control through structure or attachment through support), it facilitated the activation of others (e.g. emotional regulation, self-reflection, empathy). Conversely, when these needs were undermined, participants reported blurred boundaries, burnout and felt overwhelmed, which is consistent with Rossouw's (2014a) view of the brain's prioritisation of safety.

Middle managers, positioned between top-down demands and bottom-up pressures, would be expected to shift into a sympathetic (mobilised) or dorsal vagal (shutdown) state when organisational support is lacking. Neurobiologically, such conditions typically trigger a defensive response. However, in this study, many participants maintained a ventral vagal state, marked by calm, connection and engagement (Porges, 2021). The findings suggest that this was largely attributed to the fulfilment of the basic psychological needs for attachment and control and orientation. Thus, it would seem that these two basic psychological needs form the primary target in compromised environments marked by disruption and uncertainty, to facilitate resilience amid adversity.

Practical implications

There is a need for organisations to tailor their formal support structures to address middle managers' basic

psychological needs, including those of attachment, control and orientation, self-esteem and pleasure and pain regulation, as identified in the INM (Rossouw, 2014a). While many organisations introduced generic well-being initiatives during crises, these were often perceived as insufficient or misaligned. In contrast, co-created programmes that are directly informed by the lived experiences and expressed needs of middle managers are more likely to foster engagement and psychological safety.

Relational safety emerged as a foundational aspect of resilience. Informal peer networks frequently outperformed formal organisational support by providing both emotional validation and practical problem-solving. Organisations could therefore legitimise and strengthen these peer-based systems through initiatives such as mentorship programmes, cross-departmental collaboration spaces and team-based reflective practices. These structures cultivate trust and act as relational buffers during periods of heightened stress, reinforcing insights from Polyvagal Theory (Porges, 2021), the RAR model (Teo et al., 2017) and the INM (Rossouw, 2014a).

Management development programmes should also be reoriented to prioritise adaptive capacities. Middle managers in this study demonstrated the importance of emotional regulation, empathetic communication and flexible thinking when navigating crisis conditions. Training that explicitly develops these skills can better prepare managers for volatile environments arising from global or regional geopolitical crises, thereby strengthening both individual resilience and team functioning.

Maintaining clear boundaries between work and personal life was another frequently cited resilience strategy. To support this, organisations could promote flexible work arrangements, clarify role expectations and cultivate a culture that respects psychological detachment outside working hours. These practices enhance neurobiological recovery and emotional regulation, consistent with positive psychology and neuropsychotherapeutic principles (Fredrickson, 2013; Seligman, 2011).

Moreover, well-being interventions should be regarded not as peripheral but as integral to leadership effectiveness. Providing access to mindfulness tools, physical activity resources and routine wellness check-ins can promote parasympathetic regulation and reduce cumulative stress, particularly during prolonged crises (Rossouw, 2014b; Southwick & Charney, 2018).

Encouraging reflective practices, such as journaling or professional coaching, can further strengthen resilience by fostering self-awareness and supporting personal growth. Such practices enable leaders to process experiences and adapt their management styles, contributing to longer-term transformation. Importantly, organisations should also consider recognition practices that validate the efforts of middle managers. Acknowledging the emotional labour and adaptive leadership demonstrated during crises reinforces self-esteem and deepens both belonging and organisational commitment.

Limitations

The literature review focused on resilience in the context of recent global and regional geopolitical crises. While this focus enhanced relevance and timeliness, it may not be representative of more routine organisational stressors or long-term change processes. Moreover, literature specifically addressing resilience at the middle management level is scarce, necessitating greater reliance on general resilience scholarship. This gap in the literature, therefore, shaped the rationale for the empirical study.

Virtual semi-structured interviews were employed for data collection, improving accessibility but introducing limitations such as reduced observation of non-verbal cues and fewer opportunities for rapport-building. These factors may have influenced the depth or spontaneity of participants' responses. Future research might consider in-person or hybrid interview formats to enhance engagement and capture richer non-verbal data.

Another potential limitation relates to the primary researcher's positionality and bias. The researcher occupied a middle management role during the COVID-19 pandemic and worked in an organisation with direct ties to colleagues in Ukraine. These shared experiences may have influenced interpretation or empathic alignment with participants' narratives. To mitigate this, reflexivity was consistently practised through the maintenance of a reflexive journal, regular academic supervision and sustained critical awareness of personal assumptions during data collection and analysis.

The study focused exclusively on middle managers, excluding the perspectives of executives, junior staff and non-managerial employees. While this focus allowed for a nuanced understanding of resilience at the middle management level, it limits insight into how resilience strategies may vary across organisational hierarchies. As resilience is relational and context-specific, it is likely to manifest differently across levels of authority and responsibility (Edmondson, 2019).

Conclusion

Middle managers' experiences offer a valuable source for understanding the complex nature of resilience during times of global crises and regional geopolitical tension. The study explored these experiences empirically by applying neurobiological mechanisms underlying adaptive responses to crises as an interpretive lens, thereby attempting to provide deeper insights regarding middle managers' experiences. The findings indicated, in support of the literature, that the basic psychological needs of attachment and control and orientation featured most prominently in participants'

experiences of maintaining emotional regulation, the capacity to adapt in the face of challenges, and to transform their leadership approach amid navigating crises. The findings further suggest that fulfilling the basic psychological needs of attachment and control and orientation also seemed to support the basic psychological need for self-esteem, and that the basic psychological need for pleasure maximisation was primarily found in activities that involved quality time with loved ones.

In support of the literature, the findings illustrate that middle managers' resilience is not a fixed trait but a fluid, co-regulated system. It unfolds through the interplay of internal strategies and external support and is shaped by the brain's drive to establish predictability, safety, and relational meaning. The integrative neuropsychotherapy model offers a compelling and practical lens through which to understand how to support middle managers' resilience in the face of sustained global or regional crises.

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The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article. The author, J.M.V., serves as an editorial board member of this journal. The peer review process for this submission was handled independently, and the author had no involvement in the editorial decision-making process for this manuscript. The author, J.M.V., has no other competing interests to declare.

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Data availability

Data supporting the findings of this study are available from the Ethics Research Committee upon reasonable request from the corresponding author, J.M.V.

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References

Arden, J.B. (2019). *Mind-brain-gene: Toward psychotherapy integration*. W.W. Norton & Company.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. Sage.

Cozolino, L. (2017). *The neuroscience of psychotherapy: Healing the social brain* (3rd ed.). W. W. Norton & Company.

Creswell, J.W., & Creswell, J.D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Creswell, J.W., & Poth, C.N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Davidson, R.J., & McEwen, B.S. (2012). Social influences on neuroplasticity: Stress and interventions to promote well-being. *Nature Neuroscience*, *15*(5), 689–695. https://doi.org/10.1038/nn.3093

Deci, E.L., & Ryan, R.M. (2010). Self-determination. In I.B. Weiner, & W.E. Craighead (Eds.), *The Corsini encyclopedia of psychology* (4th ed.). Wiley.

Edmondson, A.C. (2019). *The fearless organization: Creating psychological safety in the workplace for learning, innovation, and growth*. John Wiley & Sons.

Edmondson, A.C., & Lei, Z. (2014). Psychological safety: The history, renaissance, and future of an interpersonal construct. *Annual Review of Organizational Psychology and Organizational Behavior, 1*, 23–43. https://doi.org/10.1146/annurev-orgpsych-031413-091305

European Parliament, & Council of the European Union. (2016). Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). *Official Journal of the European Union, L119*, 1–88. Retrieved from https://eur-lex.europa.eu/eli/reg/2016/679/oj

Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European Psychologist, 18*(1), 12–23. https://doi.org/10.1027/1016-9040/a000124

Fredrickson, B.L. (2013). Positive emotions broaden and build. In E.A. Plant, & P.G. Devine (Eds.), *Advances in experimental social psychology* (Vol. 47, pp. 1–53). Academic Press.

Geldenhuys, D. J. (2020). Valuing and adapting appreciative inquiry to enhance well-being using a neuropsychotherapeutic framework. *SA Journal of Industrial Psychology, 46*, Article a1823. https://doi.org/10.4102/sajip.v46i0.1823

Grawe, K. (2007). *Neuropsychtherapy: How the neurosciences inform effective psychotherapy*. Psychology Press.

Herman, J.P., McKlveen, J.M., Ghosal, S., Kopp, B., Wulsin, A., Makinson, R., Scheimann, J., & Myers, B. (2016). Regulation of the hypothalamic-pituitary-adrenocortical stress response. *Comprehensive Physiology, 6*(2), 603–621. https://doi.org/10.1002/cphy.c150015

Jooss, S., McDonnell, A., & Skuza, A. (2024). Middle managers as key talent management stakeholders: Navigating paradoxes. *European Management Review, 21*(2), 459–476. https://doi.org/10.1111/emre.12587

Kalisch, R., Müller, M.B., & Tüscher, O. (2015). A conceptual framework for the neurobiological study of resilience. *Behavioral and Brain Sciences, 38*, e92. https://doi.org/10.1017/S0140525X1400082X

Kashdan, T.B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review, 30*(7), 865–878. https://doi.org/10.1016/j.cpr.2010.03.001

Kim, J.J., Yoon, S., & Kim, T.S. (2022). Stress and the HPA axis: A review of the neurobiological mechanisms of resilience. *Frontiers in Behavioral Neuroscience, 16*, Article 9694420. https://doi.org/10.3389/fnbeh.2022.9694420

Lincoln, Y.S., Lynham, S.A., & Guba, E.G. (2018). Paradigmatic controversies, contradictions, and emerging confluences. Revisited in N.K. Denzin, & Y.S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (5th ed., pp. 108–150). Sage.

Luthans, F., Youssef-Morgan, C.M., & Avolio, B.J. (2021). *Psychological capital and beyond*. Oxford University Press.

Maddux, J.E., & Kleiman, E.M. (2016). Self-efficacy: A foundational concept for positive clinical psychology. In M.W. Gallagher, & S.J. Lopez (Eds.), *The Wiley handbook of positive clinical psychology* (pp. 89–101). Wiley-Blackwell.

Masten, A.S. (2021). *Resilience in development: Progress and transformation* (2nd ed.). Guilford Press.

Masten, A.S., & Reed, M.G.J. (2020). Resilience in development: Contributions from research on children, communities, and systems. In S.J. Lopez, & J.S. Snyder (Eds.), *The Oxford handbook of positive psychology* (4th ed., pp. 565–578). Oxford University Press.

McEwen, B.S., & Akil, H. (2020). Revisiting the stress concept: Implications for affective disorders. *Journal of Neuroscience, 40*(1), 12–21. https://doi.org/10.1523/JNEUROSCI.0733-19.2019

Neeley, T. (2021). *Remote work revolution: Succeeding from anywhere*. Harper Business.

Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. *Human Resource Management Review, 27*(3), 521–535. https://doi.org/10.1016/j.hrmr.2017.01.001

OECD. (2023). *OECD employment outlook 2023: Artificial intelligence and the labour market*. OECD Publishing.

Patton, M.Q. (2015). *Qualitative research and evaluation methods* (4th ed.). Sage.

Porges, S.W. (2021). *Polyvagal theory: Neurophysiological foundations of emotions, attachment, communication, and self-regulation*. Norton Professional Books.

Rossouw, P.J. (2014a). *Neuropsychotherapy: Theoretical underpinnings and clinical applications*. Mediros.

Rossouw, P.J. (2014b). The neuroscience of resilience. *Neuropsychotherapy*, 2(1), 3–13.

Sapolsky, R.M. (2015). *Why zebras don't get ulcers: The acclaimed guide to stress, stress-related diseases, and coping* (3rd ed.). Holt Paperbacks.

Seligman, M.E.P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Atria Books.

Sheffi, Y. (2020). *The New (Ab)Normal: Reshaping business and supply chain strategy beyond COVID-19*. CTL Media.

Siegel, D.J. (2020). *The developing mind: How relationships and the brain interact to shape who we are* (3rd ed.). Guilford Press.

Southwick, S.M., & Charney, D.S. (2018). *Resilience: The science of mastering life's greatest challenges* (2nd ed.). Cambridge University Press.

Stebbins, R.A. (2001). *Exploratory research in the social sciences*. Sage.

Teo, W.L., Lee, M., & Lim, W.-S. (2017). The relational activation of resilience model: How leadership activates resilience in an organizational crisis. *Journal of Contingencies and Crisis Management, 25*(3), 136–147. https://doi.org/10.1111/1468-5973.12179

Tugade, M.M., & Fredrickson, B.L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology, 86*(2), 320–333.

Vega-Fernández, G., Tapia, A., & Buenrostro, M. (2025). A comprehensive overview of stress, resilience, and neuroplasticity mechanisms. *International Journal of Molecular Sciences, 26*(7), 3028. https://doi.org/10.3390/ijms26073028

Wissing, M.P., Nel, E.D., Temane, Q.M., Van Staden, C., & Van Zyl, L.E. (2022). *Meaning- and relational well-being: A mixed-method study with South African adults. Current Psychology, 41*, 523–537. https://doi.org/10.1007/s12144-019-00407-2

Wong, P.T.P. (2023). *A new positive psychology: Theory, research, and applications*. Springer.

World Economic Forum. (2022). *The global risks report 2022* (17th ed.). World Economic Forum.