EXPERIENCES OF EMERGENT CHANGE FROM AN APPLIED NEUROSCIENCES PERSPECTIVE

by

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"Experiences of emergent change from an applied neurosciences perspective."

I declare that the above dissertation is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

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ABSTRACT

Emergent change is a pervasive force in modern organisations. However, the subjective experiences of emergent change for frontline individuals and teams have not been explored in organisational change literature. The integrative field of applied neurosciences offers valuable insights into the underlying neural mechanisms that shape these experiences and drive responses in order to meet basic psychological needs. Using interactive qualitative analysis (IQA), this study involved a focus group and follow-up interviews with nine participants at a South African software development company to explore the experiences of emergent change at work. System dynamics reflected that these experiences are significantly more complex than literature and practice currently account for, and that individuals and teams find their experiences of emergent change to threaten their sense of safety and basic psychological needs. The physiological and emotional experiences were found to be driving elements. Peak performance state and the relational environment were found to be salient outcomes. Findings present the opportunity for the reconceptualisation of emergent change, a shift in focus from change itself to the human experiences thereof and the importance of embracing new possibilities, tools and practices for meeting needs and thriving in an ever-changing world.

KEY WORDS

Emergent change, applied neurosciences, interpersonal neurobiology, subjective experiences, neurophenomenology, relationships, VUCA, basic psychological needs, motivational schema, interactive qualitative analysis, physiological impact of change, neuroception, interoception, teams, attachment, mental operating networks, memory systems

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I am grateful to life itself, all other sources of inspiration and to the demanding yet precious environment and process of embodied, relational emergent change research.

“We’re embedding the notion of making decisions that aren’t just about growth for growth’s sake, but how are our people faring? How is their mental health? How is our environment? These are the true measure of our success.”

~Jacinda Arderne

"Essential for change is the construction of credible alternatives. This task is a profoundly social one. The aim must be to provide real capabilities for people to flourish."

~Tim Jackson

“The question is your point of entrance into the world of change.”

~Stephen Karcher

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CHAPTER 1: OVERVIEW OF THE RESEARCH

1.1 INTRODUCTION

This chapter outlines the background to and motivation of this study. The problem statement is then articulated, the research objectives listed, the paradigm perspective shared and the disciplinary relationships explained. The meta-theoretical constructs are outlined, and the research design described before concluding the chapter with an outline of the rest of the dissertation.

1.2 BACKGROUND AND MOTIVATION

The prevalence, pace and frequency of change are unprecedented and increasing exponentially (Grimolizzi-Jensen, 2018; Lewis, 2019; Saleh & Watson, 2017; Scarlett, 2016). This pervasive permutation of change is called emergent change and is defined as the unplanned, incremental change phenomena that occur continuously through system interactions and relationships (Lewis, 2019; Van der Voet, Groeneveld, & Kuipers, 2014; Wee & Taylor, 2018; Worley & Mohrman, 2014). Volatility, uncertainty, complexity and ambiguity (VUCA) are acknowledged in both academia and practice as four salient and predominant characteristics of emergent change in the current business, social and economic environment globally (Bawany, 2016; Bennett & Lemoine, 2014; Chadha, 2017; Euchner, 2013; Horstmeyer, 2019; Srivastava, 2016).

Despite the term “VUCA” being coined in 1998, Saleh and Watson (2017) suggest that there is still a lack of mature, empirically evidenced and consistent academic literature about the VUCA business environment, the extent of its influence on ways of working and appropriate tools and frameworks to manage it effectively. Organisations are experiencing increasing pressure to face, embrace and adapt more rapidly and innovatively than previously (Ashkenas, 2013; Becker, Cropanzano, & Sanfey, 2011; Hagel, Seeley Brown, & Kulasooriya, 2019; Srivastava, 2016; Wee & Taylor, 2018). However, the pace and frequency of change seems to exceed the current capacity to assimilate it all simultaneously, timeously and independently (IBM, 2014; Leach, Wandmacher, Ayres, & Groban, 2019; Scarlett, 2016).

Traditionally, organisational change was deemed simpler and more contained within an environment (Scarlett, 2016). Supporting models and practices were developed for planned change initiatives based on the assumption that transformational change was rare and that initiatives were implemented in fairly stable environments (Lewis, 2019; Van der Voet et al., 2014; Worley & Mohrman, 2015). It has been argued that in the face of rapid, continuous, emergent change, planned change theories and models are too broad, time-and-resource intensive, do not account sufficiently for the cyclical, process nature of change and therefore 'one size fits all' approaches are not necessarily appropriate in a context where transformational change is now the norm (Bushe & Marshak, 2016; Cummings & Worley, 2015; Senior & Fleming, 2006; Todnem, 2005).

In addition, the organisational change focus has traditionally been on trying to measure the success of planned changes by focusing on the originally planned goals (Brendel & Chou, 2016). This has been said to easily overlook incremental successes and adaptations along the way, potentially contributing to a negative bias and narrative suggesting that organisational change is challenging and often ineffective, which would naturally impede progress and possibly create false resistance or perceptions thereof (Tasler, 2017). Literature proposes that the modern organisational environment may well have changed before a planned initiative has been fully implemented, which is not an optimal use of resources (Van der Voet et al., 2014). Scarlett (2016) argues that even the best-laid plans need to take into account that emergent change will happen, and thus all planned change may even be a form of emergent change. Taking this into account, this study focused specifically on emergent change, and only referenced planned change briefly where appropriate to reflect on the evolution in the field, or in areas where differentiation, comparison or integration was required.

Emergent change has become too complex and connected to make sense of and assimilate in isolation, which has led to a growing need for support, knowledge sharing, networks, enhanced communication effectiveness, empathy and healthy working relationships, raising different questions (Golan & Bamberger, 2015).

Many related factors and forces that reflect VUCA characteristics have contributed to this, including technological advancement and digital transformation, the volume and frequency of communication, collaboration, unpredictability, the unknown, sheer

volumes of information and interactions, decentralised work teams, virtual teams, flat organisational structures, teamwork, competition and connectedness, the levels of which are higher than ever before and rising (Hagel et al., 2019; Liebhart & Garcia-Lorenzo, 2010; Maimone & Sinclair, 2014; Scarlett, 2016; Schaffer, 2017).

Rather than focusing solely on the nature of change itself and strategies for planning change when most change is now emergent, the factors and forces discussed above invite a shift in the direction of focus in the field, namely to the human experiential, social and relational aspects of organisational change (Liebhart & Garcia-Lorenzo, 2010; Van der Voet et al., 2014). This is significant on multiple levels. Experiences of emergent change can influence health and wellbeing, stress levels and whether or not the change will be beneficially assimilated, all of which can influence overall levels of purpose, productivity and performance in the workplace (Scarlett, 2016).

All organisational and relational interactions can be regarded as emergent change, and each one offers individuals and teams experiences, opportunities and the choice to respond, either in the way they are predisposed to, or in a new way (Smith, Livingstone, & Thomas, 2019). Each person involved with change in a particular environment and context will shape and be shaped by the change, either directly or indirectly, because individuals and teams cannot be separated from the changes happening around them in the environment (Maimone & Sinclair, 2014; Scarlett, 2016), and their experiences will shape how they respond. Since the prevalence of change is increasing, it means that individuals and teams are experiencing more change than ever before, and are expected to evolve at the pace they experience it, if not more quickly (Scarlett, 2016).

The brain functions in response to the environment in order to meet its needs, with the main aim of survival (Epstein, 2003; Grawe, 2007; Kandel, Schwartz, Jessel, Siegelbaum, & Hudspeth, 2012; Rossouw, 2014; Siegel, 2015). Scarlett (2016) argues that the brain does not naturally do so as rapidly as people are expected to in organisations currently, and that business environments are not designed with this in mind, in a way that promotes holistic brain fitness and overall wellbeing. Instead, Scarlett (2016) suggests that many if not most business environments function in a way that can trigger a sense of threat, activating a cascade of neurobiological and psychological experiences and responses that can lead to underlying anxiety and

elevated stress levels. If change is perceived to threaten one's needs, then an internal conflict and change aversion can develop, and the experiences of and responses to change are likely to be suboptimal (Grawe, 2007; Scarlett, 2016). In such cases, the opportunities that emergent change inherently presents can easily be missed in favour of eliminating the perceived threat in order to survive (Scarlett, 2016).

Despite the relative pace, there are many possible ways that individuals can experience and respond to emergent change in the workplace. Some may approach it curiously, optimistically and opportunistically, while others may actively avoid or feel threatened by it, and some may have a more ambivalent response (Grimolizzi-Jensen, 2018). Organisational psychology is concerned with human behaviour in the workplace (Du Plessis, Wakelin, & Nel, 2015), and thus experiences of change that motivate and drive behaviour are of direct relevance to the field, as an increase in adaptability benefits individuals, teams and the organisation.

How an individual experiences and responds to change is shaped by a number of interrelated factors, including genetics, early childhood development, primary caregiver relationships, environmental factors, experiences across the lifespan and how they meet their basic psychological needs (Grawe, 2004, 2007; Rossouw, 2014). Psychology and psychotherapy have contributed significantly to exploring how these forces influence individual behaviour (Grawe, 2004, 2007; Levine, 2015; Rossouw, 2014; Siegel, 2006; Van der Kolk, 2014). Organisational psychology has advanced the theory and practice of emergent change (Blomme, 2014; Bushe & Marshak, 2016; Liebhart & Garcia-Lorenzo, 2010; Maimone & Sinclair, 2014; Van der Voet et al., 2014; Wee & Taylor, 2018) and explored certain responses to change such as resistance, readiness and ambivalence, from the perspective of those researching, planning, facilitating, managing, leading or implementing change (Grimolizzi-Jensen, 2018; Mathews & Linski, 2016). However, there is a gap in research into the first-hand experiences of emergent change of individuals and teams at the coalface of emergent change, from an applied neurosciences perspectives. This is needed to substantiate, counter and/or expand the understanding of whether or not existing theory, models and practices align with individual and team experiences of and needs during emergent change.

At the individual level, turning to applied neurosciences, various subdisciplines within it, such as interpersonal neurobiology, do emphasise the importance of subjective first-person experience and relationships (Siegel, 2012), as does neuropsychotherapy with the addition of basic psychological needs considerations (Grawe, 2004; Levine, 2015; Van der Kolk, 2014). Integrating findings from the fields of organisational psychology and applied neurosciences creates a bridge that, if crossed, could contribute to and beyond what each has discovered independently thus far.

At the team level, there has been acknowledgement in the literature that it is vital to consider the influence different agents within systems experiencing change have on each other, but that these experiential, social and interpersonal aspects have been neglected in both theory and practice (Lewis, 2019). The team level consideration in organisational change situations has been highlighted as another gap in literature (Balkundi & Wang, 2019; Nikitin & Freund, 2019; Todnem By, Kuipers, & Proctor, 2018), and it has been suggested that owing to a rapid increase in teamwork globally, establishing a better understanding of intra-and-inter-team interactions, experiences and relationships is a vital aspect of understanding and optimising organisational change (Todnem By et al., 2018). This also raises the significance of considering and researching relationships in the context of emergent change, and the potential they have to influence how teams and individuals experience and respond to emergent change (Balkundi & Wang, 2019; Bradford, Jentzsch, & Gomez, 2015; Geldenhuys, 2012; Schecter et al., 2018; Todnem By et al., 2018). The applied neurosciences approaches regarding the social brain and interpersonal neurobiology offer valuable insights into the role of relationships in developing adaptive skills, expanding possibilities, facing challenges and enhancing wellbeing through meaningful connection and support (Cozolino, 2014; Hamilton, 2015; Lieberman, 2013; Siegel, 2015; Todorov, Fiske, & Prentice, 2011).

Change research has traditionally focused on leaders and strategies they can engage to enhance change effectiveness (Uhl-Bien & Arena, 2018). However, if individuals and teams find emergent change challenging, demotivating and threatening or are ineffective in their capacity to assimilate change and adapt, this could cause misaligned resource allocation, compromised health, increased stress and anxiety and decreased performance and engagement (Hagel et al., 2019; Kislik, 2018; Sanchez,

2018). Unmanaged high levels of stress over extended periods of time due to constant change in demanding work environments can also lead to burnout (Owens, Baker, Sumpter, & Cameron, 2015; World Health Organisation, 2019). This can pose a tangible risk to the health and wellbeing of individuals, and can also pose high financial and performance costs for an organisation, creating the need for strategic consideration and positioning by leadership (Owens et al., 2015). Thus, the broader way change is discussed in an organisation, as well as the models and tools used to conceptualise, discuss, implement and assess it, will directly influence how change is experienced and assimilated (Buono & Jamieson, 2010; Lewis, 2019).

The way change is perceived, experienced, communicated, interpreted and understood will strongly shape relationships with change and responses to it at individual, team and organisational levels (Buono & Jamieson, 2010; Lewis, 2019; Scarlett, 2016), and thus warrants academic and practical consideration. Each individual, team and organisation will have their own narratives about and relationship with change, and there may not be full awareness about them or their implications. For this study, the researcher turned to the field of applied neurosciences to consider the underlying neural mechanisms and motivational drivers that influence how individuals and teams experience emergent change. Applied neurosciences can offer unique insights into this complex phenomenon (Scarlett, 2016).

The majority of neural functioning occurs outside an individual's conscious awareness (Badenoch, 2008; Kandel et al., 2012; Siegel, 2018), which is where memory encoding about experiences takes place (Levine, 2015). The way individuals and teams experience and respond to emergent change will be shaped by both conscious and subconscious processes, and increased awareness offers increased opportunities to respond differently (Scarlett, 2016). Adaptability is a skill that can be developed, and reframing narratives about change can help to embrace the opportunities it presents (Uhl-Bien & Arena, 2018).

Change narratives are created on the basis of beliefs developed to meet underlying needs or achieve certain goals (Arden, 2019; Cozolino, 2015; Hamilton, 2015). As change itself evolves, the need for individuals and teams to adapt rapidly is becoming increasingly urgent for business survival where employees are constantly asked to do more with less (Worley & Mohrman, 2015). In light of these factors, the pace of

emergent change globally seems to trigger a response of overwhelm, stress and distress in many individuals, suggesting that it is perceived to threaten, compromise or violate certain needs, or that there is a mismatch between environmental needs and the individual and team capabilities required to meet them (Scarlett, 2016).

Management consultancies that offer change management services frame change as positive, and full of opportunities to be seized and optimised in order to stay relevant and ahead of the competitive curve, which appeals to leaders and managers (Deloitte, 2019; Evans-Greenwood & Leibowitz, 2017; Hagel et al., 2019; Leach et al., 2019; Schaffer, 2017). However, the experiences of those expected to assimilate and apply changes constantly at different levels, and the inherent implications thereof, gain relatively little attention. Management consultancies have also recently contributed to the emergent discussion about the need to change the way change is perceived and practised in business, suggesting that all management is change management and that disruption is the new normal (Evans-Greenwood & Leibowitz, 2017; Hagel et al., 2019; Kislik, 2018; Leach et al., 2019; Sanchez, 2018; Schaffer, 2017). Some academic literature takes a somewhat contradictory position, going so far as to say that change management is obsolete (Worley & Mohrman, 2014), and that change leadership may be more important in current times (Hughes, 2018). However, neither academia nor practice currently do justice to the complexity, spectrum and impact of the human experience of constant emergent change, and yet they interrogate why change is not assimilated more effectively in organisations. This further highlights the need for new ways of perceiving and approaching change.

The discoveries in applied neurosciences about how the brain responds to change, how it is wired, and the fact that neuroplasticity (the brain's ability to change) is possible across the lifespan (Arden, 2019; Cozolino, 2015; Scarlett, 2016; Siegel, 2018), afford one the opportunity to take a step back, shift focus and explore experiences of emergent change from a new angle.

There is a distinct lack of academic literature specifically exploring individual and team experiences of emergent change in organisations from an applied neurosciences perspective. Thus, practitioners, leaders and businesses will not be empowered to integrate holistic neuroscience-substantiated needs-based factors into change process considerations. Without them, it is less likely that there will be a successful

shift in the way individuals and teams experience and thus respond adaptively to emergent change both in business and life.

In light of these gaps, this study contributes at three different levels. Firstly, at a theoretical level, makes a contribution to the body of literature about the individual and team experiences of emergent change in the field of organisational psychology from an applied neurosciences perspective. Secondly, the study contributes to practice, offering integrated considerations and implications of findings. Finally, it makes a methodological contribution, because interactive qualitative analysis (IQA) (Northcutt & McCoy, 2004) has not been used to research this particular topic before.

1.3 PROBLEM STATEMENT

In light of the background and motivation discussed above and amidst times of constant emergent change, there is a clear gap in both literature and practice that attends to the subjective employee experiences of emergent change from an applied neurosciences perspective. Rather than focusing merely on change itself, there is value in exploring the human factors at play in organisational change dynamics and drawing on multiple interdisciplinary fields to find a new approach to deal with emergent change more effectively for all stakeholders. There is thus a pressing need for development in this space, and a current lack of research to adequately address this need. Considering the underlying neural mechanisms and latest discoveries in applied neurosciences within the context of emergent change can add significant insights to this avenue of exploration and presents new possibilities for deepening understanding of this complex phenomenon.

1.4 RESEARCH OBJECTIVE AND QUESTIONS

The research objectives and questions for this study are described below.

1.4.1 General objective

The general objective of this study was to explore individual and team experiences of emergent change from an applied neurosciences perspective.

1.4.2 Theoretical questions

Specific research questions pertaining to the literature were formulated as follows:

(1) How is emergent change conceptualised?
(2) How is applied neurosciences conceptualised?
(3) What is the relevance of applied neurosciences for emergent change?

1.4.3 Empirical questions

The specific research question relating to the empirical study was formulated as follows:

(1) How do individuals and teams experience emergent change?

1.5 THE PARADIGM PERSPECTIVE: SOCIAL CONSTRUCTIONISM

A paradigm is a lens through which one sees the world on a philosophical, methodological and theoretical level (Babbie & Mouton, 2007; Terre Blanche, Durrheim, & Painter, 2006). In the context of this study, the researcher chose the social constructionism paradigm to approach, shape and give boundaries to the process of inquiry. Social constructionism suggests that reality is socially co-constructed through interactions and is fundamentally relational, in the sense that reality cannot be separated from the interdependence of elements that interact within it (Geldenhuys & Geldenhuys, 2015). In social constructionism, there is acknowledgement that the individual's experience of reality as well as the group's shared understanding of reality co-exist simultaneously and relate constantly (Bryman et al., 2015; Geldenhuys & Geldenhuys, 2015; Terre Blanche et al., 2006). This means that the inherently social nature of humans that leads to group experiences of reality, as well as the private subjective experience of that reality for each individual, each offers unique perspectives on or versions of reality that provide rich insight into a particular phenomenon, rather than assuming that there is one objective, fixed, fact-based reality to uncover (Geldenhuys & Geldenhuys, 2015).

1.5.1 Ontological assumptions

Ontology refers to the nature of being, social phenomena and reality (Bryman et al., 2015). In social constructionism, the ontological assumption is that reality and meaning are socially co-created through system interactions and relationships between individuals and groups (Terre Blanche et al., 2006). Sense-making is the term given to the creation of meaning, which in this paradigm, is done through interactions in organisations within and between individuals and teams, highlighting the importance of interrelationships (Blomme, 2014; Bushe & Marshak, 2016; Lawrence, 2015; Weick & Quinn, 1999). From this paradigm perspective, reality is acknowledged as an adaptive, emergent socially co-constructed system, and there can be multiple realities co-existing at once, instead of reality being seen as a fixed, objective entity (Bryman et al., 2015). In this particular study, the researcher explored individual as well as group experiences of emergent change, creating the opportunity for multiple socially co-created realities to be considered and compared.

1.5.2 Epistemological assumptions

Epistemology considers the nature of knowledge, asking how things can be known (Bryman et al., 2015). Epistemologically, social constructionism assumes that individuals have distinctively subjective, multifaceted and detailed experiences that must be considered, understood and interpreted in their particular context (Bryman et al., 2015; Terre Blanche et al., 2006). It proposes that the human experience is reciprocally and socially co-created by individuals and groups through their relations and interactions with one another (Terre Blanche et al., 2006). It is prolific in social science research, where the first-hand voices of participants are gathered, preserved and interpreted in their natural context (Terre Blanche et al., 2006).

Phenomenology is an approach suggesting that the subjective experience of individuals (their experiential reality, from their point of view) is needed in order to understand human behaviour (Bryman et al., 2015). Neurophenomenology proposes that there is efficacy in considering the subjective experiences of what is conscious for humans (Lutz & Thompson, 2013). There is significant value for individuals in reflecting on their own experiences in order to bring into awareness what may not have been conscious yet, despite challenges presented by first-person bias (Lutz &

Thompson, 2013). Without this awareness, one is unable to use it as feedback to integrate and use to influence and guide any adaptation one needs to make (Lutz & Thompson, 2013). Developing this awareness of oneself has been referenced and advocated for by many researchers in various ways, using specific terms such as the "resonating self-witness" (Peyton, 2017, p. 44), the "caring observer" (Badenoch, 2008, p. 47), the "perceiving self" (Iacoboni, 2008, p. 147) and the "non-judgmental observer of oneself" (Henson & Rossouw, 2013, p. 24). More general terms have also been proffered, such as describing consciousness as a process of feeling, knowing that you are feeling, and knowing that you know that you are feeling (Damasio, 2000) and meta awareness, or the awareness of being aware (Arden, 2010, 2019). Thus, the exploration of the subjective experiences of individuals and teams in the context of emergent change, despite limitations, is a necessary step towards not only deepening understanding of this complex phenomenon theoretically, but to also explore practical ways for humans to shape their own subjective experiences positively.

1.6 THE DISCIPLINARY CONTEXT

"A balanced perspective cannot be acquired by studying disciplines in pieces but through the pursuit of consilience amongst them" (Osborne Wilson, 1999, p. 14).

An interdisciplinary approach was adopted in this study, drawing on perspectives from different disciplines in order to contribute to a more holistic picture.

1.6.1 Industrial and organisational psychology

Industrial and organisational psychology is a field focused on understanding and optimising human behaviour and performance in the workplace through various areas of specialisation, with a focus on practical approaches rather than predominantly theoretical ones (Bergh & Geldenhuys, 2014). It also considers the interactions involved with, processes that result from and potential options to enhance and optimise the outcomes of individual, team and organisational level situations. Organisational development, and change management within it, are subdisciplines of organisational psychology that have particular relevance for this study.

Organisational development has been defined as a "dynamic values-based approach to systems change in organisations and communities; it strives to build the capacity to

achieve and sustain a new desired state that benefits the organisation or community and the world around them" (Frances et al., 2012, p. 51 as cited in Geldenhuys & Geldenhuys, 2015, p. 2). Change has been a significant component of organisational development traditionally, and thus as change itself changes, the way modern organisational development frames, approaches, responds to and manages change needs to adapt to meet different needs in VUCA times (Grant & Marshak, 2015; Werkman, 2010). It has also been suggested that the organisational development practitioner is an integrally connected element within the organisational ecosystem as part of the ongoing change process (Geldenhuys & Geldenhuys, 2015; Werkman, 2010).

1.6.2 Applied neurosciences

Applied neurosciences is an overarching term that refers to the application of research discoveries in neuroscience to other fields, such as economics, marketing, and psychology in order to expand perspectives and enhance understanding about the neurological mechanisms underlying and influencing human behaviour (Ashkanasy, Becker, & Waldman, 2014; Becker et al., 2011).

Organisational neuroscience is an applied subspecialisation field that has emerged to integrate and apply the learnings from neuroscience to industrial and organisational psychology. It is not a "standalone" discipline and does not claim to replace other disciplines; it has been described as aiming to contribute towards "understanding the brain processes behind observed attitudes and behaviors and their implications for predicting and modifying these behaviours in the workplace" (Becker et al., 2011, p. 934).

While there is some literature on organisational neuroscience (Becker et al., 2011; Lee, Butler, & Senior, 2008; Lee, Senior, & Butler, 2012), there are mixed views about its application. It has not been well defined on its own, and there is far more research discussing the integration of neuroscientific discoveries into various established, applicable subfields such as organisational change (Scarlett, 2016; Schwartz-Hebron, 2012), leadership (Henson & Rossouw, 2013; Hills, 2014; Swart, Chisholm, & Brown, 2015), organisational behaviour (Leach et al., 2019), organisational cognition and intelligence (Becker, Volk, & Ward, 2015; Lee et al., 2008), and psychotherapy (Arden,

2019; Cozolino, 2015; Fishbane, 2007; Gantt & Cox, 2017; Grawe, 2004, 2007; Payne, Levine, & Crane-Godreau, 2015; Siegel, 2018). Organisational neuroscience was thus not included as a separate discipline in this study, but the researcher's aim was to contribute to the emergent as yet unclearly defined specialist subfield, as well as the more established conversation about the efficacy of applying and integrating discoveries from neuroscience to the exploration of human experience and behaviour in the field of organisational psychology.

Two subfields of applied neurosciences that have relevance to emergent change in the organisational context are interpersonal neurobiology and neuropyschotherapy. Interpersonal neurobiology considers how the brain, mind and relationships interact to influence individual and collective adaptive functioning and health through differentiation and integration of experiences (Siegel, 2012, 2018). Neuropsychotherapy explores the underlying neural mechanisms that shape human behaviour (Rossouw, 2014). Integrating these perspectives can offer unique insights into how emergent change is experienced by individuals and teams in the working environment and the role their relationships play (Scarlett, 2016).

1.6.3 Psychological paradigm

Applied neurosciences does not adhere to any specific school of psychology, as it is an interdisciplinary field that draws insights from various fields (Rossouw, 2014).

1.7 META-THEORETICAL MODEL AND CONCEPTS

The meta-theoretical Consistency-Theoretical Model of Mental Functioning of Grawe (2004) is a seminal model in applied neurosciences that is relevant to the application of the other models explored in this study. Grawe's (2007) model is briefly introduced below and explored further in chapter 3.

Grawe's (2004, 2007) Consistency-Theoretical Model of Mental Functioning proposes that human behaviour is shaped by the drivers generated to meet one's basic needs. These drivers are referred to as motivational schemas, and can either drive one to approach or avoid an experience, person or situation in order to protect oneself from potential needs violations and to try to ensure that one's needs are met (Grawe, 2007). According to the model (Grawe, 2007), different situations will present different threats

and opportunities for needs violation or satisfaction, and therefore different motivational schemas will be applied. These motivational schemas are laid down in the formative developmental years, largely shaped by primary caregiver relationships and how children have interpreted the environment around them (Grawe, 2007). If the environment is perceived as safe and their needs were regularly met, it will likely lead to the development of approach motivational schemas (Grawe, 2007). If the child has experienced and interpreted the environment to be unsafe and their needs are regularly not met, they are likely to develop avoidance motivational schemas in order to protect themselves against further threat, compromise or violation of their needs (Grawe, 2007).

As individuals create goals and motivational schemas to meet their basic needs in a changing environment, unmet goals reflect a gap between reality and perception, and create what is referred to as incongruence (Grawe, 2007). If both approach and avoidance schemas are triggered simultaneously and are in conflict with one another, this is referred to as discordance (Grawe, 2007). Incongruence and discordance are what Grawe (2004, 2007) referred to as inconsistencies, which are reflected in the brain in distinct counteractive neural patterns that can be resource-intensive, demanding and stressful to manage, and can lead to compromised functioning as well as mental health challenges or disorders. Grawe (2007) suggests that consistency regulation and maintenance are a fundamental contributor to one's capacity to meet one's own needs within an environment.

1.8 THEORETICAL CONSTRUCTS

The constructs relevant to this study are explained below.

1.8.1 Emergent change

Emergent change is said to be continuous, unplanned, real-time change that arises within an environment (Liebhart & Garcia-Lorenzo, 2010). It can raise paradoxes, ambiguity and the unknown and thus requires a high degree of flexibility as well as facilitation and support, and is not necessarily led solely by management or leaders (Maimone & Sinclair, 2014; Seidman, & McCauley, 2009).

Emergent change is almost biological, as a natural response to forces acting within an ecosystem where elements need to paradoxically adapt to maintain a degree of equilibrium and sustain life (Brown, Kingsley, & Paterson, 2015; Todnem By et al., 2018). In modern organisations, the ambition is to do more than merely avoid threats to survival, but to also move towards thriving and flourishing through adaptive evolution (Seligman, 2012).

1.9 RESEARCH DESIGN

The researcher's choices of approach, methodology, strategy and ethical considerations for this study are described below.

1.9.1 Research approach

"Qualitative research aims to make the strange familiar and the familiar strange, which can prove to be far more nuanced and involved than casual observation would suggest" (Terre Blanche et al., 2006, p. 321).

Owing to the nature of the topic and the lack of existing literature specifically exploring the first-hand experiences of frontline employees during emergent change, the researcher choose a qualitative approach. Qualitative research is naturalistic, holistic and inductive (Babbie & Mouton, 2007; Terre Blanche et al., 2006). This is appropriate in the organisational context of a small startup company where change is highly prolific, and the work could be described as highly collaborative, comprising many interactions every day. The study was designed to be exploratory, receptive and open to new perspectives, interpretations and insights that emerged from the research (Terre Blanche et al., 2006).

1.9.2 Research strategy

The IQA (Northcutt & McCoy, 2004) protocol was utilised to conduct a focus group and follow-up interviews with all participants. The IQA protocol leads to the creation of two visual systems, providing the opportunity to compare, contrast, differentiate and integrate findings between them through the following two levels of triangulation (Northcutt & McCoy, 2004):

(1) comparison of the focus group findings with the combined interview findings; and

(2) comparison of the overall findings with the literature.

The focus group was held to facilitate a process through which participants could explore the subject matter in context, describe their experiences and consider how the system elements of their experiences were interrelated (Northcutt & McCoy, 2004).

System influence diagrams (SIDs) were constructed from the data collected in the focus group, namely one for the group overall and one for each individual. Thereafter, semi-structured interviews were held with each participant. In the interviews, they had an opportunity to reflect on and interpret the meaning of the focus group SID as well as their own SID, to compare them and identify any similarities or differences (Northcutt & McCoy, 2004).

1.9.3 Strategies employed to ensure quality and trustworthiness of research project

The IQA protocol is a rigorous process, designed to ensure the quality and trustworthiness of data (Northcutt & McCoy, 2004). The researcher followed the IQA protocol (Northcutt & McCoy, 2004) as well as ethical standard requirements of the University of South Africa (Unisa).

All data was generated and analysed by the participants themselves, through the focus group and interview protocols prescribed by the IQA methodology. The data was preserved through recording and various documented artefacts that the researcher collected throughout the research process, according to the IQA protocol (Northcutt & McCoy, 2004).

The IQA protocol (Northcutt & McCoy, 2004) creates a high level of trustworthiness of the data because there are two levels of triangulation, as discussed in section 1.9.3. Taking note of the similarities and differences between the different artefacts increases trustworthiness as the different sets of data will either reinforce or differ from one another, adding depth and dimension.

1.9.4 Ethical considerations

An ethics application was submitted as per Unisa's requirements, and ethical approval was granted in May 2018. The study was classified as being low risk. The reference number is 2018_CEMS_IOP_007.

1.9.4.1 Participant voice preservation

IQA was chosen as it is designed to preserve the voice of the participants, which upholds and maintains data integrity (Northcutt & McCoy, 2004). The data reflected participant first-hand subjective experiences.

The IQA protocol dictates that the researcher's voice is excluded from the data collection process, but is introduced as the subject matter expert when the findings are integrated with existing literature (Northcutt & McCoy, 2004). The researcher was a facilitative part of the research setting, but did not contribute her voice to the data because she was working at the company during the study. As per IQA protocol, the axial and theoretical coding was done by the participants and not the researcher (Northcutt & McCoy, 2004). The data was therefore not contaminated.

1.9.4.2 Consent

The company gave formal consent to participate in this study, before the research commenced. Participant information sheets were circulated to potential participants, inviting them to participate. Participation was voluntary and no financial incentives were offered. Informed consent was also obtained from those who chose to participate. The focus groups and interviews took place during company hours. Participants could leave the research at any time with no explanation or reason, no negative consequences and were not pressurised to participate.

1.9.4.3 Confidentiality

Participant anonymity and confidentiality were maintained as far as possible by the researcher, as per ethical standards and requirements. Informed consent forms explicitly stated that the researcher would exclude all names from the research and assign codes to each participant in order to preserve their anonymity. Owing to the nature of the focus group, there was limited confidentiality within it, as individuals were

asked to share their opinions with their colleagues at work. Confidentiality was emphasised and requested of all participants prior to, during and after the focus group, and participants were encouraged to only share what they felt comfortable sharing in a professional setting during the focus group and interviews. Anonymity and confidentiality was also protected in all data collection and recordings, by assigning participants a code (each beginning with the number 1 and a letter from A to I), and all names were removed from all data and transcriptions.

1.9.4.4 Adherence to research protocol

The researcher followed the IQA protocol steps carefully while conducting the research. Each stage of the protocol has its own documentation or artefact, providing an audit trail of the process (Northcutt & McCoy, 2004).

1.9.4.5 Participant experience

The informed consent forms explained to participants that the focus group would be filmed and that the interviews would be voice-recorded. To integrate value back into the environment, a brief executive summary of findings and implications will be shared with the company post examination of the dissertation. This is a way of acknowledging the contribution the participants made to the study, which would not have been possible without them.

1.9.4.6 Social value

By being part of this study, participants were afforded the opportunity to spend most of a day at work engaging in a reflective, co-creative process to explore their experiences of emergent change, which is a highly relevant feature of their lives. This offered them the chance to consider their own experiences of emergent change, as well as the experiences of their colleagues, potentially helping to develop awareness about themselves and others, which could enhance their experiences, collaborations and working relationships.

1.10 CHAPTER LAYOUT

This dissertation has six chapters. Chapter 1 provided a research overview. Chapter 2 discusses emergent change literature, and chapter 3 explores the literature on

applied neurosciences. Chapter 4 describes the empirical investigation, while the findings are presented in chapter 5. Chapter 6 details the limitations, conclusions and implications that emerged from the study.

1.11 SUMMARY

This chapter outlined the background to and motivation of this study. The problem statement was articulated, the research objective and questions listed, the paradigm perspective shared and the disciplinary context explained. The meta-theoretical constructs were outlined, the research design explained and the chapter layout of the dissertation provided.

CHAPTER 2: EXPLORING EMERGENT CHANGE

2.1 INTRODUCTION

This chapter conceptualises emergent change, discusses contemporary emergent change literature, the relevant models and frameworks of emergent change, and concludes with an exploration of the impact of emergent change on individuals and teams in the workplace.

2.2 CONCEPTUALISATION OF EMERGENT CHANGE

With the increase in prevalence and pace of change over time, the specialist field of organisational change continues to expand in an attempt to understand and manage change more effectively and efficiently (Senior & Fleming, 2006).

The nature of change itself, as well as the understanding and practice of change management within organisational environments, is evolving because of change exploration, exposure and experience (Scarlett, 2016; Wee & Taylor, 2018). According to Tasler (2017), there is a global organisational narrative that change is difficult, that change management is generally suboptimal, and that failure is more likely and more prevalent than success. Paradoxically, even though change is a natural function and by-product of life (Bushe & Marshak, 2016; Chia, 1999), it has been suggested that there is a negative bias against it in organisations, which could become a “toxic self-fulfilling prophecy” (Tasler, 2017, para. 5). It has been argued that this can lead to overlooking incremental successes in the change process, and misinterpreting setbacks or unexpected shifts as evidence of how challenging change is or that there is failure, rather than how emergent change is a natural process that brings with it possibilities and opportunities, as well as challenges and subsequent additional changes (Tasler, 2017).

In light of the evolution of the understanding and conceptualisation of organisational change and the current context, this study focused specifically on emergent change. Emergent change is defined as the ongoing, unplanned change that occurs within an environment, the details of which cannot be consistently predicted (Bushe & Marshak, 2016; Liebhart & Garcia-Lorenzo, 2010; Van der Voet et al., 2014).

Emergent change occurs as a continuous process in modern organisations, facilitated through conversations, interactions, behaviours and actions (Bushe & Marshak, 2016; Grant & Marshak, 2011; Lawrence, 2015; Tsoukas & Chia, 2002; Uhl-Bien & Arena, 2018). Literature acknowledges that organisations are not characterised by stability but rather by emergent change and VUCA characteristics (as discussed in section 1.2), and that change can be driven by and implemented at all levels of the organisation, but often from the bottom up (Maimone & Sinclair, 2014; Seidman et al., 2009; Wee & Taylor, 2018). Moreover, there are usually insufficient time and resources available to develop a methodical plan in response to spontaneously occurring unplanned change (Liebhart & Garcia-Lorenzo, 2010; Worley & Mohrman, 2014). The more interactions and interrelationships between system elements in an environment, the more opportunities there are for emergent change.

Owing to this change spontaneity, Senior and Fleming (2006) suggested over a decade ago, that emergent change can come as a surprise if organisations are not sensitively attuned to and aware of shifts in their environment. Despite this being acknowledged many years ago, organisations paradoxically still seem surprised by and ill-equipped to deal with change that is widely accepted and regularly referenced as being a constant (Dowling, 2014; Hernes, Hendrup, & Schaffner, 2015; Lewis, 2019; Worley & Mohrman, 2014). It seems to be contradictory that amidst such prevalent emergent change, organisations are still struggling to manage it effectively.

Literature also suggests that organisational emergent change is a completely natural and unavoidable process, rather than something episodic that needs to be smoothed, controlled and brought to order with a traditional project management-style planned change approach to change (Chia, 1999; Tasler, 2017; Worley & Mohrman, 2014, 2015). Drawing on knowledge from the field of biology has efficacy, as nature is made up of interconnected organisms and ecosystems that are naturally and constantly in flux, adapting to changing environmental conditions and requirements through ongoing, sensitive, regenerative feedback cycles (Damasio, 2000; Hagel et al., 2019; Hajdukiewicz & Vicente, 2002). Viewing organisations and humans from this process-based perspective (experiencing change as constantly evolving by-products as well as generators of change itself) can help to reframe change as a natural process (Bakken & Hernes, 2006; Tasler, 2017; Tsoukas & Chia, 2002). Emergent change is

an integral and natural reflection and expression of life and human existence, and organisations are not excluded from this reality (Chia, 1999; Tasler, 2017).

There has been widespread, global acknowledgement of the imperative for organisations to become and remain flexible and agile in order to survive and thrive in change-prolific times characterised by emergent change (Blomme, 2014; Hagel et al., 2019; Leach et al., 2019; Maimone & Sinclair, 2014). This has raised the profile, presence and prevalence of emergent change, change sensitivity and the need for change capability development in both academia and practice.

2.3 CONTEMPORARY THEORIES OF EMERGENT CHANGE

It has been acknowledged that emergent change research is significantly more recent and less established, and has been relatively neglected in comparison to planned change research, but that it has gained attention and traction recently because of increasing relevance in current VUCA organisational conditions (Bennett & Lemoine, 2014; Wee & Taylor, 2018).

There has been a shift away from model-based planned change towards developing approaches that take emergent change into account, as well as the skills and leadership required for constant adaptation (Bushe & Marshak, 2016; Uhl-Bien & Arena, 2018). Instead of focusing on change itself, Uhl-Bien and Arena (2018) refer to and advocate for organisational adaptability, not only as a skill to develop, but also as an essential and highly influential strategic organisational characteristic. What is appropriate in a given situation will depend on the context, the other forces and stakeholders interacting within the environment and the available resources (Cummings & Worley, 2015). This requires flexibility, discernment, awareness, capacity, tools and resources that can be invested in the adaptability of a business and its systems, processes and people in a way that is as lean as possible, and accepts that approaches may need to shift mid-flight, depending on needs (Uhl-Bien & Arena, 2018).

Emergent change is heralded as the force that drives organisational existence and evolution, or as Tsoukas and Chia (2002, p. 567) originally referred to it, that a process of “organising” (rather than an organisation) leads to “organisational becoming”. The

notion of organising being seen as a process verb rather than a noun was echoed a number of years later (Bakken & Hernes, 2006). Building on this work, organisational becoming has also been explored further by other researchers more recently, who propose that it is a by-product of co-creative actions and interactions between individuals, as well as within themselves through their thought processes (Liebhart & Garcia-Lorenzo, 2010; Wee & Taylor, 2018; Weick, Sutcliffe, & Obstfeld, 2005). The researcher draws attention to how this definition of organisational becoming is closely aligned with and almost mirrors the definition of emergent change discussed in section 2.2.

The process notion and nature of change has been echoed elsewhere in the field too, referencing the need to become aware of and accept the natural momentum of change (Hernes et al., 2015). Similarly, change has also evolved to be perceived and referenced as an ongoing process of changing without a beginning, middle and end, rather than an isolated change event or project with a fixed start and finish (Tsoukas & Chia, 2002; Weick & Quinn, 1999; Worley & Mohrman, 2014, 2015). Literature has expanded on the notion that organisational change is neither fixed nor static, but that it is rather an integrated process of “organisational changing” in a VUCA environment (Worley & Mohrman, 2014, p. 215). Lewis (2019) refers to moving away from the known state of having made sense of change (past tense and fixed) to a process of sense-making (present tense and process oriented), and defines organisations as the result of emerging patterns of sense-making.

Tsoukas and Chia (2002, p. 567) defined change as the “reweaving of actors’ webs of beliefs and habits of action to accommodate new experiences obtained through interactions”, shifting the focus from change itself to the change agents and their interactions, from which the organisation is said to emerge. Once again, this reflects the requirement of a human-centred view of change in order to shift the relationship with it.

In light of greater acknowledgement of human factors, change leadership has been suggested by multiple researchers as a salient, emergent subfield within organisational change (Uhl-Bien & Arena, 2018). This is an evolution away from a predominant focus on change management, proposing that different leadership around change is required in order for the management of change to be more effective,

rendering change management alone as insufficient (Bushe & Marshak, 2016; Gill, 2003; Uhl-Bien & Arena, 2018; Van der Voet et al., 2014). This is echoed by other researchers in academia (Worley & Mohrman, 2014) and consulting practice (Anand & Barsoux, 2017; Ashkenas, 2013; Hagel et al., 2019; Schaffer, 2017), who question change management itself, suggesting that all management inherently is and involves change, that change management may be a somewhat redundant or oxymoronic term, and that change management itself may be obsolete (Worley & Mohrman, 2014). At this point, there is due cause for pause, to note how in a time where change is more prevalent than ever before because it is embedded in all activities and interactions, academics and practitioners alike are suggesting that change management may be less relevant as a separate, isolated discipline unless it adapts to become integrated into the fabric of a company, its ways of working and how it approaches thinking about, experiencing and responding to change (Worley & Mohrman, 2014). The researcher frames this apparent contradiction as a paradox and an emergent change in itself within the field, as it merely reflects how change itself is changing, and thus the approach to it in both academia and practice needs to change too.

It has been argued that the way people experience, think and speak about change will naturally influence the way they relate with it, as well as how the process unfolds (Lewis, 2019). Thus, the underlying assumptions, models, frameworks, practices and tools used to frame, facilitate and evaluate change will naturally influence how change is perceived, experienced, researched and practised, and are thus worth considering (Buono & Jamieson, 2010).

2.4 THEORIES, MODELS AND FRAMEWORKS FOR FACILITATING EMERGENT CHANGE

Amidst prolific emergent change, while a model may exist in theory, when applied in practice, the environment, individuals, teams and processes in it may change more rapidly than the intervention itself (Senior & Fleming, 2006; Van der Voet et al., 2014). Change literature acknowledges that models and frameworks still often focus on the overall strategy and structure of change, rather than providing details on implementation and maintenance (Todnem By et al., 2018). This could have led in part to the reality that emergent change models and frameworks are neither prolific nor

widely referenced in comparison to planned change models (Liebhart & Garcia-Lorenzo, 2010; Worley & Mohrman, 2014). However, there are a number of noteworthy models and frameworks that make relevant and valuable contributions to the current positioning of and gaps in the literature on emergent change.

2.4.1 Theory E and Theory O

Nohria and Beer (2000) introduced the notion of Theory E and Theory O as two comparative approaches to and drivers of organisational change. Theory E is driven by economic value and considered to be a “hard”, top-down, planning-oriented approach to change, focusing on structures and systems, mimicking the traditional planned change approach (Nohria & Beer, 2000). In contrast, Theory O is driven by organisational development and human capability, seen as “soft”, decentralised, driven from the bottom up and focusing on values, beliefs, reflection, feedback and evolution (Nohria & Beer, 2000). While the developers of the theory (Nohria & Beer, 2000) acknowledge that there may be times when a complementary and integrated approach is possible, they suggest that Theory O is, in general, more appropriate in the modern climate of rapid emergent change. The most relevant contributions of Theory O to this particular study and avenue of research were how emergent change is conceptualised as decentralised and democratised, and the theory introduces the vital human aspects of values, beliefs, feedback, evolution and reflection (Nohria & Beer, 2000). The suggestion that the driver for Theory O change is human capability and development was deemed particularly relevant for this study. However, this model takes a dualistic view, suggesting that human development and economic value are the two distinct approaches, whereas in reality and within complex emergent change environments, neither human development nor economic value can be ignored. The model does highlight that integration between the two approaches is possible, but it focuses far more on differentiating between the two approaches. It is also written from the organisational perspective rather than the human perspective.

2.4.2 The Engage and Learn Model

Worley and Mohrman’s (2014, p. 7) Engage and Learn Model was developed to guide the facilitation of what they refer to as “change routines” that build organisational adaptability in an environment of emergent change. This model does not outline

specific steps for a single change process, but rather proposes how to facilitate the weaving of ongoing change routines into the fabric of an organisation through processes that occur simultaneously (Worley & Mohrman, 2014, 2015). The Engage and Learn Model (Worley & Mohrman, 2014) suggests that through engagement and learning via feedback systems at each stage in a cyclical process of awareness, design, tailoring and monitoring, organisations will develop their capacity for adaptability in different parts of the business. Awareness refers to increasing sensitivity and knowledge of the context – organisational issues, challenges, industry shifts and the various possibilities that are available (Worley & Mohrman, 2014). Design refers to the behaviour-based approach to adapting to higher levels of emergent change, complexity and connectivity through networks and collaboration (Worley & Mohrman, 2014). Tailoring suggests that there is no “one size fits all”, and that all action needs to be adapted in light of the specific organisational context, needs and resources (Worley & Mohrman, 2014). Monitoring refers to the ongoing impact measurement and considerations through increasingly attuned feedback systems where individuals and teams adapt through the application of learnings (Worley & Mohrman, 2014).

The Engage and Learn Model (Worley & Mohrman, 2014) is a practical tool designed to be applied to any change process, regardless of scale, and it democratises change from being something change specialists or leaders apply to being a process individuals can engage with and learn from themselves. This intentionally introduces additional human factor considerations to emergent change models, and echoes Theory O in the importance of feedback and bottom-up decentralised change (Nohria & Beer, 2000). While these additional human factors are raised through this model, it is a rather simple model that doesn’t address the complexity of the human experience of emergent change, nor how that can impact change implementation.

2.4.3 The Organisation-Team-Individual-Change Model

The Organisation-Team-Individual-Change (OTIC) Model discusses emergent organisational properties that arise as a result of relational interactions and makes the distinction between organisational levels of change implications, specifically highlighting the salience of team level considerations (Todnem By et al., 2018). It is structured around three inter-levels of organisational functioning within change environments, namely the organisation-individual level, the individual-team level and

the team-organisational level, where the former two levels influence and are influenced by autonomy and the latter level concerns organisational philosophy and job design (Todnem By et al., 2018). The authors (Todnem By et al., 2018) argue that in order to comprehend organisational change, it is necessary to understand the roles teams play in responding to and shaping change itself. They also point out that team level research in organisational change is highly significant and relevant in times where teamwork is more prolific than ever before, but is lacking in the literature, which seems contradictory and highlights a gap in literature and practice (Todnem By et al., 2018). This argument is echoed by other researchers (Balkundi & Wang, 2019; Schecter et al., 2018).

The OTIC Model (Todnem By et al., 2018) and its supporting theory made a number of relevant contributions to this study. It raises the importance of relational or interpersonal implications between different organisational levels and suggests that individual and team autonomy may oppose and can influence each other and that teams are a particularly powerful unit and environment for change in organisations (Todnem By et al., 2018). This is due to the team level potential for higher resource mobilisation, efficiency and capacity to be more responsive to emergent change than an entire organisation (Todnem By et al., 2018). The authors (Todnem By et al., 2018) also suggest that there is a gap in change literature, specifically about models for how teamwork can be implemented and enhanced, as well as about how change impacts teams, as existing models focus more on strategies, approaches and structural design of teams.

2.4.4 SPACES

The final relevant model relating to emergent change that was explored in this study was Scarlett's (2016) SPACES Model. SPACES (Scarlett, 2016), like the OTIC model (Todnem By et al., 2018), is not positioned specifically as a model of emergent change, but can be applied in emergent change contexts. It refers to considering self-esteem, purpose, autonomy, certainty, equity and social connection before responding to change or having conversations, meetings or change interventions, with the intention of facilitating change more effectively and in attempt to mitigate aversive responses during change (Scarlett, 2016). It was deemed salient for this study, as it is an accessible, everyday model that goes beyond existing other models that can be

applied in emergent change situations by acknowledging that there are psychological constructs and neurological mechanisms that play a significant role in change situations, and that organisations need to take them into account in their approach to change (Scarlett, 2016).

Each of these models contributed something relevant to this research and reflects the evolution in the conceptualisation and facilitation of emergent change in the modern business environment. However, none of them are designed to account explicitly or sufficiently for the extent and complexity of impact that emergent change has on individuals and teams, nor the reasons why. They focus on how change can be made more effective from an organisational perspective, rather than effectively or sufficiently capturing the human element, experience and impact of emergent change.

2.5 IMPACT OF EMERGENT CHANGE ON INDIVIDUALS AND TEAMS

It has been suggested that the overall organisational costs of change can be significantly increased by not sufficiently considering the human factors in environments characterised by emergent change (Gleeson, 2017; Trübswetter, Zettl, & Glende, 2018).

Articles that do consider human factors in organisational change tend to have particular focus areas advocating for what they propose can enhance the effectiveness of change processes, such as empathy (Sanchez, 2018), leadership (Bawany, 2016; Bushe & Marshak, 2016; Hills, 2014; Van der Voet et al., 2014), employee participation in change initiatives (Trübswetter et al., 2018), celebrating small wins (Gleeson, 2017) and most commonly, communication, which is foundational to all change processes (Lewis, 2019; Schecter et al., 2018; Trübswetter et al., 2018). Each of the above-mentioned areas makes a significant contribution to the field, raising the profile of the particular human aspects of organisational change they choose to focus on. However, the focus is on what can be done to make change more successful for the organisation, rather than on exploring how emergent change impacts individuals and teams, and how that may influence and drive organisational action in a different direction.

While transformational changes of all scales may be necessary, unavoidable and more prolific now than ever before in organisations, Scarlett (2016) suggests that the

collective impact of small, incremental changes on employees in the workplace is severely underestimated and neglected.

As evidence of this in the business world, a study on over 200 leaders experiencing changes at work found that 50% of the participants did not consider the experiences of their employees during the change or the impact of change on them (Sanchez, 2018). If business executives are neither aware of nor consider the experiences of change in the workplace, the organisation becomes vulnerable to the effects thereof. This would expose a company and all its employees to significant risk, as they would not be prepared for unanticipated responses in their teams and might address superficial factors but miss the source of issues that arise (Sanchez, 2018). Even though it is not possible to predict exactly how individuals and teams will experience and respond to emergent change, exploring their subjective experience and what is important to them during emergent change could significantly shift the way change is experienced, approached and assimilated (Scarlett, 2016).

In another study investigating certain perspectives of leaders experiencing planned or emergent change (Liebhart & Garcia-Lorenzo, 2010, p. 223), one participant commented as follows: *"I found it personally quite stressful when change came over me and I was not in charge of it … to be actually the recipient of change was absolutely horrible."*

Integrating this quotation with findings from Sanchez's (2018) study referenced above yields useful insights. The quotation is from a leader, speaking from their own first-person perspective, about how they feel when they experience change they have no control over. When they actually experienced it themselves, they saw how challenging and stressful it was, and yet 50% of leaders involved with change initiatives in another study did not even consider how it impacted their employees (Sanchez, 2018). This suggests that leaders may be far removed from the extent of changes and the impact thereof that frontline employees are expected to deal with constantly, and do not sufficiently take employee experiences into account in organisational strategy, planning, goal setting and narratives.

While there is a paucity of literature focusing on the impact of emergent change, there is however literature that explores particular human responses that are deemed to

compromise or support change effectiveness from a strategic organisational perspective.

Academia (Cummings & Worley, 2015; Trübswetter et al., 2018) and popular business literature (Gleeson, 2017; Horstmeyer, 2019; Kislik, 2018; Sanchez, 2018; Tasler, 2017) identify resistance to change as the most prevalent response, how challenging it is for organisations, that it forms a significant barrier to the success of change initiatives and they advocate for what can be done to overcome it. Grimolizzi-Jenson (2018) echoes this focus on resistance to change as the prominent perceived response, and highlights that change readiness and change ambivalence are also lesser-explored responses.

Gleeson (2017, para. 4) argues that the main reason for resistance to change and change ineffectiveness in the workplace is “change battle fatigue”, which he defines as “the result of many elements such as past failures plaguing the minds of employees and the sacrifices made during the arduous change process”. He draws a comparison between constant change and his training as a Navy SEAL, where training is conducted under conditions of fear and fatigue. Gleeson (2017) comments that while the workplace ideally should not feel like war or battle, if one fails to take into account the fact that individuals may well be fatigued and fearful during constant change, it makes both the individuals and the organisation vulnerable to the impact of unaddressed but highly influential challenges. To address this issue, he (Gleeson, 2017) advocates for celebrating small wins early, and having positive cultural experiences that support the vision for change. While these simple action areas could have some general value if embedded as practices over time, they do not address the full complexity of an emergent change scenario; nor do they adequately explore and address the reasons underlying the fear-and-fatigue-based change responses and the exceptionally diverse spectrum of experiences humans have during emergent change.

Since it is more energy efficient to repeat established patterns of functioning than to change them, even if it is for the best to do so, change itself can be a draining, stressful and resource-intensive process at all levels, especially if it is constant (Scarlett, 2016). This can contribute to change being interpreted as a threat, and therefore avoided both consciously and unconsciously, in order to protect oneself and one’s energy reserves (Brown et al., 2015; Scarlett, 2016). Scarlett (2016) raises the point that when

humans experience something as threatening, including change, they tend to have a widely researched fight or flight response, or a less widely researched freeze or flock response. Each of these will be driven by different underlying motivational patterns reflected by underlying neural mechanisms, and are influenced by the environment. If individuals and teams are experiencing emergent change as an ongoing threat, this highlights a potential discrepancy and misalignment between organisational change goals, and what the individuals and teams in the organisation experience, need and are capable of in a compromised environment (Scarlett, 2016). The impact of this on a human system at a neurobiological level can range from minor to severe, with serious and potentially chronic negative health implications (Scarlett, 2016).

It has been argued that each perceived change in an organisation offers an individual a choice of how to respond (Smith et al., 2019). In an environment of constant emergent change, this presents many choice points to each individual before they take action. However, if they have had bad experiences of change in the past, too much change too quickly or have “change battle fatigue” (Gleeson, 2017 para. 4) and are burnt out, they may have developed a habit of being fearful and avoidant towards change, which the organisation might interpret as resistance (Scarlett, 2016). If employees feel threatened or afraid, they may not be able to see that they have options and agency in terms of how to respond to changes they need to make that are generated endogenously (within themselves) and especially to changes that are initiated exogenously (outside themselves) (Scarlett, 2016). This can impact the individual negatively by elevating stress levels, as well as the team by affecting morale, and the organisation overall as the change will not gain optimal traction (Gleeson, 2017; Scarlett, 2016).

There is a crucial need for academia and practice to make progress in this realm, because emergent change will only continue to speed up, despite the as yet underexplored impact on individuals and teams. The focus needs to shift from organisational goals and change itself to also include individual and team experiences, because the way they perceive and experience change reflects how change threatens their needs and sense of safety, and should inform and direct appropriate support and capability development throughout the company.

Building on the existing literature from the field of organisational change by turning to the integrative field of applied neurosciences can offer new insights into the underlying mechanisms and drivers of the human experience of emergent change.

2.6 SUMMARY

This chapter conceptualised emergent change, and then went on to discuss contemporary theories, models and frameworks of emergent change. Thereafter, the impact of emergent change on employees was explained.

CHAPTER 3: EXPLORING APPLIED NEUROSCIENCES

3.1 INTRODUCTION

This chapter conceptualises applied neurosciences and discusses the relevant theory, models and frameworks thereof. It concludes with a differentiation between and integration of emergent change and applied neurosciences discoveries.

3.2 CONCEPTUALISING APPLIED NEUROSCIENCES

The field of applied neurosciences is an interdisciplinary field that enables learnings from neuroscience to be applied to other fields involving humans and human behaviour (Ashkanasy et al., 2014). Theory, models and frameworks from the applied neurosciences fields of interpersonal neurobiology and neuropsychotherapy were particularly relevant for this study.

Drawing from neuroscience, the brain is heralded as the most complex and sophisticated entity on the planet, functioning as a highly networked exploration of its environment to meet its needs in order to survive (Badenoch, 2008; Kandel et al., 2012; Lieberman, 2013; Peyton, 2017; Scarlett, 2016; Siegel, 2012). Badenoch (2008, p. 44) describes the brain as a “symphony of unfolding complexity”. As environmental context changes, the brain adapts (Grawe, 2007).

One of the brain’s inherent characteristics is neuroplasticity, which refers to its capacity to learn, expand memory networks and change or adapt structurally and functionally to meet its needs (Brown et al., 2015; Grawe, 2007; Kandel et al., 2012; Kotter, 2017; Scarlett, 2016; Siegel, 2006, 2018; Swart et al., 2015). However, while the brain is able to change, how it changes and responds to, resists or assimilates change is shaped by the underlying neural mechanisms that an individual develops most influentially in early development, but also across the lifespan through relating with oneself, others and changing environments (Grawe, 2007; Rossouw, 2014; Siegel, 2001, 2006, 2012, 2017).

Conceptualising the brain as a dynamic and highly networked constantly evolving organism offers a valuable frame for consideration, because in order to survive, it is

itself a reflection of continuous emergent change, which is required for sustained human life and evolution (Kandel et al., 2012; Siegel, 2018). There is thus value in considering the experiences of emergent change in the organisational context through the lens of applied neurosciences.

3.2.1 Neuropsychotherapy and interpersonal neurobiology

Neuropsychotherapy expands on established psychological and psychotherapeutic literature and practice by integrating discoveries from neuroscience about how the brain functions and shapes human behaviour (Grawe, 2007; Rossouw, 2014). Neuropsychotherapy acknowledges the influence of experience on humans at multiple levels, including physiology, and explores new ways to shift how people experience and respond to changes in their environment based on the science of how the brain develops, functions and adapts within context and relationships (Grawe, 2007). The field and its findings are grounded in the therapeutic relationship between a therapist and a patient. The patient approaches the therapist with the desire to change an aspect of their experience of life, and the therapeutic relationship could thus be said to be an environment that is designed to facilitate and support adaptive emergent change in areas where it may be experienced as maladaptive (Grawe, 2007). This creates a bridge between neuropsychotherapy and emergent change research, as it explores many elements and expressions of human experience that are universal, taking the underlying neural mechanisms into account (Grawe, 2007).

Interpersonal neurobiology is a consilient, interdisciplinary field within applied neurosciences that draws on the fields of social science, psychotherapy, psychology, cognitive science, mathematics, psychopathology, physics, quantum physics and neurobiology to create a more holistic and integrated view of human experience, development and relationships (Siegel, 2012).

Interpersonal neurobiology is defined as a field that “explores the ways in which relationships and the brain interact to shape our mental lives” (Siegel, 2012, p. A1-42). It acknowledges that human existence is inherently and inseparably relational, and that in order to change behaviour, it is necessary to explore the underlying neural mechanisms that shape behaviour, as well as the environments and relationships that

also influence those mechanisms (Gantt & Cox, 2017; Miller & Barrio Minton, 2016; Peyton, 2017; Schore, 2013; Siegel, 2015, 2018).

Interpersonal neurobiology's focus on the brain, mind and relationships, as well as how they interact, complements the concept of the social brain that emphasises how the human brain is intrinsically wired to connect, interact and relate within environments (Graziano, 2013; Lieberman, 2013; Siegel, 2018). This suggests that relationships can, in their own way, also be seen as influential developmental environments that generate and respond to emergent change (Hamilton, 2015; Iacoboni, 2008; Lieberman, 2013; Siegel, 2018).

The field of interpersonal neurobiology differentiates between the brain and the mind. It proposes that the brain comprises the neurobiological mechanisms that function to ensure the survival of an individual through energy and information flow (Badenoch, 2008; Siegel, 2006, 2012). The mind is described as the emergent, embodied and relational processes experienced by an individual and also between individuals as shaped by the relationships that can regulate that energy and information flow (Badenoch, 2008; Siegel, 2006, 2012). In this way, interpersonal neurobiology frames the mind as a constantly adapting process of emergent change, directing and regulating energy and information flow through neurobiological and interpersonal processes (Siegel, 2001, 2006, 2012). Interpersonal neurobiology also emphasises how relationships can influence one's mind and brain as much as one's own mind can, underscoring the often neglected importance of relationships in human experiences (Siegel, 2018).

Neuropsychotherapy and interpersonal neurobiology thus offer a valuable lens through which to explore the impact that working environments, professional relationships and the experiences people have during emergent change at work can have on overall individual and team wellbeing, with both positive and negative effects (Scarlett, 2016).

3.3 THEORIES, MODELS AND FRAMEWORKS OF APPLIED NEUROSCIENCES

The applied neurosciences theories, frameworks and models that were relevant to this study are outlined and justified below. These theories, frameworks and models emerged from the applied neurosciences subfields of neuropsychotherapy and interpersonal neurobiology.

3.3.1 Cognitive Experiential Self-Theory of Personality

The Cognitive Experiential Self-theory of Personality (CEST) is an integrative theory founded on the need for differentiation and integration between two systems, namely the cognitive and experiential systems, to promote wellbeing, thriving and flourishing (Epstein, 2003).

CEST (Epstein, 2003) has three fundamental assumptions. Firstly, the preconscious experiential system and the conscious rational system interact with one another over the course of a human's life. Secondly, the emotions shape the experiential system, and their influence on the cognitive system has been traditionally underestimated, in both theory and practice (Epstein, 2003). Finally, CEST (Epstein, 2003) proposes that the way individuals respond within their environment is by meeting the four basic needs, namely pleasure maximisation and pain avoidance, control and orientation, attachment and self-esteem enhancement and self-esteem protection, and that each of the four needs are equally important.

The experiential system is said to be ancient and primitive, based in affect and the body, preconscious and automatic, and determines what gains one's attention dynamically in an adaptive way to meet one's basic needs (Epstein, 2003). In contrast, the rational system is a conscious, relatively young system that is highly analytical, cognitively demanding and affect free (Epstein, 2003). The need for differentiation and integration between these systems to create holistic wellbeing is echoed by other researchers (Arden, 2019; Levine, 2015; Seligman, 2012; Siegel, 2015, 2018; Van der Kolk, 2014).

If the influence of either of the systems is not acknowledged, then one can neglect factoring the impact of that system into the wider understanding of how one responds,

which can result in the fragmentation of experience (Epstein, 2003). For example, when one allows one's experiential narrative of a situation to emerge and be felt as well as reflected upon, it affords one the opportunity to heighten awareness and deepen one's understanding of oneself. By contrast, if one has a traumatic experience but does not take one's affective embodied experience into account, as well as reflecting on it cognitively, one may not be able to make sense of it and move beyond one's experience (Epstein, 2003; Levine, 2015; Van der Kolk, 2014).

Different people meet their needs in different ways, based on the patterns they have developed over time, so the way needs are experienced and met will directly influence their experience of and beliefs about the world (Epstein, 2003; Grawe, 2007; Siegel, 2017; Wallin, 2007). CEST (Epstein, 2003) proposes that one should not need to compromise on a particular basic need in order to meet another, but one's needs should ideally rather contribute to or complement each other. When a need is met, positive affect will be felt and when a need is unmet, negative affect will be felt (Epstein, 2003). In terms of behaviour, this means that in any situation, the way an individual responds will be to either approach or avoid something in order to meet their basic needs, and the direction they choose (approach or avoid) is referred to as a motivational schema (Epstein, 2003).

Behaviour overall is deemed to be a system by-product of need satisfaction prioritisation (Epstein, 2003). Epstein (2003) proposes that maladptive behaviour occurs when there is a discrepancy between past conditions and present ones. Behaviour is said to be adaptive when conditions in the present meet the conditions of the past (Epstein, 2003). The beliefs represented in the experiential system are developed from generalisations made in emotionally significant past experiences (Epstein, 2003; Levine, 2015). These highly affective implicit beliefs lead to motivational approach or avoidance schemas about oneself, others and how they should relate to each other and the world (Epstein, 2003).

Table 3.1 below outlines the basic psychological needs and the corresponding underlying belief spectrums about the world that can be developed, based predominantly on early childhood development, as well as other interactions and relational experiences across the lifespan (Epstein, 2003). This was relevant to the current study, as the motivational schema each individual develops to meet their basic

needs correlates with a belief about those needs, which could be threatened or supported during emergent change.

Table 3.1

Basic Psychological Needs and Corresponding Belief Spectrum (Adapted from Epstein, 2003, pp. 159–184)

Need	**Corresponding belief spectrum**
Control and orientation/reality as a stable and coherent conceptual system	See reality as: Meaningful ←→ meaningless Predictable ←→ unpredictable Controllable ←→ uncontrollable
Attachment/relatedness	See people as: Helpful and trustworthy ←→ dangerous and untrustworthy Loving ←→ rejecting
Self/need for self-enhancement	See the self as: Worthy ←→ unworthy Competence ←→ incompetence Moral ←→ immoral Strengths ←→ weaknesses
Pleasure maximisation/reward and pain avoidance	See situations as: Benign ←→ malevolent Good ←→ bad Safe ←→ unsafe

Epstein (2003) discusses how there can be a discrepancy between the perceived situation and the perceived ability to handle it, and refers to insurmountable discrepancies as unassimilable events, which an individual will avoid in order to survive. If the situation is perceived to be within the spectrum of one's abilities, there will be a positive response and it creates an approach motivational schema (Epstein, 2003).

Once a particular way of responding becomes a habit, it shifts to the experiential system from the rational system, using less cognitive resources and thus freeing them up to focus on other areas (Epstein, 2003). If employees have a habit of being avoidant when it comes to emergent change at work, it will be acted out mainly in their

experiential system, and they will likely not be fully or consciously aware that they are doing so, as it may be their default response. CEST (Epstein, 2003) introduces a framework, that when applied to emergent change, suggests that how individuals experience emergent change is a reflection of how they are meeting their basic needs through their chosen motivational schema. This brings the basic psychological needs and the motivational schema developed to satisfy them to the forefront of consideration.

3.3.2 Consistency-Theoretical Model of Mental Functioning

Building on Epstein's (2003) theory described in section 3.3.1 above, Grawe (2004, 2007) developed the Consistency-Theoretical Model of Mental Functioning which was relevant as a meta-theory in this study (as described in section 1.7), and is depicted in figure 3.1 below.

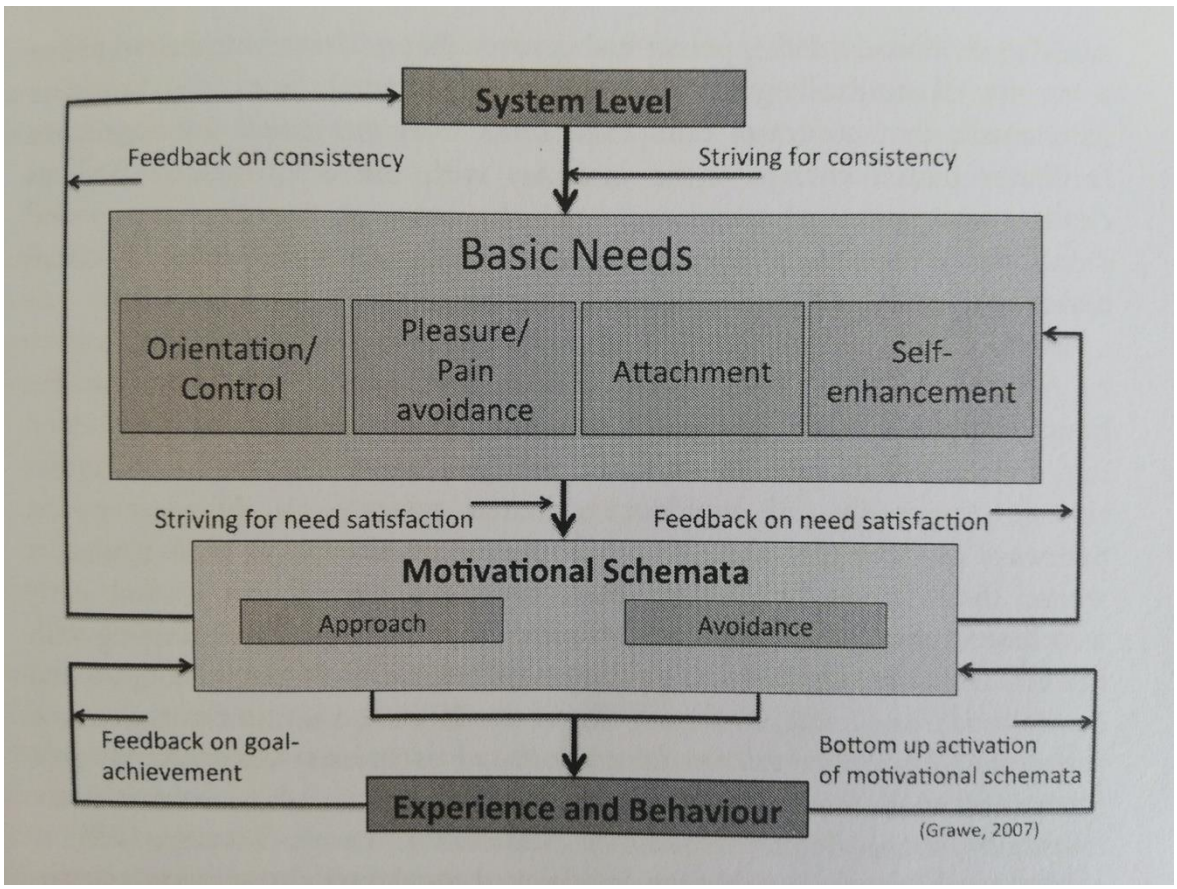


Figure 3.1. Consistency-Theoretical Model of Mental Functioning
(Grawe, 2007, p. 171)

This model suggests that human behaviour is motivated to meet the four basic psychological needs, supporting the work of Epstein (2003) described in section 3.3.1, in order to maintain consistency, which is defined as the compatible alignment between mental processes happening within an individual simultaneously (Grawe, 2007). Both Epstein (2003) and Grawe (2007) propose that these needs are met through approach or avoidance motivational schemas. Epstein (2003) posits that the four basic psychological needs are on an equal level, whereas Grawe (2007) argues that the self is a more complex, uniquely human need. However, in his model, Grawe (2007) did not show the self as a higher-order need.

According to Grawe (2007), incongruence occurs when there is a discrepancy between goals and how one perceives reality. This incongruence is deemed to enforce the neural change required in an attempt to restore congruence (Grawe, 2007). Incongruence can be a highly distressing experience (Grawe, 2007). It activates the amygdala, which triggers the threat system and floods the body with stress hormones and chemicals that can, if chronically experienced, cause neurophysiological damage and compromise how an individual interacts with their environment (Grawe, 2007). This cascade of events can have direct negative consequences for one's health, relationships and experience of wellbeing (Grawe, 2004, 2007; Scarlett, 2016; Seligman, 2012; Siegel, 2018).

According to Grawe (2007), there are three ways to experience inconsistency, namely approach incongruence (where one uses an approach schema but is unsuccessful), avoidance incongruence (where one tries to avoid something one fears but fails to do so) and discordance (where multiple motivational schemas are triggered simultaneously in conflict with one another, and overall harmony is disturbed).

Grawe (2007) explicitly acknowledges that if one or more needs are not met, the regulation to try and meet them tends to happen at an unconscious level, and the strategies and mechanisms chosen to try to restore consistency may therefore be maladaptive and beneath awareness.

3.3.3 Integrated Model of the Base Elements of the Theory of Neuropsychotherapy

Building on the work of Grawe (2007), Rossouw's Integrated Model of the Base Elements of the Theory of Neuropsychotherapy (2014) expands it to explicitly include safety as a basic need and environmental considerations as key constructs in the model, which are depicted in figure 3.2 below. It also acknowledges that Grawe's (2007) model may have oversimplified the complexity of how the neural networks associated with each basic psychological need may overlap and interact, and that the motivational schema operate at different levels of consciousness (Rossouw, 2014).

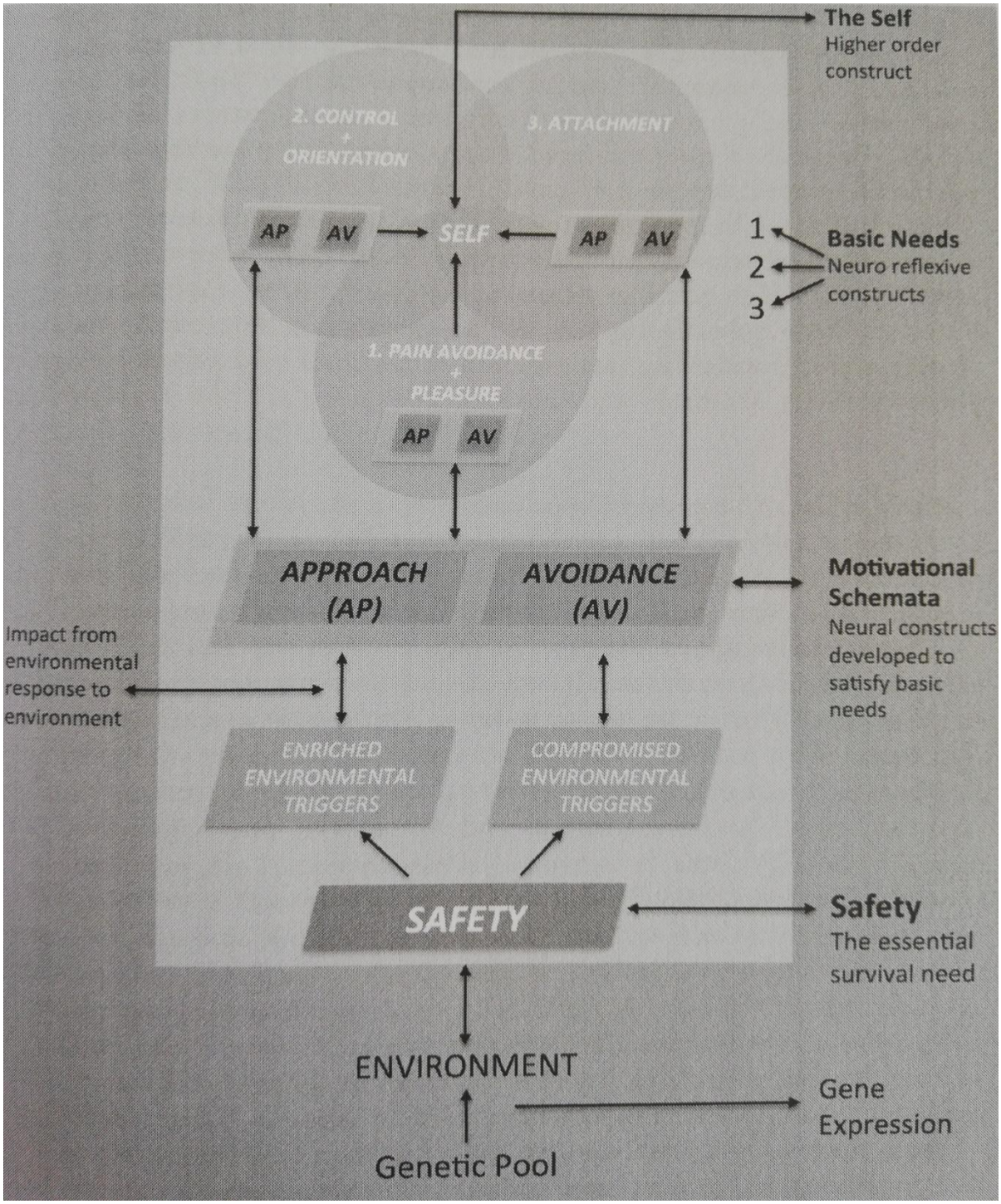


Figure 3.2. Integrated Model of the Base Elements of the Theory of Neuropsychotherapy (Rossouw, 2014, p. 57)

Rossouw's (2014) model begins at the lowest level by acknowledging the unique gene expression of an individual and then introduces the need for safety, emphasising its importance in attaining and maintaining wellbeing. The model then goes on to explicitly recognise the influence of environmental triggers (either enriched or compromised) on

how an individual responds (Rossouw, 2014). At the next level of the model, motivational schemas are introduced, referring to the specific neural mechanisms and patterns that lead to approach behaviour or avoidance behaviour in a particular situation, in order to meet the basic psychological needs, which are presented at the next level of the model (Rossouw, 2014). The conceptualisation of the self is further refined as Rossouw (2014) positions the self as a higher-order construct in the model, which Grawe (2007) did not, as discussed in section 3.3.2, highlighting a discrepancy between the two models. Rossouw (2014, p. 32) went on to refine the conceptualisation of the self as an "emergent property of the other needs". He also reflected in the model (Rossouw, 2014) that there can be an approach or avoidance motivational schema for each of the needs.

In comparison to the models discussed in 3.3.1 and 3.3.2, this model offers a more holistic approach to the integrated considerations of the underlying neural mechanisms that shape human experience and behaviour.

Each of the constructs of Rossouw's (2014) model are discussed below.

3.3.3.1 Genetics

At a formative level, genetics plays a key role in how an individual experiences and responds to their environment and thus emergent change within an environment, shaped significantly in early childhood development but also across the lifespan (Arden, 2019; Grawe, 2004; Kandel et al., 2012; Rossouw, 2014; Siegel, 2018).

Epigenetics is defined as the way genes are expressed or suppressed, depending on environmental factors, and they can change over time based on experiences, interactions and relationships (Epstein, 2003; Grawe, 2007; Henson & Rossouw, 2013; Kandel et al., 2012; Rossouw, 2014). This adaptive epigenetic expression, in turn, can change neurological wiring, behaviour and predispositions for oneself, as well as generations to come (Kandel et al., 2012). Emergent change environments therefore generate new experiences that can change how an individual's genes are expressed or suppressed, for better or for worse.

3.3.3.2 Safety and environmental triggers

Safety is an essential need that contributes directly to human survival and wellbeing (Brown et al., 2015; Garland et al., 2010; Grawe, 2007; Kandel et al., 2012; Rossouw, 2014; Siegel, 2017; Wallin, 2007). When individual safety is perceived to be threatened, the brain experiences anxiety and cannot access its full cognitive capacity and higher-order executive functions owing to redirecting resources towards supporting the body to react in response to the threat, with the sole purpose of trying to ensure survival (Grawe, 2007; Rossouw, 2014; Scarlett, 2016; Siegel, 2012). In this way, if safety is compromised, then it is likely that the four basic psychological needs will also be compromised to some degree (Rossouw, 2014). Individuals may respond to what they perceive to be a threatening experience to protect themselves with fight, flight, freeze or flock, and if this state is sustained for extended periods of time, it can change the neural structures in the brain and become a new habit or default response (Grawe, 2007; Rossouw, 2014; Siegel, 2012). Thus, one's sense of safety directly influences one's self-resourcing capacity in times of stress or change (Scarlett, 2016).

It is useful to differentiate between safety and the perception of safety, as humans tend to respond on the basis of their perceived level of safety in a situation, rather than whether or not it is objectively safe (Grawe, 2007; Rossouw, 2014). When there is a discrepancy between perceived safety and actual safety, it can be experienced as incongruence (Rossouw, 2014). Relationships are thus essential facilitators, influencers and regulators of perceived safety, as one team member is able to witness, support and offer alternative perspectives to another, which would likely influence their perception of safety (Peyton, 2017; Scarlett, 2016). Grawe (2007) and Rossouw (2014) approach this from a neuropsychotherapeutic perspective, but it has significant salience in organisations too, where the organisation functions through constant interaction, collaboration and relating. These relational interaction points offer opportunities to influence how safety is perceived, created or threatened (Scarlett, 2016). Schore (2013, p. 33) refers to primary caregiver relationships as "environments of evolutionary adaptedness" (EEA's). Applied to the context of this study, the workplace is an environment, and the relationships within it also can function as embedded environments. The perception of safety will directly influence how individuals and teams experience their environment, which in itself can be either an

enriched or a harmful environment. Rossouw's model (2014) acknowledges that relationships and environments can influence epigenetic expression or suppression.

3.3.3.3 Motivational schemas

As discussed in sections 3.3.1 and 3.3.2, motivational schemas are the underlying neural networks that drive human behaviour in order to meet basic psychological needs, and they are shaped by epigenetic factors, one's perception of safety and the surrounding environment (Grawe, 2007; Henson & Rossouw, 2013; Rossouw, 2014). These patterns develop initially in early childhood and are impacted heavily by a child's primary caregiver, with effects through into adulthood, at which point they can still be influenced by corrective or traumatic experiences, as well as interactions and relationships with oneself, others and the environment (Grawe, 2004, 2007; Rossouw, 2014).

a Approach motivational schema

Throughout life, but especially in childhood, when basic psychological needs are consistently met in an environment for a particular individual, it is likely that they will develop an approach motivational schema (Grawe, 2004, 2007; Rossouw, 2014). This means that they are likely, across the lifespan, to try to meet their goals by approaching or moving towards them with a relatively clear idea or vision of what they are aiming for (Grawe, 2007). If an individual has an approach motivational schema, when they have an unmet need, they have an underlying belief that they are able to exert their efforts in attempt to satisfy that need (Epstein, 2003; Grawe, 2004, 2007; Rossouw, 2014).

b Avoidance motivational schema

If basic psychological needs are regularly unmet, compromised or violated in formative years and past experiences, children can develop a neural network or motivational schema of avoidance, where they actively avoid or move away from what they fear may violate their needs (Grawe, 2007; Rossouw, 2014). This means that while they remain fixated on what they want to avoid, there is a diminished sense of control, as it is unclear in what direction they need to go other than "away". This leads to a heightened experience of stress and anxiety because they constantly aim to avoid

something, rather than reaching a goal and moving on to another one when it has been achieved (Grawe, 2007). Avoidance schemas are therefore resource intensive and cognitively demanding (Grawe, 2007). Individuals may also become stuck in a self-perpetuating negative pattern of keeping their own needs unmet under constant threat and feeling unsafe, which, over time (especially if it becomes chronic), can have highly destructive impacts on their brain structures, nervous system and immune system (Grawe, 2007; Rossouw, 2014).

An individual may have an avoidance and an approach schema for different needs at the same time. If someone has an approach goal to meet a particular need, they may have an avoidance goal about another, and could have different schemas about the same needs in different situations (Grawe, 2004; Rossouw, 2014).

c Incongruence

Similar to Grawe (2007), Rossouw also acknowledges the importance of incongruence in shaping motivational schema. Incongruence occurs when there is a difference between one's perception or expectations of a situation, and what actually happens (Grawe, 2007; Rossouw, 2014). If there is a difference between reality and perception, it can lead to goals being unmet or violated (incongruence), whereas if reality and perception are aligned, goals can be achieved and needs are satisfied (congruence) (Grawe, 2007). Naturally, one's experience of and response to a situation will change depending on whether one experiences incongruence or congruence (Csikszentmihalyi, 2008; Rossouw, 2014).

Incongruence is a highly resource-intensive process, and the brain is wired to prioritise the allocation and mobilisation of resources towards eliminating incongruence (Grawe, 2007; Rossouw, 2014).

When needs are compromised or violated and individuals experience incongruence, this discrepancy can either be experienced as controllable when they believe they have the capacity to choose an action that will help them to regain control and satisfaction, or incontrollable when they believe that their basic needs will remain unmet (Grawe, 2007). The motivational schemas are intrinsically linked to the idea, sense and experience of control in order to meet one's own needs through certain behaviours (Rossouw, 2014). This highlights the integrated nature of the basic

psychological needs of humans, how they interact and how they shape individual goals to be approach or avoidance based.

According to Liebhart and Garcia-Lorenzo (2010), individuals in organisations aim for a state of thriving that is asymptotic (never fully achieved), which implies that there is an ongoing need to grow and evolve. This would reflect as a level of controllable incongruence, if individuals feel that they have the capacity and agency to take action towards the goals they can achieve (Rossouw, 2014). This highlights how incongruence is not necessarily negative, and may in fact drive development (Rossouw, 2014). In contrast, it would present as incontrollable incongruence if they believed it was not possible, which Epstein (2003) refers to as an unassimilable event. This could present as an avoidant motivational schema, which would prevent them from even trying to achieve the goal.

3.3.3.4 Basic psychological needs

The way an individual responds to their evolving environment, and by implication also emergent change, is in order to meet their basic needs (Epstein, 2003; Grawe, 2007; Henson & Rossouw, 2013; Rossouw, 2014).

Grawe (2007, p. 167), from a neuropsychotherapeutic perspective, describes the basic psychological needs as “needs that are present among all humans, and their violation or enduring nonfulfillment leads to impairments in mental health and well-being”. The needs may be referred to as basic (as in fundamental and present in all humans), and yet they are paradoxically complex and sophisticated (Grawe, 2007; Rossouw, 2014). None of the needs are to be seen in isolation, but rather as an intricately nuanced system network of constantly interacting needs where they may be complementary or contradictory and conflicting (Rossouw, 2014). Each of the needs engages different circuits in the brain when activated, even though they are often activated simultaneously (Grawe, 2007; Rossouw, 2014), so each one needs to be considered separately as well as in relation to the others. The ideal situation is for all of the basic needs to be satisfied, which is referred to as “complete congruence” (Grawe, 2007, p. 216). However, the needs may often compete or trade off with each other for attentional resources, and their interactions are rather complex and not always managed in the explicit realm where volitional control can be exerted (Grawe,

2007). It has been suggested that people tend to overestimate how substantially their basic needs are being satisfied, which means that because of the ongoing incongruence, there may be an implicit, unconscious or preconscious low-lying level of anxiety that an individual may not be aware of, let alone understand or be consciously able to notice, let alone change (Epstein, 2003; Grawe, 2007).

If the basic needs are unmet, the brain is wired to prioritise trying to satisfy them, and both resources and focus will be channelled in that direction (Grawe, 2007). This can compromise one's ability to think freely and creatively about other things, which is a requirement for being flexible, adaptable and innovative in times of rapid change (Csikszentmihalyi, 2008; Goleman, 2013; Scarlett, 2016). This highlights the importance of the basic needs in a context of emergent change, and they are described below.

a Attachment

Attachment is not only a basic psychological need. It begins as a biological one, as children initially rely entirely on their primary attachment figure to meet all their needs and without that attachment, they cannot survive (Grawe, 2007; Schore, 2017; Wallin, 2007). Owing to the full dependency and reliance on these primary caregiver relationships and the developmental stage of the brain in this formative time, the attachment patterns formed in early development become a blueprint for how individuals relate to themselves, others and the world around them (Grawe, 2007; Rossouw, 2014; Siegel, 2017; Wallin, 2007).

Attachment theory describes how human attachments in childhood between an infant and their primary caregiver can be secure or insecure (Schore, 2017; Siegel, 2012; Wallin, 2007). Secure attachments are characterised by a sense of security, where the child trusts that the parent will be there for them and that their needs will be met, which develops an approach motivation (Grawe, 2007), reflects neural integration and enhances overall wellbeing (Siegel, 2012). Insecure attachment is divided into three generalised categories. Avoidant attachment occurs when a child seem to avoid reconnecting with their primary caregiver after a time of separation (Rossouw, 2014). Ambivalent attachment occurs when a child presents as being needy after separation (Rossouw, 2014). Disorganised attachment occurs when the primary caregiver is both

the source of terror and soothing for an infant, and their system experiences immense conflict internally from avoidant and approach motivational schemas being simultaneously activated yet in opposing directions (Rossouw, 2014). Epstein (2003) refers to this as an unassimilable event, while Grawe (2007) refers to discordance and a sign of inconsistency in mental functioning. This form of attachment has the worst impact on children, often reflects trauma and can lead to dissociation and even psychopathology later in life (Schore, 2017; Siegel, 2015; Wallin, 2007).

Attachment relationships look markedly different between a child and their primary caregiver in early development years and between adults in an organisation where they are less dependent, but the formative relationships of childhood do significantly influence an adult's state of mind as well as their behavioural and relational predispositions (Siegel, 2012; Wallin, 2007). Attachment theory conceptualises humans as fundamentally relational beings who develop through interaction with their inner and outer environments, including the people around them (Arden, 2019; Grawe, 2007; Kandel et al., 2012; Wallin, 2007). Relationships remain essential for human health throughout life, and the absence or rupture of relationships has been linked to physiological issues such as neurological and cardiovascular abnormalities, inflammation and immune system compromise (Arden, 2019; Siegel, 2018). For example, if neglect occurs in early childhood, it can predispose an individual to be more sensitive to stress and more easily triggered as an adult, both of which are reflections of physiology that has adapted to protect itself through hyper-reactivity and distress in anticipation of needs not being met (Arden, 2019). However, if relationships are healthy, this is deemed to contribute towards longevity, neuroplasticity (as discussed in section 3.2) and the growth of new neurons, also known as neurogenesis, which promotes brain health and learning (Arden, 2019; Siegel, 2018).

b Control and orientation

Grawe (2007) considers control to be the most fundamental basic need, in the sense that if an individual cannot control their environment to a certain degree, they may not survive. As an individual interacts with their environment and experiences events, this shapes their motivational schemas and thus how they learn to manage and regulate their environment, which become established as patterns and expressed as an exercise of control in their lives (Grawe, 2007). Individuals are more likely to approach

and engage in action that increases their sense of perceived control (Grawe, 2007). For example, during infancy, as children interact with people and their environment, they are reliant on their primary caregiver to meet their needs. They develop a set of expectations around environmental predictability and a belief system about their ability to control a situation to satisfy their needs, initially through their caregiver (such as crying until they are fed by their mother), and later ideally to identify and meet their own needs, if they develop in a healthy way (Grawe, 2007). If the need for control and orientation is repeatedly violated in early childhood, an individual is more predisposed towards developing anxiety and depression later in life, as depression is an advanced aversive response to high stress and control violation (Grawe, 2007; Wallin, 2007).

If someone can experience incongruence, be challenged by it and move through it with agency, there is the potential for significant positive effect (Grawe, 2007). “If a person is exposed again and again to complex, multifaceted challenges, then this leads via the formation of ever more complex and differentiated neural circuits to an optimal expression of the person’s genetic potential. Without the acceptance of such challenges, the genetic potential of the person would not be fully exploited” (Grawe, 2007, p. 222). Increasing complexity itself could therefore be seen to be a key evolutionary driver of individual and collective development, if there is an underlying sense of safety (Grawe, 2007).

While an organisation is certainly not responsible for the early childhood development of formative blueprints around responses to a lack of control and orientation, companies do need to be mindful of the gravity of this basic need and to be aware of how individuals and teams experience threats to or satisfaction of this need. The brain does not necessarily distinguish between real and perceived threats – hence the importance of the perceived control in an organisation (Goleman, 2013; Levine, 2015; Van der Kolk, 2014).

Focus can be seen as a self-directed, productive extension of the need for control and orientation through the intentional application of one’s own attention in a particular direction (Goleman, 2013). The word ”attention” is derived from the word Latin word, *attendere*, which means to reach towards or, in other words, to apply an approach motivational schema towards whatever one chooses to focus on (Goleman, 2013). In times of increased connectivity and constant demands for attention being placed on

employees by tasks, clients and colleagues, focus is a vital act of control for individuals and teams in the modern workplace. Experiencing focus could therefore mitigate against the forces of emergent change, but could also be threatened by experiences of emergent change.

c Pleasure maximisation and pain avoidance

This basic psychological need relates to the fundamental human drive to evaluate whether situations are “good” or “bad” overall (determined subjectively and largely implicitly per individual), and to try to create more pleasure-maximising experiences and fewer pain-generating experiences (Grawe, 2007; Rossouw, 2014).

Pleasure has been identified as a natural aspect of wellbeing (Berridge & Kringelbach, 2008). One is said to be experiencing an optimised level of this pleasure when one experiences a level of congruence between what one perceives and what one strives to achieve (one’s goals), which means that there is not a cognitive overload or contradiction, and this saves neurological processing energy (Garland et al., 2010; Grawe, 2007; Rossouw, 2014).

In an organisation, some individuals may have a positive experience of emergent change and may thrive on it, emotionally tagging it as helping to increase their enjoyment, development or satisfaction, activating the reward system in the brain, creating overall benefit (Grawe, 2007). However, another individual, because of their past experiences, may experience change as threatening and distressing, and may do all within their power to avoid that pain and by extension, to avoid the change (Scarlett, 2016).

There are distinct psychological and neurobiological mechanisms and networks that are activated in pursuit of pleasure maximisation and pain avoidance, at both conscious and subconscious levels, highly motivating this need (Berridge & Kringelbach, 2008; Grawe, 2007; Rossouw, 2014). When an individual needs to choose what is important for them, it activates the reward and salience networks in the brain, which triggers a cascade of neurochemicals, most commonly dopamine, as well as signaling network activations in the wider limbic area (Arden, 2019; Garland et al., 2010; Grawe, 2007; Waldman, Ward, & Becker, 2017).

Research has been conducted on threat learning, which refers to how individuals can learn from pain (Berret et al., 2019). Findings suggest that the insular cortex is instrumental in the process and experience of pain, as well as the motivational aspect of learning from pain that is perceived as a threat (Berret et al., 2019). While traditional theory and evidence widely accept that humans try to maximise pleasure and minimise pain experiences, evolution reflects that humans also can and do learn through threatening, challenging and/or painful experiences (Berret et al., 2019). This could occur at a physiological level, such as a child touching a hot plate and not doing it again because they were hurt (considered to be adaptive behaviour), or at a psychological level, such as in a workplace where an employee encounters emergent change, feels threatened by it but realises that they have agency and can learn from it, and approaches the experience with that narrative and a level of change efficacy (also an adaptive behaviour).

d The self: Self-esteem enhancement and protection

There is a general tendency among humans to protect and enhance self-esteem, whether it is sourced implicitly or explicitly, and it has been referred to as being the only uniquely human basic psychological need (Grawe, 2007). Grawe (2007) and Rossouw (2014) suggest that the concept of the self is more complex than the other basic psychological needs described above.

Supporting the suggested higher-order construct of the self, the brain has highly complex neural networks that manage the feedback mechanisms involved with regulating self-esteem (Rossouw, 2014). In order to explore and explain the concept of self, one is generally required to reference the other basic psychological needs, highlighting the integrated and connected way in which they impact each other in order to create a sense of self (Rossouw, 2014). Behaviours enacted to enhance one's self-esteem can look rather different to behaviours to protect one's self-esteem, as the former is approach-motivated, and the latter is avoidance-motivated (Grawe, 2007).

Applying the lens of interpersonal neurobiology to the self, Siegel (2012) proposes that the self is an emergent, embodied and relational process. This highlights the importance of considering the experiential aspects of the self, acknowledging its changing nature and being aware that it is influenced through interactions,

relationships and emergent change. Siegel (2012) discusses how one can extend the self to help others, which activates the reward system that generates dopamine, and can improve immune system functioning. Since Rossouw (2014) also postulates that the self is an emergent by-product of the other needs, if any or all of the other needs are compromised during emergent change, it suggests that the higher-order construct of the self may be in flux more now than in the relatively more stable environments of the past. This could challenge or perhaps compromise one's basic psychological need for self-esteem enhancement and protection, owing to an increasingly fluid experience of self, and when the self is threatened, all the other basic psychological needs are, to a degree, threatened too.

This basic psychological need for self-esteem enhancement reflects the human capacity for intentional and conscious individual self-awareness as well as the ability to reflect on oneself and others, which are both prerequisites for self-esteem (Grawe, 2007).

3.3.4 Interoception and neuroception: The physical and neurobiological experiences of emergent change

Interoception is the ability to be aware of and physically feel one's internal sensations during one's experiences (Badenoch, 2008; Siegel, 2012, 2018). It has been suggested that developing sensitivity towards the inner signals of the body is vital for health and has been described as a gateway to less conscious aspects of experience (Payne et al., 2015; Siegel, 2018). During emergent change, interoception would present as the sensations one would experience, such as an increased heart rate or feeling of tension (Levine, 2015).

Porges (2004, p. 19) pioneered the concept of "neuroception", which refers to how humans evaluate the relative safety of a situation. He suggests that there are different neurobiological patterns that fire, depending on whether an experience is determined to be safe, dangerous or fatal (Porges, 2004). According to Porges (2004), if one's neuroceptive abilities are ineffective or function suboptimally, it can cause dysfunctional patterns and even pathological disorders as it puts one's system under immense pressure if there is a constant sense of danger. The ability to accurately assess situational safety is influenced by one's capacity to accurately identify,

differentiate and integrate internal (sensations and emotions) and external (information through inquiry) sources of information (Payne et al., 2015; Porges, 2004; Siegel, 2018). If this capacity is compromised, it impacts how individuals experience a situation, the resources available to them and how they engage with it (Levine, 2015; Porges, 2004; Rossouw, 2014; Scarlett, 2016; Siegel, 2018; Van der Kolk, 2014). Neuroception therefore requires attendance to one's interoception (Porges, 2004). Neuroception also has direct relevance in the context of emergent change, as change could threaten one's sense of safety, or one could interpret emergent change as unsafe because of the perception that it could compromise one's needs and cause unpleasant experiences. This aligns with Rossouw's (2014) Integrated Model of the Base Elements of the Theory of Psychotherapy, which specifically highlights safety as a key construct in the model owing to its influence on one's capacity to meet one's needs healthily within an environment.

3.3.5 Memory systems and mental operating networks

Based on the internal model individuals have developed over their lifetime about their relationship with emergent change, influenced by the factors discussed in chapter 3 thus far, they will have encoded memories about those experiences at various levels, both consciously and subconsciously. These memories will be triggered during subsequent emergent change experiences, and the new experiences will either reinforce the narrative of those memories or create new ones (Arden, 2019). The way emergent change experiences are encoded as memory, with their corresponding sensations, emotions and narratives, will influence overall wellbeing, making memory systems highly relevant to this study.

Theory on memory systems describes how memory is encoded first at the implicit, least conscious level and then at the explicit, more conscious level (Levine, 2015). The implicit level is also known as non-declarative (Arden, 2019). It has a procedural element, referring to "body memories" or how the experience was encoded in the body as somatic experience, as well as an emotional element, referring to the emotions attached to an experience (Levine, 2015, p. 28). The procedural, somatic elements of memory are said to be generalised and relate to survival, both individually and socially, and thus function at a deeper level than emotional elements of memory, even though it has been suggested that procedural and emotional elements can "co-mingle"

(Levine, 2015, p. 28). Levine (2015) expands on the procedural elements of memory, dividing them into three categories of action patterns: Learned motor actions, emergency responses for survival and decisions about approach or avoid motivational schema, which links this theory to the work of Epstein (2003), Grawe (2007) and Rossouw (2014). Habits that are either adaptive (beneficial) or maladaptive (costly) for an individual are said to be embedded in the implicit level of memory systems, and are thus challenging to shift because they are beneath conscious awareness (Arden, 2019). It has been widely accepted in applied neurosciences that it is essential for wellbeing to differentiate and integrate sensations and emotions, which have been described as an inner compass that can prompt and point towards what people need (Arden, 2019; Levine, 2015; Siegel, 2018). This will apply saliently during times of emergent change.

The explicit level of memory encoding occurs at an episodic or autobiographical level, connecting the implicit realm to the explicit realm through a rich narrative influenced by context, as well as a declarative level that can be easily and deliberately recalled consciously (Levine, 2015).

This echoes Epstein's (2003) CEST model (see section 3.3.1), which differentiates between the cognitive and experiential levels of human existence, and references how the experiential level (implicit procedural and emotional aspects of memory) encodes more deeply and subconsciously. This drives responses in ways that may not always be available in conscious, cognitive awareness (explicit episodic and declarative aspects of memory) (Epstein, 2003).

Literature refers to three significant mental operating networks, namely the salience network, the default mode network (DMN) and the executive network (Arden, 2019).

The salience network refers to the neurobiological regions and circuits involved in having a physical and emotional experience of life within an environment (Arden, 2019). Feeling, identifying, accepting and approaching one's somatic and emotional elements of experience (interoception) has been found to influence one's sense of self,

decrease a sense of anxiety and panic in the nervous system, and help to inform the next best course of action (Arden, 2019; Siegel, 2018). The salience network draws on the implicit memory system, at the procedural and emotional level (Arden, 2019).

The DMN refers to brain circuitry that enables the human capacity to ruminate and reflect on oneself and relationships with others, looking back to the past as well as projecting into the future (Arden, 2019). This network forms narratives about experiences retrospectively as a process of sense-making, but is not active during the experience (Arden, 2019).

The executive network refers to the circuits involved in being present and higher-order functions such as decision making, planning and goal-oriented behaviour (Arden, 2019). The DMN and the executive network draw on the explicit memory system, at the episodic and declarative level (Arden, 2019).

Regulation and balance between all three systems is required on an ongoing basis in order to maintain healthy overall functioning, and dysregulation can lead to overall dysfunction, and in extreme cases, disorder or pathology (Arden, 2019).

In the human experience of emergent change at work, these three networks will be involved to varying degrees for different people, and each individual will have a different balance of integration between the networks, influencing their response to emergent change.

3.3.6 The Triangle of Wellbeing

Siegel's (2012) Triangle of Wellbeing (see figure 3.3 below) is a metaphor representing how the brain, the mind and relationships interact and integrate through the flow and sharing of energy and information. The Triangle of Wellbeing (Siegel, 2012) proposes that the three elements are interdependent and function together as a whole system process, and that overall wellbeing requires health in each area.

According to the Triangle of Wellbeing (Siegel, 2012), the brain refers to how energy and information flow through the entire body via the nervous system. The mind refers to the emergent, embodied and relational process of energy and information flow and its regulation through monitoring and modification (Siegel, 2012). Relationships refer

to the sharing and exchange of energy and information flow between people (Siegel, 2012).

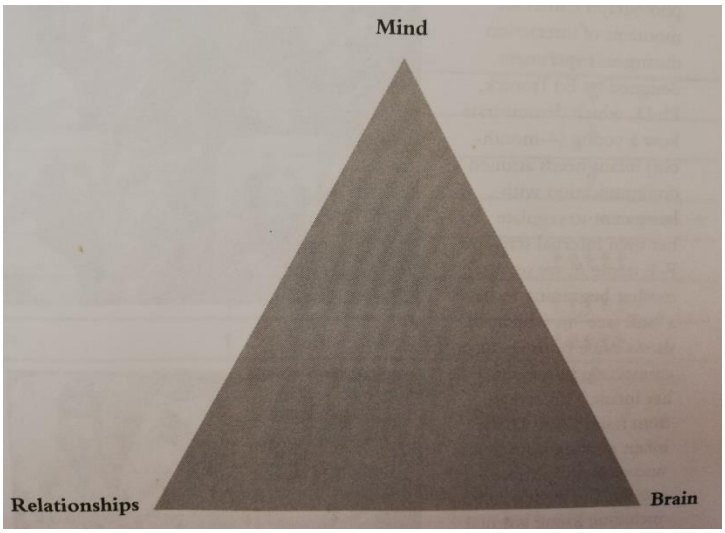


Figure 3.3. The Triangle of Wellbeing (Siegel, 2012, p. F-7)

In environments characterised by emergent change, the experiences individuals and teams have will impact the brain, the mind and relationships on an ongoing basis, and thus either contribute to or compromise wellbeing (Siegel, 2012). This creates an important link between wellbeing and emergent change. Humans need to also maintain health in all of these three areas consistently for sustained overall wellbeing, which can be challenging amidst emergent change when their basic needs may be perceived as being threatened (Siegel, 2012). If wellbeing is compromised in one area, it can lead to chaos, rigidity and a lack of harmony in all areas, which could heighten one's sensitivity to and triggering during emergent change (Siegel, 2012). However, when health improves in one area, the other areas benefit too, and when there is overall wellbeing, it is likely that one would be more resilient in the face of emergent change (Siegel, 2012).

The Triangle of Wellbeing (Siegel, 2012) also raises the significance of relationships as environments and facilitators of emergent change. This integrates well with discoveries in neuroscience about the mirror neuron system and mirror neurons, which enable an individual to mentally map the motor experience of another through merely witnessing them performing an action (Graziano, 2013; Iacoboni, 2008). Thus, if individuals at work in a team environment see someone responding to emergent

change in a certain way, by merely witnessing (as well as possible relating and feedback to follow), it could become possible for them to change their own way of responding.

The definitions of the brain, mind and relationships presented in the Triangle of Wellbeing (Siegel, 2012) link individual functioning to the functioning of those with whom one relates, suggesting that if an individual's functioning is compromised, a team's functioning can also be compromised and vice versa.

The definition of the mind in particular offers almost a mirrored definition of the self (discussed in section 3.3.3.4d) as an emergent, embodied, relational process (Siegel, 2012). This echoes change literature discussed in section 2.3, where emergent change is described as a process (Bushe & Marshak, 2016), organisational change is reframed as an inherently relational organisational changing process (Worley & Mohrman, 2014) and organisations are referred to as organising process verbs (Bakken & Hernes, 2006).

There is a strong emphasis not only on the power of relationships to directly influence the mind, the structure of the brain and the functioning of the body, but also on how each element relates to the other through energy and information flow (Siegel, 2012). In the context of emergent change, a natural by-product is that change will be experienced in the brain, mind and relationships. While the process nature and reciprocally influencing characteristics of the elements of the Triangle of Wellbeing (Siegel, 2012) can pose some challenges, they also present opportunities and possibilities.

3.3.7 The Plane of Possibility

Siegel (2012, pp. 21–12) suggests that by interacting and relating differently through intentional engagement with the brain, mind and relationships, humans can "inspire to rewire", opening doors of possibility about how to respond consciously to situations rather than to react unconsciously. Through everyday interactions, change is not only possible, but is also inevitable (Siegel, 2012).

The Plane of Possibility (Siegel, 2012) is a model that reflects two dimensions of human experience, namely subjective experience and the neural firing that underlies

it (see figure 3.4 below). These two dimensions are plotted on a three-dimensional graph of time (x axis), probability (y axis) and diversity (z axis) (Siegel, 2012). The Plane of Possibility (Siegel, 2012) proposes that probability is a far more realistic consideration than certainty when it comes to human experience, which interpersonal neurobiology conceptualises as an ongoing process and is therefore constantly changing.

The open Plane of Possibility represents the place where there is infinite potential and all things are possible (Siegel, 2012). The plateaus of probability represent an increased likelihood of occurrence, owing to neural wiring, behavioural patterns or predispositions (Siegel, 2012). The peaks of activation occur at 100% probability, when something has actually happened, such as a feeling, an emotion, a thought or an action (Siegel, 2012). These peaks are more likely to occur if there are established plateaus of probability from which they emerge, as one is primed to respond in certain ways (Siegel, 2012). If an individual is predisposed towards certain behaviours and their reactive habits are deeply engrained, this will reflect beneath the open plane of possibility, as it is beneath the level of consciousness (Siegel, 2012). In this way, the patterns of neural firing are rigid and highly efficient, and will predetermine how someone will respond, unless their level of awareness and direction of attention changes (Siegel, 2012).

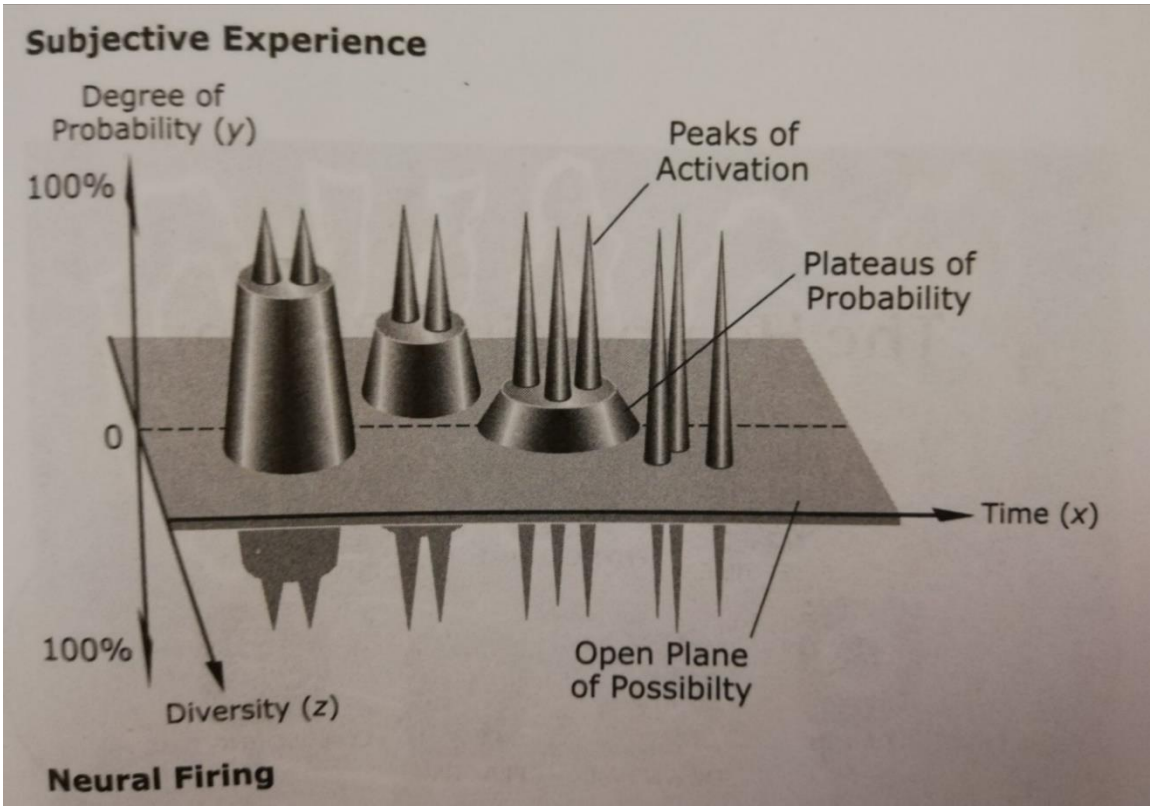


Figure 3.4. The Plane of Possibility (Siegel, 2012, p. F-11)

However, in a healthy integrated state of optimal functioning where the brain, mind and relationships are unimpeded and energy and information flow freely through the Triangle of Wellbeing (Siegel, 2012), as described in section 3.3.6, one will be able to consciously return to the open plane of possibility to make a decision about how to respond to a particular experience rather than to react.

In addition to offering a conceptual framework for considering human experience in general, it affords individuals the opportunity to pause and reflect on one's own experience, to notice and name their own experiences, responses and tendencies, and to open the door to alternative possible experiences (Siegel, 2012). When one becomes aware that one has a choice and develops a sense of agency, what may have previously been a peak of activation can drop towards a probability of zero, at which point there is infinite possibility (Siegel, 2012, 2018).

This has notable relevance in relation to how individuals and teams experience and respond to emergent change. If an individual or team habitually experiences emergent change as a threat to their basic needs and avoids it, that reaction will be represented

on the plane of possibility as a peak of actuality. However, in a particular situation in which they feel more resourced or supported, or see a colleague responding differently, they may either intentionally or on a whim see a new possibility to respond differently (Siegel, 2012). Ideally, individuals are present and aware of their experiences, and able to consciously choose their response during emergent change. Siegel (2012, p. 29–6) refers to this as the “awakened mind” making conscious decisions about how to act by decreasing the probability of certain responses, rather than being on autopilot and responding mechanically out of habit.

The Plane of Possibility (Siegel, 2012) offers a frame through which to conceptualise how individuals and teams may experience emergent change now, how they can increase their awareness to make sense of their experiences and how there is potential for adaptive evolution to be able to experience it more beneficially in the future.

3.4 DIFFERENTIATION AND INTEGRATION OF EMERGENT CHANGE AND APPLIED NEUROSCIENCES

Each of the theories, models and frameworks discussed in chapters 2 and 3 contribute to building and expanding the base of understanding around how turning to applied neurosciences can add valuable insights about how individuals and teams experience emergent change at work.

As discussed in the literature review on emergent change in chapter 2, there is an apparent gap in current change theory about how individuals and teams experience emergent change at work, and how it impacts them. While there has been progress in considering the process nature of change rather than seeing it as fixed states or events (Bakken & Hernes, 2006; Cummings & Worley, 2015; Scarlett, 2016; Tsoukas & Chia, 2002; Weick & Quinn, 1999; Worley & Mohrman, 2014), the progress has been predominantly theoretical and has not yet been substantially reinforced by empirical research exploring how it impacts individual and team experiences. The existing models and frameworks of change, and specifically emergent change, have also not yet comprehensively integrated considerations about the human experience of emergent change as well as environmental and relational elements, probably because

the experiences themselves have not thus far been researched in the organisational context.

This particular topic has not been directly researched in the integrative field of applied neurosciences either. However, significant ground has been covered exploring how the underlying neurological drivers of behaviour are motivated to meet basic psychological needs (Epstein, 2003; Grawe, 2007; Rossouw, 2014), as well as what is required for overall adaptive functioning and how these elements present change challenges as well as possibilities (Siegel, 2012), as discussed thus far in chapter 3.

In light of well-established research around neuroplasticity and epigenetics, reflecting the brain's ability to learn and adapt across an individual's lifespan (Hebb, 1949; Kandel et al., 2012; Scarlett, 2016; Siegel, 2018), the capacity to change is an inherent function and property of the brain. Most of the changes that occur in the brain and body are automatic and beneath conscious awareness (Grawe, 2007; Kandel et al., 2012; Siegel, 2015), functioning at the implicit (Arden, 2019) or experiential (Epstein, 2003) level. However, change required at a conscious, explicit level is an energy-intensive process that one may naturally avoid to conserve resources (Scarlett, 2016). Emergent change is therefore often perceived by individuals as a threat, which can lead to the activation of default protective mechanisms and avoidant-motivated reactivity to change (Scarlett, 2016). Literature from practice echoes this by acknowledging that there is an avoidant-motivated narrative in the business world that change is difficult (Tasler, 2017). Applied neurosciences literature, as integrated in this study, suggests that the perceived compromise of one's needs due to emergent change may be more challenging than the change itself.

Even if individuals have, over the span of their life, developed a healthy relationship with change in general, a major or unexpected emergent change scenario can still trigger a threat and fear response for them. This introduces an organisational responsibility and imperative to acknowledge the loss, challenges, perceived threat, fear and fatigue associated with emergent change for their employees, regardless of how big or small and positive or advantageous leadership may know a particular change could be (Gleeson, 2017; Henson & Rossouw, 2013). Understanding the experiences and needs of their employees more accurately can assist leaders to do

this, and to develop new narratives about and approaches to emergent change in their organisations.

The advance of literature about the basic psychological needs discussed in this chapter, and specifically the most recent contribution made by Rossouw (2014) with his Integrated Model of the Base Elements of the Theory of Psychotherapy, offers much to the field. It does so by helping to bridge the gap between emergent change research, applied neurosciences and the workplace. Based on the model (Rossouw, 2014), if individuals and teams do not feel safe (compromised neuroception), individual and team basic psychological needs are likely being constantly compromised by continuous emergent change, which impacts the brains, minds and relationships in the organisation, overall wellbeing and their abilities to see possibilities. What may present as resistance to change could be a superficial marker of a far deeper reality, that individuals and teams may feel unsafe, that their needs are threatened and that they feel ill-equipped to process their experiences as individuals, and as teams (Scarlett, 2016).

Using the lens of interpersonal neurobiology highlights the importance of the relational aspect of existing, evolving and dealing with emergent change, as the field proposes that relationships impact the brain as much as the mind does (Siegel, 2006, 2018). This is reinforced by researchers of the social brain who explore how the brain is inherently social for survival as well as flourishing (Cozolino, 2014; Lieberman, 2013; Seligman, 2012).

Emergent change often emerges from lower levels of the organisation through networks where employees lack formal training on change theory and models, but see an emergent need and respond to it based on their own autonomy. This decentralisation of change is highlighted in Theory O (Nohria & Beer, 2000), the OTIC Model (Todnem By et al., 2018), the Engage and Learn Model (Worley & Mohrman, 2014) and SPACES (Scarlett, 2016), as discussed in section 2.4. This further reinforces the need for organisations to heed individual and team experiences of emergent change because they are change agents affecting and being affected by change in the organisation every day, regardless of official or formal change approaches and strategies. Hence, the capability to adapt in diverse emergent change

situations is a skill that needs to be developed at all levels of the organisation (Leach et al., 2019).

Through the lens of interpersonal neurobiology, Siegel highlights that increasing one's awareness is a key step towards developing one's "response flexibility", which is the ability an individual has and exhibits to adapt the way they respond to a situation based on context and resources (Siegel, 2012, p. 33-2). This has particular relevance to this study because being aware of one's experience is the first step to being able to change it, and the plasticity of the brain makes this possible (Arden, 2019; Siegel, 2015). Siegel (2012, p. 33-1) also advocates for "widening the window of tolerance", referring to expanding an individual's tolerance for a certain kind of stimulation in order to increase "response flexibility" by creating larger spaces between stimulus and response through awareness and integration. In the context of emergent change, there would be efficacy in individuals and teams increasing the window of tolerance for emergent change, instead of it being experienced as something that, by default, compromises basic needs and leads to some avoidant motivational schemas and responses. Embracing the terminology, knowledge and practice of Siegel's (2012) Plane of Possibility offers value to organisations facing prolific emergent change too, as it can help to simultaneously acknowledge responses as natural and human and offer a framework for how to think about reaching the plane of possibility where response flexibility becomes a practice.

Findings in mirror neuron research (as mentioned in section 3.3.6) are supported by research into mimicry in organisations, where people can and do learn through emulation (Becker et al., 2011; Fulmer & Ostroff, 2015; Hamilton, 2015). This opens doors of possibility for organisations in the realm of emergent change, as individuals and teams will witness and could mimic or at least be influenced by each other's responses, which would display either higher or lower levels of response flexibility and windows of tolerance (Siegel, 2012), even if it is beneath their level of awareness (Hamilton, 2015). It also increases the importance of positive change response modelling by emergent leaders at all levels of the organisation (Gleeson, 2017), as well as positive approach-motivated emotional contagion (referring to how emotions and sentiment can spread through groups of people) about emergent change (Cozolino, 2015).

While there has been an advance in acknowledgement of the significance of emotions at work (Du Plessis et al., 2015; Muchinsky, 2009), there is a paucity of literature in organisational psychology about the physical impact of change on humans, and yet in applied neurosciences it is prolific (Grawe, 2007; Rossouw, 2014). This reflects once again that the research focus in organisational change has likely been on change effectiveness and the strategic imperative of change from the business perspective (Todnem By et al., 2018), while the impact on the people working amidst constant change, their needs and their relationships have been relatively neglected in comparison. This suggests that at the organisational level, there may be an incongruence between the organisational goals and individual and team needs. Drawing on applied neurosciences, in times of stress, distress and perceived threat, cortical blood flow increases to areas identified to be involved with the fear response, which compromises cognitive capabilities overall, making the experience of emergent change even more challenging, including at a physiological level (Henson & Rossouw, 2013).

Literature on neuroception and interoception, as discussed in section 3.3.4, combined with the importance of safety, as introduced in Rossouw's model (2014) in section 3.3.3, highlights how emergent change may compromise employee perceptions of environmental safety, and thus potentially also their other needs to varying degrees. If unpleasant or uncomfortable aspects of experience are denied in an attempt to avoid them entirely, it does not mean that they go away (Grawe, 2007; Levine, 2015; Van der Kolk, 2014). Epstein (2000, p. 7) states the following in this regard:

> Rather than achieving control by denying the experiential system, we lose control when we attempt to do so, as by being unaware of its operation, we are unable to take its influence into account. When we are in touch with the processing of the experiential system, we can consciously decide whether to heed or discount its influence. Moreover, if, in addition, we understand its operation, we can begin to take steps to improve it by providing it with corrective experiences.

This suggests another level of incongruence. If emergent change experiences are perceived to threaten a sense of control, and individuals or teams deny aspects of their experience to try to gain control over them, it can do them harm rather than help

(Grawe, 2007). In essence, they may try to protect themselves but can in fact harm themselves, functioning somewhat like an inverted guardian towards themselves (Arden, 2019). The quotation above highlights the salient point that denying any elements of one's experience can compromise the ability to move beyond them, can keep people "stuck" in patterns of behaving and perceiving threat in their environment, regardless of what happens in it (Epstein, 2003; Grawe, 2007; Levine, 2015). These highly personal and intricately nuanced behaviours can have huge impacts on individual experiences, and on their sense of self, which ripples on to impact all their other basic psychological needs and aspects of wellbeing too.

Discoveries in the topic of threat learning (see section 3.3.3.4c) suggest that through pain, development that one would not have chosen for oneself may enforce learning to deal with it (Berret et al., 2019). Since emergent change is not abating, the current human experience of emergent change may be a highly relevant case of threat learning, providing not only an opportunity but an imperative for new change framing, skills, strategies and tools in order to deal with it in a more adaptive way. It also suggests that humans may need to develop a different relationship with their needs, which is challenging if they are not consciously aware of what they are first and yet they are having to deal with them changing and being compromised simultaneously.

If something is constantly changing, by the time one stops to observe and then describe it, it has changed again. It is never static, but is fragmented into aspects through the process of witnessing, and is then reintegrated (Peyton, 2017; Siegel, 2015, 2018). This paradox poses more questions than answers, and is the reality and level of complexity that needs to be considered in the context of emergent change environments characterised by VUCA. Since behaviour is motivated by the drive to meet one's basic needs, in an environment of constant emergent change, an individual's needs may be perceived to be constantly threatened or compromised. This has relevance not only for organisations, but also for society at large, as the VUCA experience is a global one that extends beyond the workplace to personal life; individuals and teams will have VUCA emergent change experiences outside of work too. In essence, since emergent change can create a disequilibrium in needs that individuals will act to rebalance, this highlights the fact that the challenge may, at a

deeper level, be more about how individuals relate to their own experiences, needs and the way they are met than about emergent change itself.

For example, if the need for control and orientation is threatened in a particular situation, one way to gain control is through obtaining relevant information and using it to prioritise (Horstmeyer, 2019; Srivastava, 2016). However, in a VUCA environment, it may be impossible for an individual to have all the information about one particular task or project, and thus control and orientation could be met collectively through structures, processes, networks and teams, rather than solely at an individual level. Sell (2017, p. 253) advocates for embracing not knowing and releasing control in order to use a wider spectrum of sensing to access a “whole-body sense of curiosity”. This underscores the fact that the relationship with and need for control may need to evolve in the VUCA context, and it’s likely that the way other needs can be met are shifting too.

Integrating the available theory on emergent change with theory and practice from applied neurosciences in this way offers an opportunity and new perspective to the field. It specifically highlights the influential power and potential of integrating neuroceptive and interoceptive awareness, relationships and the basic needs as key facilitators of healthy, resilient functioning in an organisational environment characterised by emergent change.

While significant progress has been made in neuropsychotherapy and interpersonal neurobiology to substantiate the neurobiological mechanisms implicated during individual change predominantly initiated through therapeutic intervention, there are no comprehensive models addressing this degree of depth around teams within organisations experiencing constant emergent change.

The vast ground covered in terms of theory, models and frameworks in chapter 2 and 3 reflects the extent of complexity of the topic, how much needs to be taken into account to explore it and the gap in literature and practice to adequately do so. Applied neurosciences is a vital bridge from the theory of emergent change to the human experiences of emergent change at work, offering salient insights and avenues of inquiry that shaped the empirical investigation of this study, which is discussed in chapter 4.

CHAPTER 4: EMPIRICAL INVESTIGATION

4.1 INTRODUCTION

This chapter describes the empirical investigation conducted in this study. The research setting, entrée and role establishment are first introduced. The sampling techniques for the study are then explained, the research strategy outlined and the data collection and analysis methods articulated in detail. Thereafter, the researcher describes the recording of the data, the strategies employed to ensure the quality and trustworthiness of the data as well as how the data are reported.

4.2 RESEARCH SETTING

This study was conducted at a startup software development company based in Cape Town, South Africa. The company produces scalable reflective digital coaching software programs for large companies. “Off-the-shelf” software programs are sold to clients, as well as customised software programs. Close relationships are developed with clients, and there is a strong focus on engagement, collaboration, communication and establishing long-term relationships with fewer clients, where the software programs become an integrated aspect of client company culture and trusted partnerships are formed.

The company has a fairly flat organisational structure, and the departments are referred to internally as teams. There were 31 employees at the time the data for this study was collected, and the team divisions are indicated in table 4.1.

Table 4.1

Company Teams, Sizes and Roles

Team name	**Team roles**	**Size**
Client Experience (CX)	Account managers, project managers	7
Learning Experience Design (LXD)	Learning experience designers	7
Tech	Software developers, software engineers, development operations engineer	6
Design	Designers	2
Editing	Editors	2
Data	Data specialist	1
Executive Committee (Exco)	Chief executive officers, director, chief technical officer, head account manager, general manager	6
	TOTAL	31

These teams work dynamically, with high levels of interaction between them. When client projects are initiated, cross-functional project-based work teams (called “pods”) are assembled to complete that particular project, and the team members then move on to other projects in different configurations.

The CX, LXD and Exco teams are client-facing, which means that they have direct client contact on a regular basis. The Tech, Design, Data and Editing teams are non-client-facing, as they have minimal client contact, if any at all.

4.3 ENTRÉE AND ESTABLISHING ROLES

Permission to conduct this study at the company was requested and initially granted by one of the chief executive officers and the general manager in writing, prior to proposal submission and the ethics application.

Due process was followed to gain ethical clearance before the researcher began data collection for this study. Thereafter, a date for the focus group was agreed with the company. All employees were informed that the study was going to commence, and

that those who were eligible to do so, as described in section 4.4, could volunteer to participate.

The role of the researcher was to facilitate the rigour of the IQA protocol and to preserve the voice and lived experience of the participants (Northcutt & McCoy, 2004). The researcher worked at the company for the duration of the study, but her voice was excluded from the focus group and interviews. The researcher ensured that the IQA protocol was followed, but did not contribute a voice to the content of the discussion. The researcher's voice became relevant later in the study where it was introduced as the role of subject matter expert, to compare the findings from the focus group and interviews, and to integrate the findings of the study with existing literature, as per the IQA protocol (Northcutt & McCoy, 2004). The role of the participants was as the experts of their own experience, as per the IQA protocol (Northcutt & McCoy, 2004). Participants were asked to share as honestly as they were comfortable to about their experiences.

4.4 SAMPLING

The sampling strategy followed the IQA criteria. The sampling strategy therefore is purposive due to the IQA criteria of power, distance and homogeneity (Northcutt & McCoy, 2004). Purposive sampling is defined as an intentional (as opposed to random) sampling strategy to ensure that there is a high degree of relevant relatedness between participants and the research question (Bryman et al., 2015).

Owing to the criteria of power and distance (Northcutt & McCoy, 2004), Exco were excluded from participating. Power refers to a potentially compromised sense of safety for participants if they were in a focus group with someone to whom they report directly (Northcutt & McCoy, 2004). Distance relates to how close segments of the population are to the topic being researched (Northcutt & McCoy, 2004). In this instance, the researcher chose to explore the experiences of frontline employees who deal with emergent change on a constant basis.

The researcher chose client-facing team frontline team members as being eligible for participation. For the purposes of this study, client-facing meant that they had direct, regular contact with clients multiple times a day, either in person (seldom), over the

phone (frequently), over web application software calls (at least once weekly) or via email (most frequently, up to multiple times a day).

There were thus 14 employees eligible for participation, and nine volunteered to participate in the study. In terms of participant gender representation, there were five males and four females. The age of participants ranged from 26 to 43. With regards to race, there was one coloured person, one black person and seven white people. As a reflection of team representation by the participants, there were six participants from the LXD team and three participants from the CX team (see table 4.1 above). In terms of levels in the business and the way individuals work within their pods, no participants in the group formally reported directly to each other.

Purposive sampling was also used for the interviews, which led to follow-up individual interviews for all participants. In the IQA protocol, focus groups are designed to preserve the voice of the group, and the interviews provide an opportunity for the individual voices to be clearly expressed by the participants, and preserved (Northcutt & McCoy, 2004). This aligns with the paradigm of social constructionism (as discussed in section 1.5), as it acknowledges the importance and co-existence of a subjective experience of reality for individuals, as well as groups, and that they influence each other.

4.5 RESEARCH STRATEGY

This was a qualitative, explorative study based on the IQA research methodology (Northcutt & McCoy, 2004). In this section, the methodology used to conduct the study is explained.

4.5.1 Data collection methods

Data collection was language based, as is typical of qualitative research (Terre Blanche et al., 2006), and followed the steps of the IQA protocol (Northcutt & McCoy, 2004). All artefacts created throughout the study were retained by the researcher as per ethical standards and the IQA protocol (Northcutt & McCoy). The data was highly contextual, and was generated and analysed by the participants themselves through a focus group and follow-up interviews.

4.5.1.1 Focus group data collection

Logistics were arranged in advance between the general manager and the researcher, to create the least possible interference for the team members and the business. The client-facing focus group was conducted on 7 July 2018. After a brief introduction to the topic, the researcher explained the principles of confidentiality and anonymity. A minute of silence and breathing was initiated before asking the participants to imagine an emergent change experience at work with their eyes closed. Next, a single research question was posed to the participants in the focus group:

"How do you experience emergent change at work?"

The participants were asked to think about it, and when they were ready, to open their eyes and write or draw one idea, thought, image, experience or response per white card until they had no more to write. This was the point of saturation that must be reached to preserve the participant voice in as much detail as possible, according to the IQA protocol (Northcutt & McCoy, 2004). A pile of white cards had been placed in front of each participant in advance with a black pen.

Once all the participants had finished writing, the researcher pasted all the individual white content cards on one of the boardroom walls in no particular order. This concluded the data collection section of the focus group. The rest of the focus group proceedings are discussed in the data analysis in section 4.7. In the IQA methodology both data generation and data analysis is done by the participants, during the focus group and individual interviews (Northcutt & McCoy, 2004).

4.5.1.2 Interview data collection

An individual semi-structured interview followed for each participant within three weeks after the focus group. Each lasted approximately one hour. In preparation for the interviews, the researcher prepared the focus group Systems Influence Diagram (SID) as well as the individual SID for each participant. The SID's were created by the researcher from the axial and theoretical coding that was done by the participants during the focus group (see section 4.7).

Semi-structured interviews offer some structure while enabling a high degree of emergence from the interviewee, adding both breadth, depth and qualitative richness to the information shared in the focus groups (Northcutt & McCoy, 2004).

During each interview, the researcher briefly reminded the participants of the process that had occurred during the focus group, highlighted the fact that the interviews were being recorded and emphasised that their data would be anonymised and kept confidential as far as possible. The researcher placed all the blue affinity name cards, the green affinity definition cards and the white content cards, as well as the interviewee's individual affinity relationship table (ART) on the table for their reference and convenience during the interview. The individual ART was created by the participant during the data analysis section of the focus group (see section 4.7.3).

The researcher then facilitated a process called emergent coding. This involved the researcher asking participants to interpret the focus group SID and to say whether or not they felt it was reflective of the group reality on the day of the focus group. They were requested to talk the researcher through the SID, to hear how they felt the system would "play out". The researcher then showed them their individual SID that had been created from the individual ART they had filled out during the focus group. They were asked to compare the focus group SID with their individual SID, and compare their own experience with the experience of the group, highlighting similarities, differences and points of interest.

During the process, if they asked to see their individual ART for the qualifying statements that substantiated the directionality of the relationships they perceived between two affinities and felt there should be a change, they were able to indicate their updated preferences on their ART.

The researcher drew the interviews to a close once each participant indicated that they felt they had described a reasonably accurate representation of their subjective reality around how they experience emergent change at work. This represented the interview saturation point in IQA (where they have no more to add), which is required in order to preserve the voice of the participant (Northcutt & McCoy, 2004). Once all the interviews had been concluded, the researcher thanked each participant for participating.

4.6 RECORDING OF THE DATA

The focus group was recorded with video and audio, as a requirement of the IQA protocol (Northcutt & McCoy, 2004) through Zoom software. There was a camera embedded in a large screen in the boardroom, where Zoom was installed to record the video and audio of the group. Zoom software is familiar to the participants, who use Zoom daily to hold and record client and team calls, because the company has remote staff members and international clients. As the participants engaged with the focus group process and stood up to move around, the video aspect of the recording added extra value to the research as body language and physical movement were visible, which is important data, according to the IQA methodology (Northcutt & McCoy, 2004).

The interviews were voice-recorded on the researcher's laptop, without video. The video and audio-recording of the focus group and the audio-recording of interviews was essential so that they could be transcribed to create an additional artefact of the process, and thereafter be referred to, interpreted and compared as per the IQA protocol (Northcutt & McCoy, 2004).

The researcher informed the participants of the recordings in advance, in the informed consent forms, as well as at the start of the focus group and individual interviews. Participants were assured that other than the transcribers and editors (who signed confidentiality agreements) as well as academic supervisors, no one else would have access to the recordings and their names would never be linked to their faces, in order to preserve anonymity.

All recordings, documents, files and artefacts will be kept in a file in a lockable filing cabinet in Harfield Village, and destroyed five (5) years after the submission of the final dissertation.

4.7 DATA ANALYSIS

In the IQA protocol, participants create and analyse the data themselves (Northcutt & McCoy, 2004). Each step of analysis is described below.

4.7.1 Focus group data analysis

The data analysis pertaining to the focus group will be described below.

4.7.1.1 Clustering cards and identifying affinities

After the researcher had pasted all the white content cards on the wall during the focus group, following the IQA protocol (Northcutt & McCoy, 2004), but not interfering with their group process, the researcher then invited the participants to divide the white content cards up into categories, called affinities. They were then asked to name each affinity, write it on a blue card and paste it up with its corresponding white content cards. This all needed to be done through consensus, as per the democratic protocol outlined in the IQA methodology (Northcutt & McCoy, 2004), which was explained to the participants.

4.7.1.2 Describing affinities

As per the IQA protocol (Northcutt & McCoy), the next step was for the participants to write a description for each affinity, again through a democratic process of reaching consensus. This step was complete once all affinities had been described, with the description written on a green card and pasted up with their matching affinity clusters and names. Once all affinities had been described, the axial coding component of the focus group was completed, and all participants took a lunch break.

4.7.1.3 Establishing relationships between affinities

When the participants returned from lunch, the researcher welcomed them back in and asked for a minute of silence and deep breathing to prepare the group for the rest of the focus group. The researcher then briefly summarised what had happened before lunch, highlighting that they had just experienced a rich socially co-constructive axial coding process of exploring their own experiences of emergent change as individuals and as a group, and had come up with categories of experiences and responses (affinities), and described them.

The researcher then explained that the participants would need to explore the relationships between the affinities, first as individuals and then as a group, by completing an Affinity Relationship Table (ART). This started the theoretical coding

component of the focus groups. The participants needed to fill in the direction of the relationship between each affinity and all other affinities, one pair at a time. The researcher explained that system topology is the directional pattern of the links between elements or affinities in a system, and described the three kinds of relationships they could choose to indicate between any two affinities. These were as follows:

1 > 2 (indicating that 1 impacts 2 more than vice versa)
1 < 2 (indicating that 2 impacts 1 more than vice versa)
1 <> 2 (indicating no relationship between 1 and 2)

The participants were also asked to substantiate the directionality of the relationship they chose between each pair of affinities with a qualifying statement or example of how that relationship was true for them. No qualifying statement was required if they felt that there was no relationship between two affinities. The researcher mentioned that this step would be complete when the last person had finished their table. The participants were asked to do this in silence. As part of the IQA protocol, the individual ART component must be completed in silence to preserve the voice of the individual (Northcutt & McCoy, 2004).

Next, the participants were asked to repeat the ART process of indicating the perceived relationships between each affinity pair, but this time as a group, again through consensus. The researcher had set up the large screen in the boardroom with the group ART document open on it, connected through a laptop, so that everyone could see it. Responses could be typed in real time as the group reached consensus on each relationship and its corresponding hypothesis, if there was one. The theoretical coding component of the focus group came to an end when they had finished creating the group ART.

The researcher then thanked all the participants for participating, informed them that an invitation would follow shortly for an individual interview, in which they would be shown a visualisation built from the focus group data (the focus group SID), as well as a visualisation built from their individual data (their individual SID). They would also have a chance to share their personal thoughts, feelings, similarities and differences

between the focus group SID and their own. The researcher once again emphasised the importance of confidentiality and then drew the focus group to a close.

4.7.1.4 Interrelationship diagram (IRD)

After the focus group, the researcher tabulated the group ART data into an artefact called an IRD. It is a table that displays the directionality of each affinity in relation to the other affinities. If affinity A was said to influence affinity B more than vice versa, an "out" arrow was indicated. If affinity A was influenced by affinity B more than vice versa, an "in" arrow was indicated. The arrows in the IRD are entered twice, as a self-monitoring system of checks and balances, as in accounting (Nortcutt & McCoy, 2004).

For each affinity, the directions were tallied and indicated in a column. Once tallied, the number of "ins" was subtracted from the number of "outs". This indicated the overall change, known as delta (∆). When this was done for all affinities, and the initial IRD was complete, the table was sorted in descending order of delta.

The IRD was then used to tentatively assign positions of the affinities for the SID. If the delta value was positive, that affinity was determined to be a driver. If the "in" value was zero, it made that particular affinity a primary driver in the system. If the "in" value was not zero but the delta was still positive, that particular affinity was a secondary driver in the system. If the delta value for an affinity was zero, it indicated that a particular affinity was a pivot. If the delta value was negative, but there were still "out" values for that affinity, it was deemed to be a secondary outcome. If the delta value was negative and there were no "out" values for that affinity, it was a primary outcome.

4.7.1.5 Cluttered SID

In order to create the focus group SID, the affinities were taken from the IRD in descending order of delta, positioned from left to right, from primary driver to secondary driver to pivot to secondary outcome and finally to primary outcome. Initially, all the relationships indicated for all affinities were shown in a cluttered version of the SID. This version of the SID is comprehensive and rich, but can mask the relationship directionality owing to the clutter of so many lines (Northcutt & McCoy, 2004). It did, however, do justice to more of the complexity of the system, as it reflected all the relationships indicated by participants.

The SID represents the IRD visually as a system rather than a table, reflecting all elements or affinities in the system as well as the directionality of the relationships between them. The directionality of the relationships is also referred to as the system topology (Northcutt & McCoy, 2004).

4.7.1.6 Uncluttered SID

While the cluttered SID shows all the relationships between affinities in the system, reflecting a comprehensive and rich picture, it can be challenging to interpret and to see clearer pathways through the system (Northcutt & McCoy, 2004). The researcher followed the IQA protocol steps to unclutter the SID, in order to represent it more clearly and to achieve parsimony, which refers to system optimisation by using the fewest number of relationships possible to reflect the maximum amount of variance (Northcutt & McCoy, 2004). The process to do this involved removing redundant links from the cluttered SID, by following all paths one could take to move from one affinity to another, and then removing any duplications. Only the most “scenic” route from one affinity to another remained, with direct paths removed, enabling a simpler, clearer visual reflection of the relationships between the affinities in the system.

4.7.2 Interview data analysis

The elements of data analysis pertaining to the interviews will be described below.

4.7.2.1 Pareto principle and conflict analysis

After the interviews, the researcher applied the Pareto principle to the combined interview data to determine the degree of consensus between the individual perspectives.

According to the Pareto principle (Northcutt & McCoy, 2004), the minority of system variables (20%) account for the majority of system variance (80%) – in other words, fewer relationships between affinities in the system can be used to represent it, without significantly compromising the system variance.

The affinity pairwise relationships from all individual ARTs were tallied to count up all the directionality instances between all affinities for each individual, including any changes participants made to their ARTs during the interviews. Those were used to

create a combined interview affinity frequency table (AFT), which reflected the frequency of each relationship. These frequencies were tabulated, ordered in descending frequency, the cumulative frequency was calculated and the corresponding cumulative percentage frequency was indicated. As per the Pareto principle (Northcutt & McCoy, 2004), 80% was the cut-off point used to indicate the relationships that would be included in creating the combined interview SID.

Next, the included affinity relationships were transferred to a blank sheet and arranged in ascending order. If there were multiple instances of the same affinity pair, those were deemed as conflicts and as per the Pareto principle and the IQA protocol, the highest frequency of the two instances was used (Northcutt & McCoy, 2004).

The remaining relationships were entered into the combined interview IRD, which was then used to create a cluttered combined interview SID as well as an uncluttered combined interview SID, which was the final data artefact created for this study.

4.8 REPORTING

The data for and findings of this study were reported in the form of various artefacts, as described above and as per the IQA protocol (Northcutt & McCoy, 2004). This included content and affinity cards, tables, figures, transcriptions and descriptions.

The affinities were reported in a table, alongside their content cards, definitions and supporting quotations from the focus groups (see tables 5.1 to 5.9).

The directionality of the relationships between affinities and their qualifying statements or examples were represented at both individual and group level in separate ARTs. These relationships were counted and reflected in IRDs. The IRDs were then used to tentatively position affinities and the relationships between them as arrows in the visual SID figure, in both cluttered and uncluttered versions. Artefacts that could compromise the identity of the participants will not be made available in any published version of the dissertation.

For the interviews, quotations extracted from the transcriptions of the interviews provided support and further evidence of the data captured from the focus groups, to substantiate the findings. Codes were assigned to interview participants in order to

preserve anonymity. Each participant received a code beginning with the number one to denote the first research focus group, followed by a letter from A to I, as there were nine participants. Relevant quotations and other data artefacts from the interviews are also referenced in chapter 5 and reflect the above coding system.

4.9 SUMMARY

In this chapter, the research setting, entrée and role establishment were described. The sampling techniques for the study were explained, the research strategy outlined and the data collection methods articulated in detail. Thereafter, the researcher described the reporting of data, as well as the strategies employed to ensure the quality and trustworthiness and of the data. Next, there was a section on data analysis in which the process the researcher followed was described, after which the reporting approach was outlined.

CHAPTER 5: FINDINGS

5.1 INTRODUCTION

This chapter presents the findings of this research study, for the focus group and their corresponding individual interviews, as per the IQA protocol (Northcutt & McCoy, 2004) and as described in chapter 4. This is followed by an integrated discussion of the findings.

5.2 FINDINGS RELATING TO THE FOCUS GROUP

This section describes the findings relating to the focus group.

5.2.1 Identifying and describing affinities

After a rich and in-depth discussion in which participants took a long time to reach consensus, the group agreed on a total of eight affinities, following the process described in section 4.7.1. Thereafter, as discussed in section 4.7.2, they created definitions for each affinity, concluding the axial coding component of the focus group. These are contained in tables 5.1 to 5.9. According to IQA protocol, the affinities are sorted alphabetically, starting from number 1. The key to affinity numbering was as follows:

1=Cognitive

2=Coping Mechanism

3=Emotional

4=Interpersonal Strategies

5=Peak Performance State

6=Personal Strategies

7=Physical

8=Relational

Table 5.1

Affinity 1 Description and Content Cards (Cognitive)

#	Affinity name	Affinity description	Individual cards
1	Cognitive	The resulting impact of change in your mental faculties	- Because I am so rushed not focused, I make snap judgements. I don't take the time to think things through and am prone to misunderstand - Become more focused on self - Can't think straight - I have a need for others to trust my knowledge and competency - I need my opinion to be trusted (and don't ask me to ask someone else something I already know) - I need time to do it (so I don't rush) properly (and to be trusted to do it – don't micromanage) - I need to have the space to say "I don't know, but I can figure/find it out" - Loss of perspective - Manage physical response - Mind races - Need/desire for new plan/structure to be created - Rushing thoughts - Time to absorb

Note: All words and cards were written in this table exactly as the participants had written them on their content cards.

Table 5.2

Affinity 2 Description and Content Cards (Coping Mechanisms)

#	Affinity name	Affinity description	Individual cards
2	Coping Mechanisms (Reactive)	The tactical activities a person engages in to soothe discomfort or achieve a state of pleasure	- Coffee! - Crunchy salty sweet - Distraction (mindless TV, social media) - Drinking tea (theanine) - Drive fast - Fiddle - Food, coffee, smoke - Have a coffee and/or a snack - If said change means rework/effort put in for nothing: complain and swear (and feel guilty about that) - Intellectualisation - Make inappropriate joke to mirror the turmoil I feel inside - Making tea - React differently at different times and on different days - Run - Smoke - Suppression of empathy - Swear - Talk more - Urge to be mean - Want a ciggie

Note: All words and cards were written in this table exactly as the participants had written them on their content cards.

Table 5.3

Affinity 3 Description and Content Cards (Emotional)

#	Affinity name	Affinity description	Individual cards
3	Emotional	Emotional response in the course of change	- Angst - Annoyance - Anxiety and fear – fight, flight, freeze - Consternation - Defensive - Dissolve/disappear - Emotional volatility - Fear - Fear - Feel agitated - Frustration - Frustration - Frustration/powerlessness - I feel that company driven organisational change is refreshing. I like the fresh start feeling. I see it as an opportunity for improvement and look forward to the benefits - I feel that my team is always very supportive - Irritation - Isolated - Just because you can't see me doing anything, doesn't mean I'm not fixing it – I'm thinking - Loss of control - My initial feeling is often blaming and annoyance. I feel like I have done the best with what I had and so if there are issues then it's the fault of someone else. I know this is not rational. Maybe that's why I go into robot mode – to get away (switch off) from these negative feelings - Panic

#	Affinity name	Affinity description	Individual cards
			- Part of me wearily wonders if this will mean a lot of overtime work - Passive aggressive - Persistent, low-level stress - Removed from body - Response varies from day to day - Sense of relief when you know what to do (even if it isn't fixed yet) - Short-tempered - Sometimes – excitement. If the change is positive or will make the product better. (Caveat – my other cards are mostly inspired by damage control) - Sometimes I feel like a puppet - Sometimes I want to drop to my knees and scream WHY? - Sometimes stressful in a negative way, but can also be exciting and energising - Tension - Victimised. Why me? - What fresh hell is this? This is fine (see hand-drawn image below)  - What have I done? (and am I in shit)

Note: All words and cards were written as the participants wrote them. Duplicates reflect that multiple cards.

Table 5.4

Affinity 4 Description and Content Cards (Interpersonal Strategies)

#	Affinity name	Affinity description	Individual cards
4	Interpersonal Strategies	The activities a group or individuals within a group engage in to deal with change or deal with change directly	- Chat to my colleagues to see how they feel about this change - Consultation - Disclose more - Initiate multiple conversations - Integrate - Let's get the meeting done and let's get moving (the meetings are essential but don't let them slow down the work) - Make bad jokes - Multiple diverse activities - Need for meeting or consultation – rallying the troops so we're all focused - Planning - Protect client, company, team - Rally - Redistribution of personal capacity and resources – away from - Say something funny/sarcastic to lighten the mood - "Seeing" what needs to be done

Note: All words and cards were written in this table exactly as the participants had written them on their content cards.

Table 5.5

Affinity 5 Description and Content Cards (Peak Performance State)

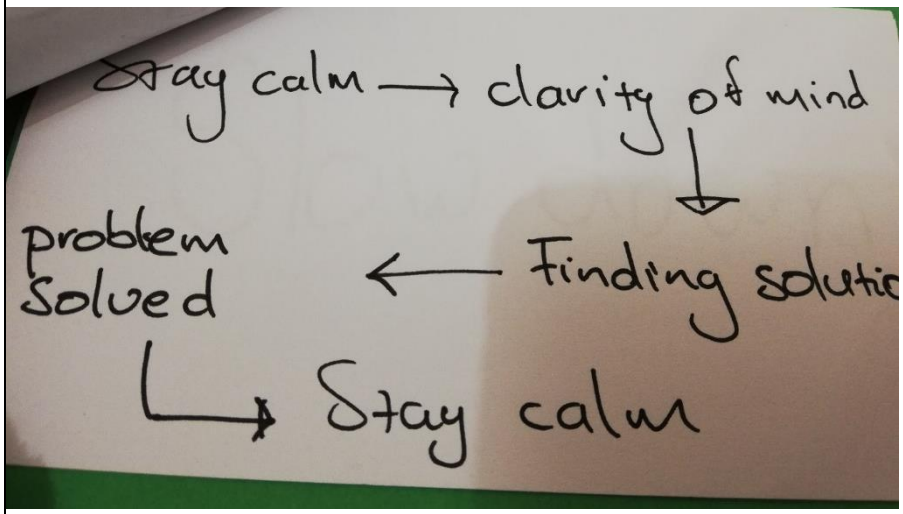
#	Affinity name	Affinity description	Individual cards
5	Peak Performance State	A productive state of being which leads to productive output. A confluence of physical, emotional, spiritual, cognitive and attentional experience	- Flow (when you get into it … and it's working out) - Focus - Focus - Focused - Laser focus - Forget external issues - In moments of stress like launch day issues, I tend to become robotic. This means that I "switch off" from my human experience. I feel less empathy and am more – almost purely – action-oriented and outcome-driven. At the end of a day like this, I am completely exhausted - In the moment - Responding - Zoning in

Note: All words and cards were written in this table exactly as the participants had written them on their content cards.

Table 5.6

Affinity 6 Description and Content Cards (Personal Strategies)

#	Affinity name	Affinity description	Individual cards
6	Personal Strategies	The activities an individual engages in to get into a position to deal with change or deal with change directly	- After an initial internal freak out, I try to look for the positive/opportunity to do something better - After a while (in the event of damage control for a preventable problem), think why it happened and what went wrong (annoyance too) - Attempting to quickly get into new mindset - Avoid distractions (esp. noise) - Browse - Changing gear - Consider multiple perspectives - Control cleanliness - Drop everything and get it done - Early reaction – I close my eyes and try to block out the world - Figuring out - Find a quiet space … calm down … think … - Focus on consolidation - Focus on organisation and (re)creating order (a sense of) - Go back to the breath and keep everything still to find a solution to the problem - Go for a brisk walk - Grapple - How? Questions (participant circles the word “Questions”). How quickly can I fix it? Can I fix it alone? Do I need help? If so, who? How long have I got? - Immediate steps - Interrogation - Learn - Letting go - Listen to classical music

#	Affinity name	Affinity description	Individual cards
			- Maintaining action while investigating - Make a list – plan and scenarios - Making tea (outlet for physical energy) - Managing panic through action - Mind running through implications and permutations - Need to think through - Perspective - Processing - Recalibration - Recalibration - Reflect - Stay calm > clarity of mind > finding solution > problem solved > stay calm (see the hand-drawn flow diagram below)  - Slow down - Sourcing information - Stepping back

#	Affinity name	Affinity description	Individual cards
			- Stop/speed up - Taking action - Task focused - Task-focused - Tension comes when problems come. Stillness is the solution - The solution comes when I make space for it through listening and being still – keep mind still and get out of the way - There's no time/room for blame … Focus needs to be on the fix - Try to be more decisive - Unpacking - What in my experience can I/we refer back to? (have I/we had this before what do we do …) - Zoom out to big picture

Note: All words and cards were written in this table exactly as the participants had written them on their content cards.

Table 5.7

Affinity 7 Description and Content Cards (Physical)

#	Affinity name	Affinity description	Individual cards
7	Physical	Physiological response to change stimuli in the course of change	- Adrenaline - Fast breathing … heart beating … muscles tensing - Fight/flight - Forgot to eat - Heightened senses - It often makes me feel suddenly weary - Muscles tighten - Pace - Pacing while thinking - Physical sensation of panic - Physically feeling my blood pressure drop and rise - Stomach in knot - Tense up - Tension in neck and shoulders - When I am in my robot mode, I don't take care of myself. I might not realise that I'm hungry or need the bathroom. And when I eventually do, I might prolong it because I want to complete a task first

Note: All words and cards were written in this table exactly as the participants had written them on their content cards.

Table 5.8

Affinity 8 Description and Content Cards (Relational)

#	Affinity name	Affinity description	Individual cards
8	Relational	Elements that come together to create the relational environment during change	- After the fact: Gratitude to my colleagues who always pull together to overcome the trial/challenge - Less communicative - Mom - Speak to friends/whinge - Strain on interpersonal relationships - Support needed - Suppressing rage

Note: All words and cards were written in this table exactly as the participants had written them on their content cards.

Table 5.9

Affinity Examples and Supporting Focus Group Quotations

#	Affinity name	Description	Example	Supporting quotations
1	Cognitive	The resulting impact of change in your mental faculties	Running thoughts	*"I need to have the time and structure to order my thoughts and get out of a chaotic state."* *"Your mind is rushing, but you many not necessarily be aware of it."* *"Because I'm so focused, I often make snap judgements and I don't take time to think things through, and am prone to misunderstand. I think I'm responding in the best way, but I may not be."* *"Whatever happens in the moment or further down the line, you recognize the influence on your thoughts. If you use your brain a lot, you get a headache – you realise it's happening, you're engaging your neurons."* *"Your thought comes first – the coping mechanism is your way of dealing with that thought. The cognitive part is what makes you choose the coping mechanism."* *"Even if you've reacted to something, you can't react to it until you've interpreted it."*
2	Coping Mechanisms (Reactive)	The tactical activities a person engages in to soothe discomfort or achieve a state of pleasure	Having a ciggie	*"Quite often they're immediate, and reactive."* *"The distinction I like to make is between tactical and strategic. Tactics are something you use in the moment to create an immediate response or address something immediately. A strategy seems to be longer term, made up of different tactics."* *"We do judge our coping mechanisms – we must consider their relative constructivity."* *"We're not as clever as we think we are – so you're going to reach for the coping mechanism first."* *"Coping mechanism is fulfilling a need for either comfort or to change your brain state. It gives you the space to deal with your cognitive state."* *"Smoking cigarettes is my thinking time."*
3	Emotional	Emotional response in the course of change	Irritation	*"I am very chatty about this. According to the theoretical models I know … I agree with them so I will use them to explain my experience, which is that everything begins with your thinking. If you are frazzled, you are likely to respond emotionally, or rather react. If you want to change how you feel, you need to change how you think."*
4	Interpersonal Strategies	The activities a group or individuals within a group engage in to deal with change or	Planning and rallying	*"If it's particularly stressful, I look after my team before I look after myself."* *"It's basically the same as personal strategies, but for others."* *"You're in the right headspace to engage with others."* *"It's not about thinking for yourself, it's to execute for the group."*

#	Affinity name	Description	Example	Supporting quotations
		deal with change directly		
5	Peak Performance State	A productive state of being which leads to productive output. A confluence of physical, emotional, spiritual, cognitive and attentional experience	Flow	*"The conditions that you need to be productive in a task-specific environment."* *"All of you is geared towards coping with change, coming up with viable strategies to address change, you're able to regulate your environment in response to change. You're at your best when it comes to being adaptable."* *"It allows you to act and produce in a meaningful way, where you can overcome cognitive and emotional burdens."* *"It's a high performance state, it cannot be sustained and is not social at all."* *"Redirecting capacity to one system – unconscious, not intentional state".* *"It's a response, I don't choose it."* *"Flow doesn't last forever, because it's resource heavy."* *"You can't have all the instruments playing at the same time, otherwise you don't have harmony."* *"In Psychology they sometimes talk of being congruent, when all parts of yourself are working together. It's like a firing squad – if everyone's firing at the same point and focused, it's likely they'll be dead. But if everyone's firing off in different directions … [laughter]."* *"In Peak performance state, you'll always be cutting off or ignoring other parts of you, as you can't be in the zone and giving other people your attention."* *"You aren't being diverse – all of your attention is geared towards one direction."*
6	Personal Strategies	The activities an individual engages in to get into a position to deal with change or deal with change directly	Considering multiple perspectives	*"If you're with a group of people who are mature when it comes to dealing with change, each person will choose productive personal strategies and each person will try to arrange personal strategies so you can have a larger impact."* *"Intentional, goal-oriented, solution-focused."* *"Get into a mindset where you can respond. Get into a position where you can preempt what is an expected action to deal with it."* *"Humour is a strategy."* *"There are strategies you've learned to apply in response to change, and some are natural."*
7	Physical	Physiological response to change stimuli in the course of change	Muscles tighten	*"Physical response isn't always immediate – some is, and some isn't."* *"Fight or flight is physical and emotional at once – it's tied to anxiety."* *"Adrenaline can cause rushing thoughts."* *"It's SCARF – it's the low reptilian part of the brain the subconscious… As much as the model may say it's cognitive, it's at such a deep level, you don't even realise."*

#	Affinity name	Description	Example	Supporting quotations
8	Relational	Elements that come together to create the relational environment during change	Less communication	*"These are the responses that result or impact on relationships."* *"These are the relational consequences of change."* *"Change happens and there's a relational response to support but at the same time paradoxically to become less connected."* *"If change happens, I feel more irritated with others … than normal."* *"Less communication and the need for more support feed into each other like a vicious cycle."* *"There's poorer communication – it depends on the group as well, as you have emotions, and with fight or flight, you're less able to communicate."*

5.2.2 Establishing relationships between affinities

When the participants returned from lunch, they each filled out an individual ART in silence to indicate their perceived relationships between each affinity and all other affinities, considered one pair at a time, as described in section 4.7.3.

The participants were then asked to repeat the ART process for all the affinities, but as a group through consensus, following the democratic protocol, as described in section 4.7.1. The participants engaged in lengthy discussion in this final stage of the focus group, struggling once again to reach consensus and expressing an element of frustration. The group ART is provided in table 5.10.

Table 5.10

Focus Group ART

Affinity pair relationship	**Example of the relationship either in natural language or in the form of an IF/THEN statement of relationship**
1 > 2	If your thinking is disorganised then you're more likely to use a reactive coping mechanism to organise your thoughts
1 > 3	If your thinking is focused on yourself you're more likely to take it personally on an emotional level
1 > 4	If you are in a chaotic space, you could use a conversation (interpersonal strategy) to help shift your thinking
1 > 5	If you have scattered thoughts, to reach peak performance, you need to engage a strategy or coping mechanisms. It isn't a direct relationship but is via a strategy
1 > 6	If you have a particular cognitive experience, you respond with a personal strategy
1 < 7	If you have a physical response to change, your mental faculties are more likely to be affected
1 > 8	Your state thinking influences relationships
2 < 3	If your emotional state is affected by change, then you are more likely to use a reactive coping mechanism
2 <> 4	No relationship
2 <> 5	No relationship
2 <> 6	No relationship
2 < 7	If I feel pain in my stomach, then I will take some medication
2 <> 8	No relationship

Affinity pair relationship			Example of the relationship either in natural language or in the form of an IF/THEN statement of relationship
3	>	4	If you're a mess emotionally, it will influence your choice of strategy
3	>	5	If your emotional state is affected by emergent change, it could be harder or easier to get to peak performance
3	>	6	If you're a mess emotionally, it will influence your choice of strategy
3	<>	7	*Researcher note: The group felt this was truly bidirectional, and would not concede to any of the other relational directions, believing strongly that these two affinities are intrinsically connected and reciprocally impacting. According to Northcutt and McCoy (2004), this is handled by not indicating any relationship. If there is truly a bidirectional relationship, the group's SID will indicate a feedback loop between the affinities as an expression of the system.*
3	>	8	If your emotional state is affected by change, then your relational environment is affected
4	>	5	If your interpersonal strategies are effective, you're more likely to reach peak performance
4	<	6	If you employ a personal strategy to improve your own cognitive and emotional state, you'll be more effective at employing better interpersonal strategies
4	<	7	If you are impacted physically, then your interpersonal strategies will be influenced
4	>	8	If you employ effective interpersonal strategies during change, then it can improve the relational environment
5	<	6	If you employ effective personal strategies you're more likely to reach peak performance
5	<	7	If you have a physiological response to change, your ability to reach peak performance is affected
5	<	8	If your relational environment is good, it helps you reach peak performance. Harder to reach if you think people will let you down
6	<	7	If you're affected physically, then your ability to engage personal strategies is impaired
6	>	8	If you employ personal strategies to improve your emotional and cognitive state, you'll be able to have better relationships (and more productive) with people around you
7	>	8	If you're a physical mess, then you are less able to have a positive relational environment

All instances of "<>" in the table above indicate that the group decided that there was no relationship between those particular affinity pairs. Once the group ART had been completed, the researcher thanked the participants and drew the focus group to a close.

5.2.3 Interrelationship diagram

After the focus group, the group ART data was tabulated into the IRD and given a tentative assignment for positioning in the SID, following the IQA protocol (Northcutt & McCoy, 2004), as described in section 4.7.4. The IRD can be seen in table 5.11. The "OUT" column represents the number of elements influenced by this affinity. The "IN" column represents the number of affinities that influence this affinity. The delta column reflects the difference between the "OUT" column and the "IN" column.

Table 5.11

Focus Group IRD

Affinity # and name	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**OUT**	**IN**	**∆**	**Tentative assignment**
7 Physical	^	^	-	^	^	^		^	6	0	6	Primary driver
1 Cognitive		^	^	^	^	^	<	^	6	1	5	Secondary driver
3 Emotional	<	^		^	^	^	-	^	5	1	4	Secondary driver
6 Personal Strategies	<	-	<	^	^		<	^	3	3	0	Pivot
4 Interpersonal Strategies	<	-	<		^	<	<	^	2	4	-2	Secondary outcome
8 Relational	<	-	<	<	^	<	<		1	5	-4	Secondary outcome
2 Coping Mechanisms	<		<	-	-	-	<	-	0	3	-3	Primary outcome
5 Peak Performance State	<	-	<	<		<	<	<	0	6	-6	Primary outcome

Note: The affinities are sorted in descending order of delta (∆).

In the IRD, Coping Mechanisms was ordered second-last. The IQA protocol dictates that if an affinity is determined to be a primary outcome or primary driver, it should be placed on the outer edges of the SID, superseding the general rule of sorting according to descending delta (Northcutt & McCoy, 2004).

5.2.4 Focus group cluttered SID

The affinities were positioned according to their tentative assignments as indicated in the IRD (see table 5.11), with relationships between them indicated by arrows, resulting in the focus group cluttered SID (see figure 5.1).

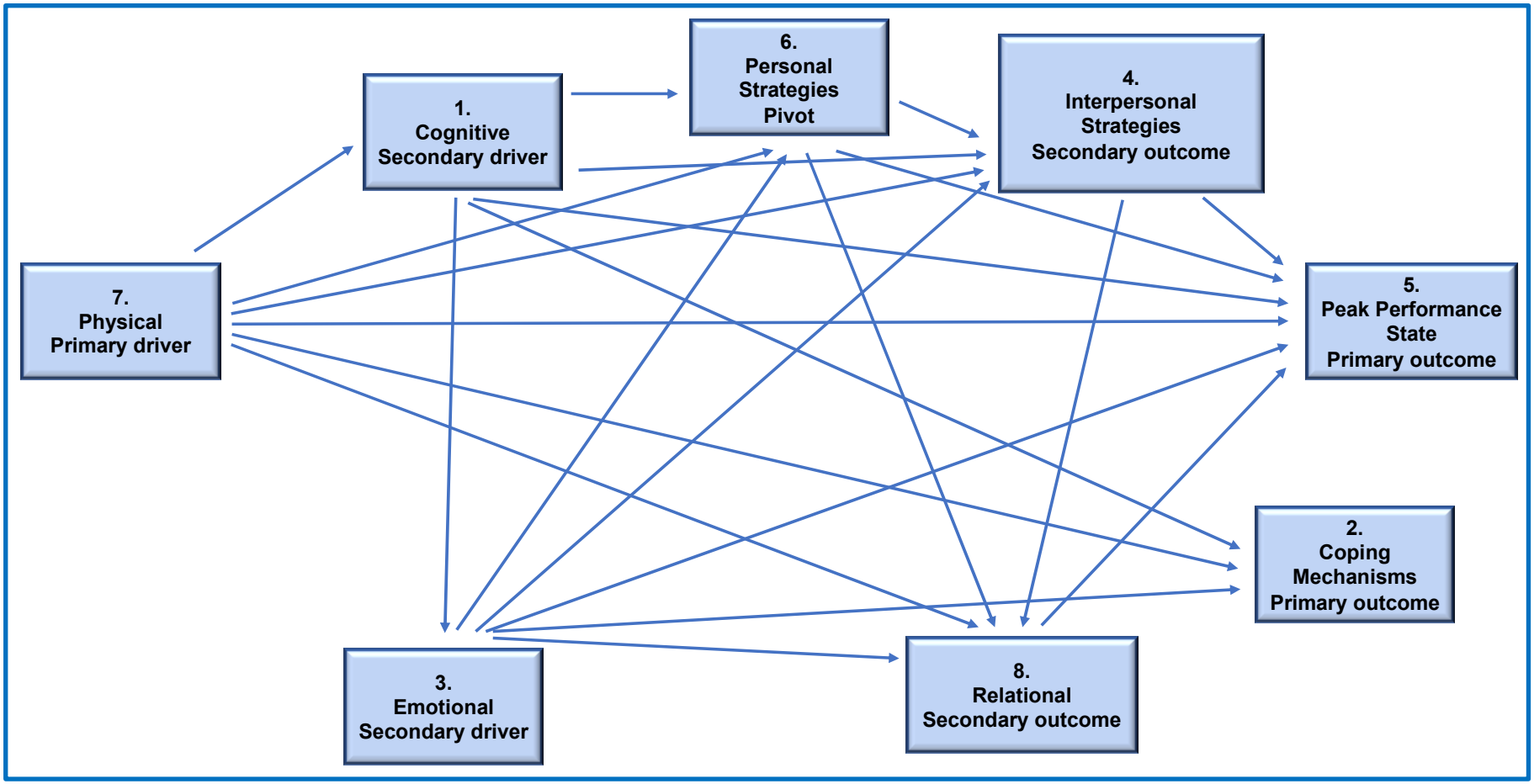


Figure 5.1. Focus Group Cluttered SID

5.2.5 Focus group uncluttered SID

Following the protocol described in section 4.7.6 to remove redundant links, the focus group uncluttered SID was depicted as follows (see figure 5.2).

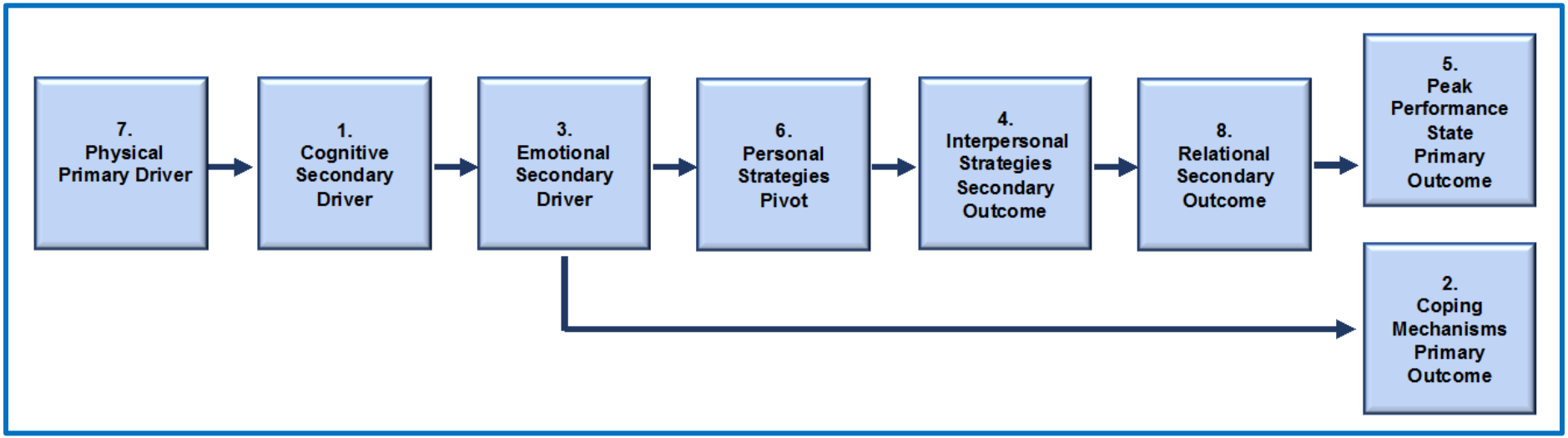


Figure 5.2. Focus Group Uncluttered SID

5.2.5.1 Focus group SID description

The IQA protocol describes the pathways through the SID as a journey, and the SID itself can be seen as an experiential journey map for the group representing their experiences of emergent change at work. The position and function of each affinity has particular meaning in the system dynamic relative to the others, and contributes uniquely but not independently. As explained in chapter 4, the IQA protocol stipulates that the participants need to interpret the SIDs (Northcutt & McCoy, 2004).

Physical was the primary driver for the focus group. Participants defined Physical as the physiological response to the change stimulus. To the group, this meant that the physical experience impacted all other affinities either directly or indirectly, highlighting its driving influence during emergent change at work, and how it triggers the cascade of the rest of the system of experience. Over 25% of the Physical cards were about having physical tension and tight muscles (see table 5.7). Panic, anxiety, adrenaline, increased heart rate and fight or flight were mentioned. There were also multiple cards about forgetting, ignoring or neglecting basic biological needs, such as forgetting to eat and postponing going to the bathroom in order to finish a task. All Physical cards reflected heightened stimulation and none of the cards reflected a pleasurable Physical experience or response.

Cognitive and Emotional followed as the secondary drivers in the system. According to the group's definitions of these affinities, they interpreted them to mean that their physiological experience and response triggered an impact on their mental faculties to try figure it out (Cognitive), and that they then became aware of their Emotional experience. There was a trend in the Cognitive cards about feeling the need for more time and space, sensing rushing thoughts, a loss of perspective and an increased focus on self (see table 5.1). Over 60% of the cards placed in the Emotional affinity were about feeling fear, emotional volatility, panic, loss of control, isolation, angst, annoyance, passive aggressive, irritation, frustration, being robotic or removed from one's body and disappearing or dissolving (see table 5.3).

At the point of the Emotional affinity, there is a proverbial "fork in the road", where the SID splits from one affinity line into two branches.

In the first path, the combination of Physical, Cognitive and Emotional responses (a system of drivers, within the wider system) leads to the engagement of a personal strategy. The Personal Strategies affinity is a pivot in the system, highlighting the importance of its position and influence. According to the IQA methodology (Northcutt & McCoy, 2004), if an affinity is a pivot, it means that an equal number of affinities influence and are influenced by that particular affinity. It is thus an affinity with high leverage in the system, and changes made to this affinity can have a significant impact on the system overall. There were also the most content cards in this affinity. In terms of trends, 18% of the cards were about calming down, slowing down, making space, avoiding distractions and being still; 22% of the cards were about taking action and being task focused; and 30%, reflecting the highest percentage of Personal Strategies cards, were about gaining perspective, interrogating and reflecting (see table 5.6).

Continuing along this path, the choice of Personal Strategies goes on to influence the choice of Interpersonal Strategies, namely the activities a group or individuals within a group engage in to deal with change or deal with change directly. Cards about humour (“saying something funny or sarcastic to lighten the mood”, and “making bad jokes”) and planning were repeated in the Interpersonal Strategies affinity. All cards in this affinity involved communication to a degree, examples of which include the need for meeting, rallying and consultation (see table 5.4).

The next affinity is Relational, which the group defined as the elements that come together to create the relational environment during or after a change event. Relational had the least number of cards out of all the affinities. The only presenting trend in the Relational cards was an overall one of negative impact, including strain on interpersonal relationships, suppressing rage and less communication (see table 5.8). Gratitude to colleagues for their support was the only exception.

Both the Interpersonal Strategies and Relational affinities were the secondary outcomes of the focus group SID.

The primary outcome along this path is Peak Performance State, which was defined by the group as a productive state of being which leads to productive output, and a confluence of physical, spiritual, emotional, cognitive and attentional experience. In

the focus group, there was rich discussion about this affinity. Fifty percent of the content cards for Peak Performance State referenced focus (see table 5.5).

Returning to the Emotional affinity where there is a “fork in the road” to take the second path of the focus group SID, it goes directly from the Emotional experience to Coping Mechanisms, which was another primary outcome for the group. According to the focus group SID, there were affinities that influenced Coping Mechanisms, but Coping Mechanisms did not influence other affinities. The focus group SID reflects that depending on their Emotional experience, they might choose a Coping Mechanism that bypasses all the other aspects of their SID. Participants defined Coping Mechanisms as the tactical activities a person engages in to soothe discomfort or achieve a state of pleasure. Coping Mechanisms cards reflected the following trends in order of decreasing frequency: Drinking coffee, smoking, food and swearing. Other Coping Mechanisms included intellectualisation, suppression of empathy, the urge to be mean and distractions (such as mindless TV and social media). One content card reflected a participant’s response to “make inappropriate jokes to mirror the turmoil I feel inside”, which was another example of humour, which was also reflected on multiple content cards for Interpersonal Strategies.

5.2.5.2 Focus group findings discussion

While the focus group system experience of emergent change was described above, a more in-depth discussion of the findings commences below.

The SID represents a version of an internal operating model of responses for the group, just as each individual SID represents its own internal operating model. As can be seen from the richness of the data, the experiences of emergent change are far more complex and nuanced than merely reflecting an approach or avoidance motivational schema. Rather, the uncluttered focus group SID reflects both avoidance and approach motivational schema that relate to the particular basic psychological needs the group are trying to satisfy through their experiences of and responses to emergent change.

Physical experiences drive the overall system for the group, supported by a comment from the focus group discussion below.

“There is an immediate physical response to change stimuli.”

The SID reflects that the Physical response was followed by their Cognitive and Emotional experiences and corresponding responses. This forms a system of three experiential response drivers: Physical, Cognitive and Emotional.

The data reflects a generally avoidant response to the system of driving elements of the experience of emergent change (Physical, Cognitive and Emotional), suggesting that the initial elements of the group’s experiences of emergent change are experienced by the group as somewhat threatening and unsafe. This was evidenced by multiple content cards. In the Physical affinity, there were cards for fight/flight and panic, and in the Emotional affinity, there were a few supporting cards, including “anxiety and panic – fight, flight, freeze”, “dissolve/disappear”, “removed from my body”, and one card said “Maybe that’s why I go into robot mode – to get away (switch off) from these negative feelings”. Another content card in the Emotional affinity referred to a loss of control. This reflects awareness in the group that experiences of emergent change compromise their need for control (discussed in section 3.3.3.4b). It also suggests a compromise of their need for pleasure maximisation and pain avoidance, as the way in which the above content cards describe their experience of emergent change on the Physical and Emotional level clearly sounds unpleasant, and their response is to fight, flight or freeze and try to “get away” from their sensations and emotions, which are all avoidance-motivated.

The Cognitive element of the group experience is positioned between the other two system drivers. One content card in the Cognitive affinity said that the Cognitive response was to “manage physical response”. Another two said “I need time to do it (so I don’t rush) properly (and to be trusted to do it – don’t micromanage)” and “I need to have the space to say “I don’t know, but I can figure/find it out”” (see table 5.1). This suggests that the Cognitive response is to try to regain a sense of control, since their experience of emergent change is interpreted as a threat to their sense of control and there is a narrative that they need space and time to figure it out. These cards also reflect that the need for self-esteem protection and enhancement may be threatened during emergent change, interacting with their threatened need for control, where their sense of self and identity may feel compromised by their experience of change. This is further evidenced by one content card that said that a Cognitive response was to

“become more focused on self”. In addition to the significant Physical experience and impact of emergent change for the group, there is clearly also a substantial Cognitive load to the experience, before consciously registering how they are feeling or deciding what action to take next, reflecting a complex system of experiential drivers.

The group struggled to differentiate between the Physical, Cognitive and Emotional experiences, but particularly between the Physical and Emotional responses. The lines between these affinities were blurry for the group, and there was extensive debate about which of these affinities impacted each other more. The content cards of panic, tension and fight and flight appeared in both the Physical and Emotional cluster, reflecting the ambiguity and lack of clarity for the participants in determining which experiences were part of which affinity, highlighting a complex and even ambiguous group view of the relationship between them. This ambiguity and lack of clarity was also demonstrated in the group’s inability to assign a relational direction between the Physical and Emotional affinity (see table 5.10). Below is a comment from the focus group that further reflects this lack of clarity.

> *“Fight and flight is tied to anxiety – you experience the physical and emotional at once.”*

This ambiguity was explored more deeply in the interviews and is discussed in section 5.3.5.2, as well as section 5.4 in relation to existing literature on the topic.

Overall, the focus group discussion and resultant group SID indicated an avoidant schema in relation to the driver system of experiences and responses to emergent change, which has a significant impact on the entire system and sets the tone and foundation for the rest of their experience.

Moving on from the overall system of drivers, in the focus group SID, the Emotional affinity was in a particularly influential position in the system, referred to previously by the researcher in section 5.2.5.1 as the “fork in the road”. At this point in the system, depending on their Emotional experience in a situation, if they feel threatened or uncomfortable, they may engage a Coping Mechanism in order to avoid those feelings, thoughts or sensations, bypassing all the other affinities in the system. This highlights a direct and salient relationship between Emotions and Coping Mechanisms, and how they can both be more or less productive.

However, if they experience positive or more productive emotions or respond to them more productively despite what they are, it opens up the more diverse path, involving the rest of the affinities. This offers more possibilities and integrates more elements of their experience, namely the Personal Strategies, the Interpersonal Strategies, the Relational environment, and ultimately Peak Performance State. There may be a lag in recognition of emotions and physiological responses, especially for those who spend more time thinking and value cognitive skills above other skills. If a conscious awareness of emotions is lacking, and there are well-worn neural paths to the Coping Mechanisms that avoid them, neurologically the brain will continue to tread the same neural pathway associated with the perceived Emotional experience of emergent change. Similarly, if there are habitual Coping Mechanisms attached to certain emotions, it is more likely they will follow that path repeatedly and automatically. When a behaviour becomes automatic, it shifts to the implicit experiential system, and is far harder to change than when it is in the explicit realm, as it may be functioning beneath conscious awareness (Epstein, 2003).

This reiterates that the need for pain avoidance and pleasure maximisation is threatened to varying degrees for this group during emergent change. This is directly evidenced by their definition of Coping Mechanisms: “The tactical activities a person engages in to soothe discomfort or achieve a state of pleasure”. These mechanisms may be engaged to achieve short-term pleasure, as well as to avoid and soothe the Physical, Cognitive and Emotional discomfort experienced during emergent change at work. The perceived threat of facing their experiences of emergent change and the resultant compromise of basic psychological needs could be said to supersede the perceived threat posed by emergent change itself. Evidence of this is provided by the following content card that said: “Maybe that’s why I go into robot mode – to get away (switch off) from these negative feelings”. This card does not speak about the change, but clearly says they want to get away from the feelings that were experienced in response to the change. This suggests that they would rather avoid or suppress their emotions than face them, and the change itself is not mentioned.

Some supporting quotations to provide further evidence of the group’s interpretation of Coping Mechanisms, and the comparison to Personal Strategies, are included below.

“Quite often coping mechanisms are immediate and reactive.”

“The distinction I like to make is between tactical (Coping Mechanisms) and strategic (Personal Strategies). Tactics are something you use in the moment to create an immediate response or address something immediately. A strategy seems to be longer term, made up of different tactics.”

The researcher noted that the focus group referred to their Physical experience as well as their Coping Mechanisms as immediate. This would suggest a low level of perceived control over these elements of their experience, both of which have highly significant positions in the overall system.

The rest of the focus group SID is significantly influenced by how the group experiences the system of drivers. While there was an avoidant schema in relation to the drivers overall, there was a mixed approach and avoidance response to the system of outcomes.

The discussion of Personal Strategies seemed to reflect a distinction between calming activities, action orientation and reflective or thinking mental operations such as planning, rallying, interrogating and seeking multiple perspectives. Within a team, if person A’s strategy is to calm themselves before they can do anything, it reflects a compromised need for pleasure maximisation and pain avoidance as well as attempts to restore a sense of control (Grawe, 2007). This involves the salience network, which functions at the implicit procedural and emotional levels of memory encoding, as discussed in section 3.3.4 (Arden, 2019). If person B’s response is to start making decisions and engage task mode, it also reflects their attempt to regain control, but in a different way to person A. Person B’s response involves the executive network which functions at the explicit episodic and declarative levels of memory encoding (Arden, 2019). If person C’s response is to pause to think about the situation and reflect, they are also probably trying to gain a sense of control, in a different way to person A and B, engaging their DMN, which also functions at the explicit level of awareness (Arden, 2019). These examples, drawn from the Personal Strategies content cards created in the focus group, highlight that there could be a conflict or clash between strategies that could create tension and counterproductive efforts if it goes unacknowledged and unmanaged, or if individuals do not know themselves and each other well. One

individual may need a brisk walk to calm down, while another may want a meeting to plan. Neither is correct or incorrect. These different responses reflect different ways in which individuals endeavour to meet their need for control. Turning to others for rallying and planning (engaging Interpersonal Strategies) could be an attempt to re-establish control in the situation through attachment, potentially satisfying multiple needs simultaneously. A comment from the focus group about Personal Strategies is included below, suggesting that in a team, the strategies each person chooses will influence other people, and the workplace.

> *"If you're with a group of people who are mature when it comes to dealing with change, each person will choose productive personal strategies and each person will try to arrange their personal strategies so you can have a larger impact."*

For these reasons, it makes sense that the Personal Strategies affinity is the pivot in the system for this focus group. The Personal Strategies reflect the mental operating networks (Arden, 2019) individuals and the team engage to deal with their initial Physical, Cognitive and Emotional elements of their experiences of emergent change.

The next element of experience is the Interpersonal Strategies, as a secondary outcome. According to the group, a Personal Strategy may lead into an Interpersonal Strategy if the individual requires support and/or assistance beyond their individual capacity. All the cards for Interpersonal Strategies either indirectly involved or directly referred to communication, such as consultation, disclosing more and rallying (see table 5.4). This reflects how important communication is in emergent change situations for this group. Most of these cards seemed driven to try to restore a sense of control, and to still achieve the work objectives. A content card that substantiates this said the following: "Let's get the meeting done and let's get moving (the meetings are essential but don't let them slow down the work)", clearly reflecting the priority to get the work done, which could be approaching the goal or in avoidance of other elements of their experience, or both. Humour was another Interpersonal Strategy that could be approach or avoidance motivated for this group. It could be to bond the group and lighten the situation to help keep people motivated, but it could also be in avoidance of the extent of impact of the emergent change situation on an individual, or the group overall. Different situations are likely to draw out different applications of humour. This will be discussed further and integrated with the literature in section 5.4.

Certain participants mentioned that they put their team members before themselves when they became stressed. This can be functional or dysfunctional, depending on the situation and severity, with costs ranging from mild discomfort to negligence of self. Thus, it seems that this group tries to meet multiple needs through both avoidant and approach motivational schema, for both Personal Strategies and Interpersonal Strategies. Supporting quotations from the focus group discussion about Interpersonal Strategies are included below.

> *"If it's particularly stressful, I look after my team before I look after myself."*
>
> *"You're in the right headspace to engage with others."*
>
> *"It's not about thinking for yourself, it's to execute for the group."*

There is a high "other-awareness" in the group, and consideration of the feelings and experiences of others. One of the above quotations reflects how the participant takes care of their team before they take care of themselves. This raises a question of self-care, individual needs in relation to team needs, and individual wellbeing or the perception that one's team's needs come before one's own needs. By focusing more awareness on the wellbeing of others, which may seem to present like an approach motivational schema in a group setting, an individual could potentially instead be avoiding the pain of acknowledging the extent or nature of their own experience, or trying to restore control through attachment, or perhaps enhancing their sense of self-esteem by identifying as someone who prioritises others. If there is a preoccupation with the "other", then it can compromise the awareness of the embodied experience of the individual, or could reflect an avoidant motivational schema in relation to one's own experience. There could be some cultural markers presenting here, if there are perceived expectations or pressure felt about putting the needs of others and work before one's own. This also reflects the way in which the group engages various strategies to try meet their attachment need, and the potential underlying expectations, norms and narratives about compromising oneself for the sake of the group. Once again, there is a mixed approach and avoidance motivational schema here, reflecting discordance and incongruence as signs of inconsistency in this element of their experience. Any exhibition of inconsistency is a resource-intensive experience (Grawe, 2007), which would only add to the stress of an emergent change situation.

The Relational affinity had very few content cards, and was only discussed at the end of the focus group section where the content cards were clustered into affinities, as if it was an afterthought. The group felt that Relational was more about the environment, as compared to Interpersonal strategies, which were more about strategic activities involving others. The group data reflected that they have both approach and avoidance motivational schema towards their attachment need during emergent change at work. In terms of approach, this was evidenced by a content card in the Relational affinity that said “support needed”, and another that acknowledged a feeling of gratitude for the support of colleagues during emergent change, which could suggest that emergent change could enrich the Relational environment and bond colleagues. Also, in the Interpersonal Strategies affinity, content cards said they needed meetings, more communication, planning and rallying during emergent change, reflecting how they turn to the group during emergent change, engaging Interpersonal Strategies when Personal Strategies alone are insufficient. When it is strategic about achieving the work objective, there are clearer Interpersonal Strategies and they are able to communicate about the goals. However, depending on which Interpersonal Strategies are chosen, there can be Relational strain despite the pursuit of work goals, and a sense of insufficient or ineffective communication. The data for the Relational experience reflected some avoidant schemas that played out too, evidenced by the group’s expression of having less communication during change, suppressing rage and feeling a strain on relationships. The group self-identified the paradoxical nature of their Relational experiences, supported by the focus group comments below:

> *“Change happens and there’s a relational response to support but at the same time paradoxically to become less connected.”*
>
> *“Less communication and the need for more support feed into each other like a vicious cycle.”*
>
> *“If change happens, I feel more irritated with others than normal.”*

This reflects a complex and ambiguous dynamic around the attachment need for this group, as well as discordance as a reflection of inconsistency in how they attempt to satisfy this need or compromise it in an attempt to satisfy other needs (Grawe, 2007). Additionally, this reflects that there may also be a level of incongruence in the way they try to meet this need, with their Relational goals potentially not aligning with their

perceptions and experience of reality (Grawe, 2007). Hence the way they experience emergent change at work seems to increase their need for attachment, as well as compromise it, and if their Relational goals are regularly unachieved or neglected, then they may have developed an avoidant motivational schema around their attachment need at work. Overall, the group suggested that working relationships can suffer or be compromised, as well as enriched, in their experience of emergent change at work, depending on their experiences, responses and the situation.

The group struggled to define Peak Performance State more than any other affinity, and also to name it, even though it was identified as being the primary outcome for the focus group SID. There was no clear, shared agreement around how Peak Performance State is experienced by the group, even though the phrase "high performing team" was referenced, which indicates a narrative or cultural expectation of performance that may be incongruent with the team's first-hand experience of Peak Performance State. This is explored more in section 5.3.5.2. While the Cognitive affinity cards seemed to reflect an inward focus on the self, the Peak Performance State cards reflected a focus on the work, task or project and being "in the moment" – in other words, present. Being present engages the executive network in the brain (Arden, 2019). Quotations from the rich discussion to substantiate their experiences of Peak Performance State are referenced below, reflecting a high degree of perceived focus and sense of control, which may be a sign of how Peak Performance State could help restore an overall sense of control, pleasure maximisation and self-esteem enhancement during emergent change.

> *"All of you is geared towards coping with change, coming up with viable strategies to address change, you're able to regulate your environment in response to change. You are at your best when it comes to being adaptable."*

There was, however, a suggestion that Peak Performance State is a solo, unsustainable, individual experience, suggesting that Peak Performance State could compromise the attachment need, supported by a focus group comment below.

> *"It's a high performance state, it cannot be sustained and is not social at all."*

This raises an avenue of inquiry around the group dynamics experienced during Peak Performance State, which will be discussed further in 5.4.

In summary, there is an avoidant motivational schema playing out in the focus group driver system, particularly in relation to the Physical and Emotional elements of their experiences of emergent change. The system dynamic reflects various ways in which the group tries to re-establish control when it is compromised during emergent change situations, reflecting that control seems to be the need the group is most conscious of being threatened during emergent change, and the one they actively try to restore. There is highly complex ambiguity, discordance and incongruence reflecting inconsistency in the way the group meets their need for attachment, sometimes responding in ways that compromise it and at other times in ways that enrich it. Depending on how they experience a particular emergent change situation, and how it is neuroceptively perceived to be safe or threatening, the incongruence is likely to compromise multiple needs simultaneously and be highly resource intensive, potentially making their experience more challenging. Alternatively, the way they interpret and respond to their experience could help them meet their needs and have a more positive experience that enables them to enrich their Relational environment and experience their Peak Performance State. There also seems to be a mix of proportional engagement of the three mental operating networks in the group's experiences of emergent change, namely the salience network, the DMN and the executive network.

5.3 FINDINGS RELATING TO THE INTERVIEWS

In each individual interview, the researcher presented each interviewee with the focus group SID, and asked them to describe what it meant to them, and how it was similar or different from their own perceived experience. Once they had a chance to talk the researcher through their interpretation of the group system, they were asked to describe their interpretation of their individual SID. This multilayered approach generated immensely rich data, and highlighted the complex diversity and broad spectrum of experiences of individuals and the group, illuminating similarities as well as differences. The findings from the interviews are described, presented and then discussed below.

5.3.1 Combined interview theoretical code frequencies

After the individual interviews, the individual ARTs were tallied to create the combined interview theoretical code frequency table (see table 5.12). This reflects the number of participants who felt the affinity pair relationships went in each direction.

Table 5.12

Combined Interview Theoretical Code Frequency Table

Affinity pair relationship	Frequency	Affinity pair relationship	Frequency	Affinity pair relationship	Frequency
1 → 2	7	2 → 6	4	4 → 7	4
1 ← 2	1	2 ← 6	3	4 ← 7	3
1 → 3	2	2 → 7	6	4 → 8	7
1 ← 3	6	2 ← 7	3	4 ← 8	2
1 → 4	7	2 → 8	7	5 → 6	0
1 ← 4	1	2 ← 8	1	5 ← 6	9
1 → 5	6	3 → 4	8	5 → 7	3
1 ← 5	3	3 ← 4	1	5 ← 7	4
1 → 6	6	3 → 5	6	5 → 8	5
1 ← 6	3	3 ← 5	1	5 ← 8	2
1 → 7	5	3 → 6	5	6 → 7	5
1 ← 7	3	3 ← 6	3	6 ← 7	3
1 → 8	8	3 → 7	5	6 → 8	8
1 ← 8	0	3 ← 7	2	6 ← 8	0
2 → 3	1	3 → 8	6	7 → 8	4
2 ← 3	6	3 ← 8	0	7 ← 8	1
2 → 4	3	4 → 5	5		
2 ← 4	2	4 ← 5	2		
2 → 5	4	4 → 6	1		
2 ← 5	5	4 ← 6	6		

5.3.2 Combined interview Pareto table and conflict analysis

To determine the extent of consensus between the individual participants' ART data, the Pareto protocol (Nortcutt & McCoy, 2004) was followed, as described in section 4.7.7. According to the Pareto principle (Northcutt & McCoy, 2004), the minority of system variables account for the majority of system variance.

The cut-off relationship is highlighted in grey in the table below, reflecting that 31 relationships (54.4% of the total) accounted for 79.9% of the system variance.

Table 5.13

Combined Interview Pareto Table

Affinity pair relationship	Frequency sorted (descending)	Cumulative frequency	Cumulative percent (relation)	Cumulative percent (frequency)	Power
5 < 6	9	9	1,8	4,2	2,4
1 > 8	8	17	3,6	7,9	4,4
3 > 4	8	25	5,4	11,7	6,3
6 > 8	8	33	7,1	15,4	8,3
1 > 2	7	40	8,9	18,7	9,8
1 > 4	7	47	10,7	22,0	11,2
2 < 7	7	54	12,5	25,2	12,7
4 > 8	7	61	14,3	28,5	14,2
1 < 3	6	67	16,1	31,3	15,2
1 > 5	6	73	17,9	34,1	16,3
1 > 6	6	79	19,6	36,9	17,3
2 < 3	6	85	21,4	39,7	18,3
2 < 6	6	91	23,2	42,5	19,3
3 > 5	6	97	25,0	45,3	20,3
3 > 8	6	103	26,8	48,1	21,3
4 < 6	6	109	28,6	50,9	22,4
1 > 7	5	114	30,4	53,3	22,9
3 > 6	5	119	32,1	55,6	23,5
3 > 7	5	124	33,9	57,9	24,0
4 > 5	5	129	35,7	60,3	24,6
5 > 8	5	134	37,5	62,6	25,1
6 > 7	5	139	39,3	65,0	25,7
2 > 5	4	143	41,1	66,8	25,8
2 < 5	4	147	42,9	68,7	25,8
4 > 7	4	151	44,6	70,6	25,9
5 < 7	4	155	46,4	72,4	26,0
7 > 8	4	159	48,2	74,3	26,1
1 < 5	3	162	50,0	75,7	25,7
1 < 6	3	165	51,8	77,1	25,3
1 < 7	3	168	53,6	78,5	24,9
2 > 4	3	171	55,4	79,9	24,5

Affinity pair relationship	Frequency sorted (descending)	Cumulative frequency	Cumulative percent (relation)	Cumulative percent (frequency)	Power
2 > 6	3	174	57,1	81,3	24,2
2 > 7	3	177	58,9	82,7	23,8
3 < 6	3	180	60,7	84,1	23,4
4 < 7	3	183	62,5	85,5	23,0
5 > 7	3	186	64,3	86,9	22,6
6 < 7	3	189	66,1	88,3	22,2
1 > 3	2	191	67,9	89,3	21,4
2 < 4	2	193	69,6	90,2	20,5
3 < 7	2	195	71,4	91,1	19,7
4 < 5	2	197	73,2	92,1	18,8
4 < 8	2	199	75,0	93,0	18,0
5 < 8	2	201	76,8	93,9	17,1
1 < 2	1	202	78,6	94,4	15,8
1 < 4	1	203	80,4	94,9	14,5
2 > 3	1	204	82,1	95,3	13,2
2 > 8	1	205	83,9	95,8	11,9
2 < 8	1	206	85,7	96,3	10,5
3 < 4	1	207	87,5	96,7	9,2
3 < 5	1	208	89,3	97,2	7,9
4 > 6	1	209	91,1	97,7	6,6
7 < 8	1	210	92,9	98,1	5,3
1 < 8	0	210	94,6	98,1	3,5
3 < 8	0	210	96,4	98,1	1,7
5 > 6	0	210	98,2	98,1	-0,1
6 < 8	0	210	100,0	98,1	-1,9
Total frequency	**214**				

The cumulative frequency percentages that fell within the 80% threshold were then arranged in ascending order, with the exception of any duplicates, which were referred to as conflicts and indicated in the column with a question mark (see table 5.14). The conflicts were handled by following the IQA protocol (Northcutt & McCoy, 2004), leaving out the lowest frequency and retaining the conflict with the highest frequency, as described in section 4.7.7. The highest frequency conflict relationship was 1 > 7,

which was retained, and the lowest frequency conflict (1 < 7) was eliminated. Thus, according to the Pareto protocol steps of the IQA, the first 31 relationships account for the optimal amount of variance within the system, without compromising parsimony. The combined interview conflicts are depicted in table 5.14.

Table 5.14

Combined Interview Conflicts

Affinity pair relationship	Frequency	Conflict?
1 < 3	6	
1 < 5	3	
1 < 6	3	
1 < 7	3	?
1 > 2	7	
1 > 4	7	
1 > 5	6	
1 > 6	6	
1 > 7	5	?
1 > 8	8	
2 < 3	6	
2 < 5	4	
2 < 6	6	
2 < 7	7	
2 > 4	3	
2 > 5	4	
3 > 4	8	
3 > 5	6	
3 > 6	5	
3 > 7	5	
3 > 8	6	
4 < 6	6	
4 > 5	5	
4 > 7	4	
4 > 8	7	
5 < 6	9	
5 < 7	4	
5 > 8	5	

Affinity pair relationship	Frequency	Conflict?
6 > 7	5	
6 > 8	8	
7 > 8	4	

5.3.3 Combined interview IRD

The remaining relationships were then used to create the combined interview IRD, as indicated in table 5.15.

Table 5.15

Combined Interview IRD

Affinity # and name	1	2	3	4	5	6	7	8	OUT	IN	Δ	Tentative assignment
3 Emotional	^	^		^	^	^	^	^	7	0	7	Primary driver
1 Cognitive		^	<	^	^	^	^	^	6	1	5	Secondary driver
6 Personal Strategies	<	^	<	^	^		^	^	5	2	3	Secondary driver
7 Physical	<	^	<	<	^	<		^	3	4	-1	Secondary outcome
4 Interpersonal Strategies	<	<	<		^	<	^	^	3	4	-1	Secondary outcome
2 Coping Mechanisms	<		<	^	^	<	<	-	2	4	-2	Secondary outcome
5 Peak Performance State	<	<	<	<		<	<	^	1	6	-5	Secondary outcome
8 Relational	<	<	<	<	<	<	<		0	7	-7	Primary outcome

Note: The affinities are sorted in descending order of delta (Δ).

5.3.4 Combined interview cluttered SID

The combined interview cluttered SID was compiled using the combined interview IRD, as depicted in figure 5.3.

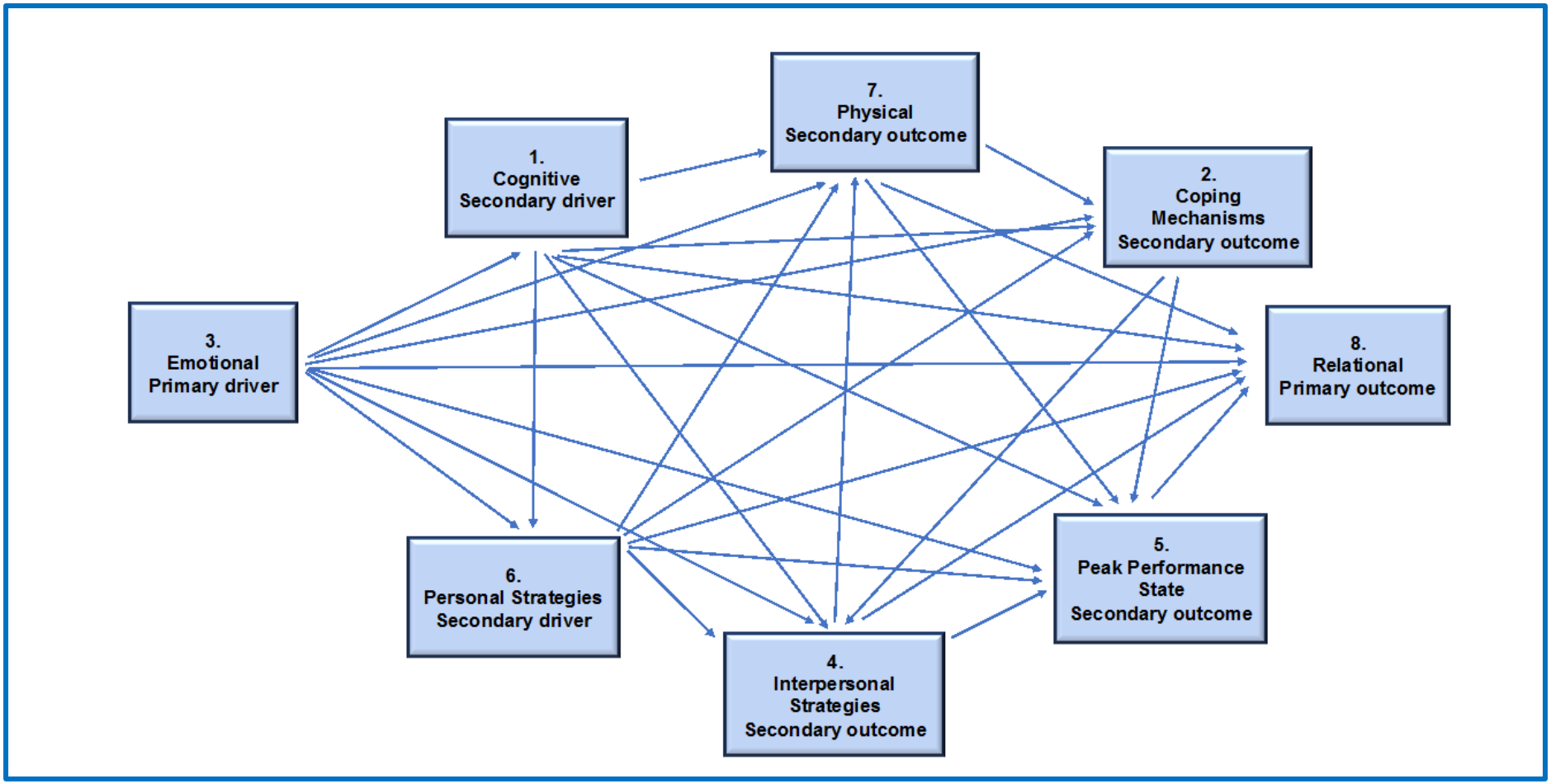


Figure 5.3. Combined Interview Cluttered SID

5.3.5 Combined interview uncluttered SID

As per the IQA protocol (Northcutt & McCoy, 2004), the redundant links were removed from the cluttered SID, resulting in the combined interview uncluttered SID, as depicted in figure 5.4.

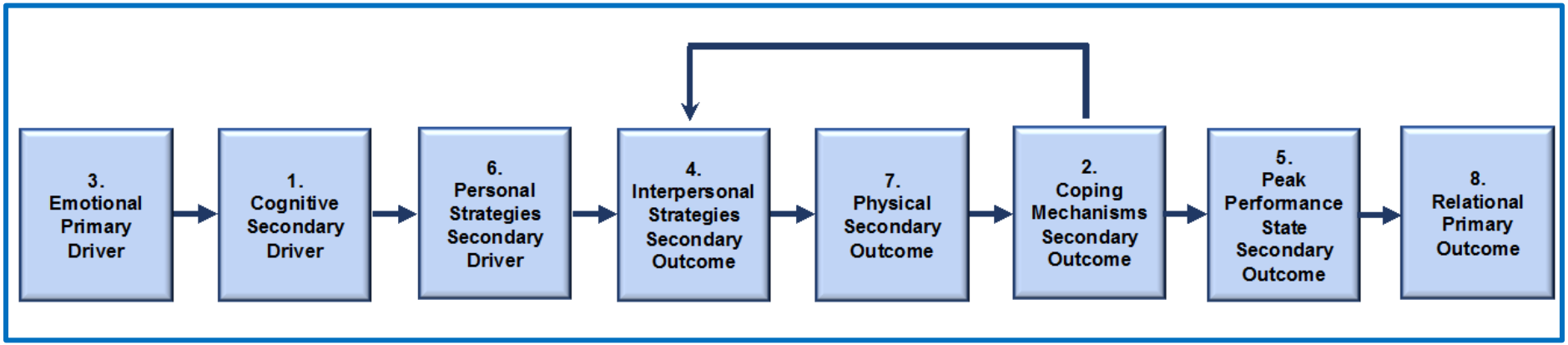


Figure 5.4. Combined Interview Uncluttered SID

5.3.5.1 Combined interview SID description

In the combined interview SID, the primary driver in the system was the Emotional affinity. It went on to influence the Cognitive element of experience and choice of Personal Strategies, both of which were secondary drivers.

Thereafter, the Interpersonal Strategies, Physical experience, Coping Mechanisms and Peak Performance State experiences followed as the secondary outcomes.

There were no pivots in this SID, but there was one feedback loop system, which starts at the point of Coping Mechanisms and loops back to the Interpersonal Strategies. Depending on which Coping Mechanism is chosen in response to experiences of emergent change at work, it could loop back to influence the choice of Interpersonal Strategies, and then the system of experiences of emergent change could continue along the affinity path or could continue repeating the Coping Mechanisms loop. This would naturally influence whether or not an individual reaches Peak Performance State, how it impacts on the Relational environment overall, and how many loops an individual goes through before they manage to break that cycle.

The primary outcome of the combined interview SID is the Relational experience, suggesting that it is influenced by all other affinities in the system directly or indirectly.

5.3.5.2 Combined interview findings discussion

From the combined individual interview data, it became clear that the individual participants have an avoidant, uncomfortable and viscerally described relationship with their emotions during emergent change, providing further richness and depth to what emerged in the focus groups (as discussed in section 5.2.5.2). The individuals seem to actively avoid, suppress or push their emotions away. Evidence of this is provided in the interview quotations below.

> 1A:250 *“I’m empathetic, but I don’t really ... I’m not comfortable in the emotional realm."*
>
> 1C:178 *“The closer to change you are, the more you are fighting off emotions and trying to centre yourself.”*

1D:357 *“I am too forceful in shutting off the emotions, in my effort to calm down. They just kind of … It’s almost like putting a pillow on their face. Like, “be quiet”.”*

As mentioned in section 5.2.5.2, the individuals in this group struggled to differentiate between some of the elements of their experience, most notably the Emotional, Cognitive and Physical elements. An interview quotation below shares a relevant metaphor to describe one participant’s experience of the relationship between the Cognitive and Emotional elements of their experience of emergent change.

1I:723 *"I feel like I don’t have clarity of self-awareness. For me it seems like a mess. It just seems like spaghetti … I’m like hell, how do you separate this? For me even if someone said objectively “I believe this”, it’s going to come down to something emotional, like a value. It’s actually more emotional, for me."*

The system of drivers in the combined interview SID comprised Emotional experience, followed by Cognitive experience and Personal Strategies. The participant narrative of the combined interview SID suggests that the individuals believe that they become aware of their Cognitive experience fairly early in their system, and that their cognition is what drives the rest of their experience from that point onwards. According to the data, depending on their Cognitive response, it would influence their choice of Personal Strategies. The Cognitive response therefore seems to function as a mediator of the Emotional driver.

These drivers go on to start influencing the system of outcomes, starting with Interpersonal Strategies where the experience transitions from personal to interpersonal experiences and responses. Depending on which strategies they choose, it goes on to influence their Physical experience of the change, which in turn, goes on to influence their choice of Coping Mechanisms.

At this point, Coping Mechanisms is a “fork in the road”, just as the Emotional affinity was a fork in the focus group SID, as described in section 5.2.5.1.

For the first of the two possible paths, depending on the Coping Mechanisms chosen, the individual may progress on to their Peak Performance State experience, which will then influence the Relational experience as the primary outcome. For the second path, also depending on the Coping Mechanisms chosen, they could loop back to engage

Interpersonal Strategies again, meaning that they turn to others to either obtain or offer support or engagement in various ways, and then move through the system again from that point. The individual could keep looping, or could move beyond the loop (consciously or unconsciously). This might be to avoid their own potentially negative experience of change or it may be due to prioritising the needs and goals of the team over their own needs. It could also be due to another overlapping emergent change experience occurring, or it may be to gain enough support or other ideas to make it through the cycle once more to reach the Peak Performance State and enhance the Relational experience. These hypothetical examples reflect how, while the SID is a static visual, in reality, embedded in context, individual and group experiences of these elements could be extremely dynamic and diverse.

Personal Strategies was a secondary driver in the combined interview SID, and the final affinity in the system of drivers. Participants spent significantly more time discussing their Personal Strategies in the focus group than in the interviews.

In contrast, Interpersonal Strategies were discussed more in the interviews than in the focus group, highlighting their importance to the individuals, and the individual sense-making process around this affinity. During the interviews, it became clear that the individuals felt that emergent change involves a great deal of complexity, many unknowns, uncertainty and many decisions to make, suggesting that they realise that emergent change is too VUCA to face alone, and that they need and impact each other, and that others are also impacted by change. The individual quotations below about Interpersonal Strategies provide qualitative substantiation for some approach-motivated behaviours.

> 1A:241 *"Check in with other people. Try to see below the surface, if people show you. Interpersonal would be speaking to people, raising concerns, make them feel better or calm them down from a panic."*
>
> 1B:211 *“If it’s a broader project or project level that requires a lot more decision making, and decisions that affecting other people as well, then it will be probably more interpersonal.”*

While individuals have a need for control, in times of VUCA emergent change, it is often not possible for each individual to maintain control all the time. However, control

could evolve from something individual into something that can be achieved collectively, or through organisational structures and processes, due to no single individual holding all the information, resources and abilities required to meet overall objectives in increasingly complex contexts. Each individual can do their differentiated part in contributing to the integrated whole. However, if individuals still seek full individual control as their perceived need, this could create tension at both individual and team level. The last quotation above suggests that this participant is aware of the complexity, accepts that they are unable to control it alone and knowingly turns to others as an interpersonal strategy to help make higher quality and quantity of decisions on projects. This is a healthy approach motivational schema that will meet the individual's need for attachment through reaching out and relating, control through turning to others who can create a sense of control by figuring it out together, pleasure maximisation and pain avoidance from not having the pain of bearing the burden of complexity alone that is beyond their capacity, and an overall enhanced sense of self from being able to know they are contributing as part of a whole and were able to exert agency to achieve a goal together. In this scenario, it can be seen that such an approach motivational schema can lead to all of the basic psychological needs being met, as well as achieving congruence and consistency (Grawe, 2007).

In the combined interview SID, the choice of Interpersonal Strategies goes on to influence the Physical response as a secondary outcome. This, as mentioned, was a significant difference between this SID and the focus group SID. It suggests that the individuals become aware of their Physical experience only after they engage their Interpersonal Strategies, and thus the Physical elements of the experience are perceived to be due to a greater combination of factors than just the original change, and it would be hard to tell what was sourced from which element of the experience. This position in the combined interview SID also indicates that individuals may be delaying, denying or entirely disregarding their Physical experiences during emergent change, which may seem functional at the time, and may well have become a habit, but it could have negative effects on health, wellbeing and thus also on organisational performance. As the Physical experience influences the choice of Coping Mechanisms directly, avoiding their Physical experience consciously or subconsciously could prevent them from reaching Peak Performance State and enhancing the Relational environment. If that is the case, they may dissociate or focus on the group or team

goals in avoidance of their own experience altogether. This is explored further in section 5.4 where the literature is integrated into the discussion.

Progressing further along the journey map of the combined interview SID, Peak Performance State was the final secondary outcome after Coping Mechanisms.

This reflects a perceived direct relationship between Coping Mechanisms and Peak Performance State, which leaves performance rather vulnerable to the Coping Mechanism chosen. Since Coping Mechanisms also can loop back to Interpersonal Strategies, it has a highly influential position in the combined interview SID. Depending on the Coping Mechanism chosen, an individual may keep looping through part of the system, or could reach Peak Performance State and go on to the Relational element of the experience.

Different individuals described their experiences of their Peak Performance State differently in the interviews, two examples of which are shown below. These quotations provide evidence of the diverse, in-depth experiences of Peak Performance State for the individuals.

> 1A:502 *"I will exit [Peak Performance State] once I have delivered. … feel the relational, then I may have a physical reaction WOO I'm so great, take it back to emotional, think very nice things about myself, then that I'll be like ooo I can work a bit harder."*

> 1F:539 *"So, that flow goes with the spiritual so it's like being completely in the moment. Forgetting everything else all the physical emotional and all the other stuff and being able to be completely focused. So, it's to completely flow in that kind of focus and forgetting all else and just being at one with what you're doing not reflecting on it and not second guessing it that you're performing."*

In light of their Peak Performance State definition, it made sense to the participants that Peak Performance State was the primary outcome of their focus group system experience of emergent change. However, in the individual interviews, there was discussion about there being no guarantee that someone would reach that state; nor that they would stay there for long if they got there, and that emergent change often knocks them out of that state, triggering the overall emergent change experience

system cycle again. Many participants in the interviews admitted that they were seldom reaching Peak Performance State, reflecting that there may be a discrepancy between how the group discusses Peak Performance State or the expectations around it culturally, and the individual experiences thereof. It could also suggest a business need for productivity being prioritised over the environment being truly conducive to reaching Peak Performance State. Interview quotations provide evidence of rarely reaching Peak Performance State.

> 1E:552 *“I feel like it has been such a long time since I have been in Peak Performance State.”*
>
> 1G:869 *"I have been struggling with this lately … I haven’t spent a lot of time in this space [Peak Performance State] at all."*

The Relational experience was the only primary outcome for the combined interview SID. This SID reflects how important the Relational environment is to the individual participants, even more so than in the focus group SID, where Relational was positioned as a secondary outcome (see figure 5.2). The combined interview SID also reflects that the Peak Performance State experience will influence the Relational experience, which provides evidence that perceptions and experiences of performance can influence the participants’ Relational experiences and environment. If they’re seldom experiencing Peak Performance State, it influences how they feel about the Relational environment.

A number of participants suggested in the individual interviews that the system experience of emergent change is embedded within the Relational environment, showing how important it is to them, as far more than merely an affinity but as an integral contextual aspect of their reality and shared understanding of the work environment, as well as what matters to them in times of emergent change. It highlights their need for attachment and support, as well as their need for control, and the pleasure they derive from their working relationships, which will affect their overall sense of self, reflecting how this affinity significantly impacts all their basic psychological needs. They may attempt to meet their needs in different ways. For example, they may try to meet their attachment need through control (Coping Mechanisms such as suppression or denial of their experience), and they may try to

meet their control need through attachment (Interpersonal Strategies such as focusing on the needs of others rather than on their own, because they feel out of control of their own emotions).

The way participants interpret the Relational environment will have a significant impact on how they experience emergent change. It also provides substantiation for how Relational was positioned as the only primary outcome of the combined interview SID, as a by-product of the interactions between all the other elements of experience within the system. This is discussed further in section 5.4, and integrated with the current literature on emergent change and relationships through the lens of applied neurosciences. A relevant and rich interview quotation is included below, to describe their experience.

> 1E:242 *"Relational is like an environment. Like for me that's kind of like overarching. I'm just going to put relational up here because everything falls under relational; because all of these impacts … The event or change itself is relational – someone says something, or sends me something, and that's how it starts … Everything that happens in the cycle affects the relational environment and the relational environment affects how I go through this cycle."*

This suggests that the power and influence of, as well as the threat to relationships during emergent change, is highly significant. The participant was suggesting that change is relational, and that relating generates and is impacted by emergent change. This insight did not emerge as clearly during the focus group discussion as in the individual interviews, probably because the interviews were one on one, where participants felt safer to share in more detail than publically in the focus group. In the focus group, the Relational affinity seemed to be an after-thought, had the least content cards in it and was not discussed much. However, in the combined interview data, it clearly was extremely important to the individuals during experiences of emergent change. The interview quotation below highlights how individual experiences and responses can influence relationships, and how challenging they can be to restore if they are damaged.

1H:439 *"... as you can imagine the relationships suffer if I am constantly reactive. Yeah, so you end up damaging relationships. That damage feeds back in and you lose control of the relationships as well and to bring back harmony after things fall into such disarray, it takes many months because you have to deal with other people who are also reactional. So, I mean it wasn't just myself in the situation. It's a bunch people all feeling enormous amounts of stress and change, having to collaborate. And the breakdown in collaboration, the breakdown in communication, the unhealthy interactions and negative responses, the volatile moods. Um … To get back to a relational dynamic is actually more difficult than stabilizing your environment."*

This reinforces the clear need for attachment during emergent change situations at work, as discussed in section 5.2.5.2, as well as how relationships can also be threatened, compromised or damaged during emergent change, and how challenging it can be to repair them. This data reflects that in a VUCA environment, individuals, the group and the relationships between individuals also reflect VUCA characteristics, which can cause its own level of individual, group and systemic stress in addition to emergent change.

The individual interviews also highlighted how the client-facing responsibilities for this group, as well as the client relationship management that forms a part of their jobs, can be experienced as highly pressurising and taxing. This detail and level of concern did not emerge clearly about the client-facing aspects of their roles in the focus group. Those with client-facing responsibilities have additional relationships to engage in to get work done, and relationships with clients will be significantly different from those with colleagues, adding additional layers of complexity to the Relational experiences of emergent change for these participants, and thus the impact thereof. The interview quotations below add substantiation to these points.

1E:661 *"I spent the entire working day simply responding to their emails and not doing any actual work. In this particular project, there don't seem to be any boundaries. So, clients are behaving as if there aren't any boundaries, and that's expected. If you're not gonna set them up, it's gonna be unpredictable. It's gonna be crazy … How you do interact with me, you as the client, me as the LXD? Where do you start, where do you stop?"*

1G:883 *“If it’s personal and I can move the deadline, I will. With a client I won’t do that. When it gets to this space and it’s someone else working with me, and I’m working to their deadline, and I need to deliver for them, then I can force myself into that space and do it.”*

Overall, similarly to the focus group SID, the combined interview SID seems to reflect a combination of an approach and an avoidant system response to emergent change, high levels of complexity and rich detail. Quotations from the focus group as well as the interviews provide evidence that there is, in general, avoidance of the Emotional and Physical experiences, which can set the system up for avoidant, suboptimal tendencies. However, the participants definitely approach and feel comfortable discussing Personal Strategies, as well as Interpersonal Strategies at times, even if the underlying motivation may be to avoid their Emotional and Physical response, managed by their Cognitive response, which could bias them towards suppression. They are aware of and able to articulate in detail the tendency to suppress their emotions.

In the combined individual interview SID, the recognition of the Physical elements of their experience is significantly more delayed than in the focus group SID, influencing the choice of Coping Mechanisms, which directly influences whether or not they loop or progress to Peak Performance State and Relational experiences. Despite some avoidant-motivated drivers to meet their needs, the combined interview SID reflects even more so than the focus group SID how significant the Relational environment is for them, highlighting their strong attachment need and how an environment of supportive relationships is necessary for, conducive to, vulnerable during and inseparable from emergent change experiences. It also highlights a mixed approach and avoidance motivation towards the Relational environment at work as well as with clients, which seem to have significant impact on the individuals in this group and could be experienced as incongruent or discordant, reflecting potential relational inconsistency (Grawe, 2007).

5.4 INTEGRATED DISCUSSION

Salient findings, similarities and differences between the focus group SID and the combined interview SID are discussed below. What this means for the group’s overall

system experience of emergent change is also explored, along with an integration of key findings with existing relevant literature.

The findings clearly indicate the level of complexity, depth and richness of the human experience of emergent change at work for the individual participants and for the group, and how there were differences between individual and team experiences.

The focus group offered participants an embodied, relational experience of emergent change in a team environment. The researcher noted that the participants found the focus group emergent change experience to be somewhat challenging, and openly expressed minor frustration about two elements of the IQA protocol (Northcutt & McCoy, 2004). They wanted to have the option of using a bidirectional relationship between affinities, and expressed frustration that they had to reach consensus. While their tension eased when the researcher acknowledged their frustration and explained that the protocol requirements needed to be followed, their initial response to their experience of emergent change challenged them to a degree, which they dealt with in various ways.

Some participants intellectualised their experience. A focus group comment below provides evidence.

> *"This isn't a consensus reality, it's a concession reality."*

Changing the word "consensus" to "concession" helped one participant in particular to reframe the experience for themselves and share it with the group in order to progress. The experience clearly created a sense of incongruence, where the reality was different from what this participant anticipated, and they intellectualised it in attempt to create controllable incongruence (discussed in section 3.3.3.3c). This reflects that the focus group experience and the protocol requirements (another emergent change experience) were experienced as a threat to some of the participants' basic psychological needs, especially the need for control. Further supporting evidence for this is that one content card in the Emotional affinity was "loss of control", and one in the Cognitive affinity said "I need my opinion to be trusted (and don't ask me to ask someone else something I already know)", which also illuminates how and why having to reach consensus would be challenging for the group. The group even identified intellectualisation in one of their content cards to be a Coping Mechanism (see table

5.2). The focus group SID reflects Coping Mechanisms as a primary outcome. Thus, intellectualisation as a Coping Mechanism could lead to them bypassing the other possible elements of their experience during the focus group, at least temporarily until the participant re-engaged in the process. This likely happens in the work environment, too.

The below interview quotation reflects how this participant sees emergent change experiences as synonymous with a loss of sense of control, and that their own experiences of emergent change are the challenge, rather than change itself.

> 1H:958 *"It's not change per se, this is coping with change. Change is happening here all the time. It's when I feel that the change produces a large scale of feeling of loss of control that I respond to. So, let's just say loss of sense of control. 'Cause it's not necessarily that I don't have it, but I don't feel like I have it and that I'm failing, I'm not prepared for this, I have no strategies to help me deal with this. My environment is beyond my control and I can't change my environment, or there are people that I can't change because they are doing their own thing and I just have to somehow reconcile myself and I don't know how. So here is pretty much when I encounter a change, but I'm definitely not prepared for that, I am not mature enough and don't have the tools. And then I find that after I get through a spiral I tend to come back and include more strategies here …".*

The attachment to their ideas in the group context, challenge with consensus, and use of intellectualisation may reflect high levels of individual autonomy at the company as knowledge workers. High individual autonomy has been suggested in the literature to often work in the opposite direction to team level autonomy, which has a direct influence on change processes (Todnem By et al., 2018). If teams are project based and thus change regularly in the company with high collaboration levels, the sense of control and the way it is established are constantly renegotiated (Scarlett, 2016; Schecter et al., 2018; Todnem By et al., 2018).

The group created three content cards about humour, but placed them in different affinity groups. "Humour" was identified as a Personal Strategy (see table 5.6), "make bad jokes" was an Interpersonal Strategy (see table 5.4) and "make inappropriate jokes to mirror the turmoil I feel inside" was one of the Coping Mechanisms (see table

5.2). This repeated reference to humour highlights how important, functional and versatile it is for the group. Humour was used in the focus group as well as the individual interviews, but far more in the focus group, to break tension and lighten or energise the mood at times, reflecting its function in the group as a social tool.

According to neuropsychotherapy and interpersonal neurobiology, humour is a powerful tool for discharging heightened emotions, anxiety and tension and can lead to bonding between individuals even in challenging situations, if the people involved find the humour amusing (Levine, 2015; Scarlett, 2016). However, it can also be a distraction from facing challenging elements of experience (Levine, 2015; Scarlett, 2016; Siegel, 2012; Van der Kolk, 2014). It is therefore possible that the motivation to use humour can be avoidant of one's own experience of discomfort or pain, or to approach meeting the relational need, or both simultaneously. However, overall humour is most likely used to restore a sense of controllable incongruence when an individual or team feel their basic psychological needs are being threatened to a degree that induces a sense of incongruence (Grawe, 2007). This highlights how humour can be a particularly significant tool and element of emergent change experiences, and is natural for humans to engage, regardless of whether it is approach-motivated or avoidant-motivated. The participants acknowledged their predisposition towards humour as a tool as a group and as individuals (as evidenced by the referenced content cards), and the researcher witnessed it in action during the research process.

5.4.1 Comparison of the focus group SID and the combined interview SID

Turning to a comparison of the two SIDs, the Physical experience was the primary driver for the focus group SID, while Emotional was the primary driver for the combined interview SID. The researcher notes that the group demonstrated ambiguity about the relationship between the Physical affinity and Emotional affinity during the ART in the focus group (see section 5.2.5.2 and table 5.10). In the group discussion, they were more aware of their Physical experience than they were individually, highlighting how group dynamics have a visceral, embodied impact. They may have also been more comfortable discussing their Physical experience in the group setting than their Emotional experiences, especially because a number of them expressed not being comfortable with their emotions. The data for the focus group SID was also created at

the end of the day, when they were fatigued and may have given less considered and more instinctual responses.

As discussed in section 5.2.5.2 and 5.3.5.2, both SIDs reflect a generally avoidant response to the Physical and Emotional elements of the group and participant experiences of emergent change. To substantiate this, one content card that was included in the Physical affinity stated the following:

> *"When I am in my robot mode, I don't take care of myself. I might not realise that I'm hungry or need the bathroom. And when I eventually do, I might prolong it because I want to complete a task first."*

Integrating this with the literature discussed in section 3.3.5 on memory systems and mental operating networks, the avoidant motivational schema suggests a possible dysregulation, avoidance or suppression of their salience network and the procedural and emotional elements of experiences encoded in the implicit memory system (Arden, 2019). This means that they are likely not neuroceptively determining the environment to be safe, and thus not effectively differentiating and integrating the interoceptive information (discussed in section 3.3.4) from their salience network into their decisions about how to act moving forward. This is a particularly challenging issue to address, as the salience network functions implicitly largely beneath conscious awareness, and is habitual (Arden, 2019). The result is that they may be underestimating the impact their experiences of emergent change have on them, and yet, as evidenced by the focus group and interview comments and quotations, they have a rich narrative about their experiences. This reflects the engagement of the DMN, which functions at the explicit level and can reflect on the past and project into the future, but does not activate in the moment of experience (Arden, 2019). This suggests that participants' DMN may be more developed and/or engaged than their salience network at work, and that they rely on their DMN to make retrospective sense of and narratives about their experiences, and rely on their executive network to make action-oriented decisions, even if they cannot reconcile and integrate the salience network elements of experiences in the moment they have them (Arden, 2019). This may mean that the majority of participants have normalised their avoidance of dealing with the challenging aspects of their experiences because it may be perceived to not be safe

to do so, suggesting a compromised sense of safety or neuroception, as discussed in section 3.3.4.

The researcher draws attention to the names of the affinities in comparison to the levels of memory encoding, as discussed in section 3.3.5. It is widely accepted that memory encodes first at the least conscious, implicit, procedural (physiological) level, and then at the emotional level (Arden, 2019; Levine, 2015). The focus group SID reflects this almost exactly, with Physical as the primary driver, and Emotional as a secondary driver. The Cognitive affinity is between the two, and the content cards suggest that it may be engaged to try manage (or suppress) the physical experience. This is evidenced by one Cognitive card saying “Manage physical response”. However, in the combined interview SID, Emotional was the primary driver and Physical only featured later as a secondary outcome. Despite this being contrary to accepted literature, it could be because emotions are slightly more conscious than physiological elements of experience (Levine, 2015), so the participants may become conscious of emotions first, with the individual level awareness of their Physical experience being temporarily delayed, ignored or suppressed.

Findings suggest that the experiences of emergent change are encoding differently at different levels of their memory system to what participants are aware of, and that there is incongruence between the conscious and unconscious levels of their experience that may hinder integrated decision making. At the procedural and emotional levels (represented by the Physical and Emotional affinities respectively), there is an avoidant motivational schema in response to their perception that emergent change threatens their sense of safety. However, at the conscious level, there is a detailed, rich, intellectual retrospective narrative around change experiences in general and specifically the Physical and Emotional elements. It seems that this incongruence manifests as an unconscious avoidance of the extent and depth of their experience of emergent change, and a conscious narrative that they have tools that help them deal with it sufficiently and effectively. The conscious narrative may be to create a sense of controllable incongruence, potentially due in part to the frequency and constant presence of emergent change, company culture and experience of constant emergent change, or necessity, and a reliance on the reflective capacity of the DMN, which they seem to be more comfortable using at work.

It could also indicate that they have tried to share aspects of their experience in the past, and either it was not well-received, or it was received but nothing happened to change the situation, and they merely developed mechanisms to avoid having to go through it again. An individual who felt that way may give up, and instead of a fight or flight response, they may feel immobilised and freeze, by saying and doing nothing, as if they assumed nothing would change so avoided even acknowledging it in the first place. This is evidenced by a content card in the Emotional affinity that said “disappear/dissolve”.

The interview quotation below adds depth about the individual experiences of the Physical, Cognitive and Emotional affinities and it reflects that the lived human experience is more complex and ambiguous than literature currently accounts for, and the narratives about the experiences vary from person to person.

> 1F:403 *“The physical and the emotional were actually intertwined. So, I’m a bit … unsure how to represent it because I’ll often have a physical response to a sudden unexpected change, but I usually ignore it or suppress it and usually then the cognitive starts firing, like how you start figuring it out.”*

This reinforces literature that suggests that the procedural and emotional elements mingle together, even though procedural does encode first (Levine, 2015). To further highlight the blurry nature of the relationship between the Cognitive, Physical and Emotional elements of experience, two particularly salient quotations from interviews stated the following:

> 1E:322 *"I believe your emotions, your brain, your body are all one thing. The only reason I wouldn't put cognitive on same plane on emotional and physical is because cognitive ties those two together."*

> 1H:1173 *"I don’t experience thoughts as a separate kind of thing or distinct from emotions and physical experience. I experience my thoughts and feel them."*

Participants’ narratives and beliefs about their own experiences may also prevent them from accessing their full experiential reality. It is a paradox, to feel that certain needs are not met in an experience of emergent change, and to compromise one’s own biological needs as part of the response. This highlights the fact that the basic

psychological needs function at an even deeper level than basic physiological needs (Grawe, 2007), and that when an individual perceives that they are threatened, they will mobilise their neurological resources to try and protect themselves (Siegel, 2012). If the Physical and Emotional aspects of experience are denied, suppressed or avoided, it can compromise whether an individual is able to access their full spectrum of higher-order executive functions, remain curious, see alternatives and maintain response flexibility required to change how they respond to change, as referenced in Siegel's (2012) Plane of Possibility in section 3.3.7. It also likely narrows the window of tolerance that Siegel (2012) discusses, in the context of suggesting that a healthy and integrated individual will have a wide window of tolerance where they are not reacting impulsively to situations, but rather are able to consciously, curiously and creatively choose their response from a range of options. However, for these participants, they may intentionally be suppressing their Physical and Emotional experiences based on the belief or fear that those elements compromise their ability to perform.

The Cognitive affinity was in exactly the same position in both SIDs, reflecting consistency in the group and individual narratives about where they felt their cognition enters their experience of emergent change. Their Cognitive experience from the group and individual perspective seems to be avoidant. This is evidenced by multiple content cards, including "can't think straight", "rushing thoughts" and "because I am so rushed not focused, I make snap judgements. I don't take the time to think things through and am prone to misunderstand". The majority of the Cognitive content cards reflected a sense of speed and movement, and the participants also clearly mentioned the need for time and space to absorb. This affinity suggests that they find their initial experience of emergent change (Physical and Emotional) to be intense and fast, and felt they needed to slow down. It is likely that this may represent an adaptive approach motivation in certain situations, and in others, may become avoidant if they do not have the time and space they expressed they needed in this part of their experience. A quotation from one of the interviews provides further insight into this aspect of experience.

1A:126 *“I know there’s a cognitive process that happens, but it’s in a black box. And the way you see into that black box is via your physical and emotional response.”*

This finding supports and can be integrated with existing literature. Levine (2015) raises the vital significance of physical sensations as a gateway to procedural elements of memory at the implicit level. However, this focus group tends to have delayed recognition of or choose strategies to avoid or suppress the Physical, most basic and primitive elements of experiences of emergent change. The quotation above reflects discordance in the group, because while this individual clearly suggests that you need to approach the Physical and Emotional elements to gain insight into the Cognitive aspect, the group as well as individuals openly admit to avoiding and suppressing their Physical and Emotional elements of experience, keeping them out of what 1A referred to as the “black box” of cognition.

The Emotional affinity was a secondary driver in the focus group SID, and the sole primary driver in the combined interview SID. This is therefore a paradoxically powerful and influential yet avoided affinity for the group, and even more so for individuals. Emotional suppression seems to be a feature for the group, likely another tool to try create controllable incongruence, referenced thrice in the content cards. Suppressing rage was placed in the Relational affinity, while suppression of empathy was placed in the Coping Mechanisms affinity. In relation to the suppression of rage, this could indicate that emotions could be suppressed as an avoidance motivational schema because it is perceived that emotions could negatively jeopardise or influence workplace relationships, which would compromise their need for attachment, or it could reflect that they don’t feel equipped to deal with the experience of rage healthily at work or in general, which would compromise their need for control. In relation to the suppression of empathy being placed in the Coping Mechanisms affinity, this could suggest that, when participants experience emergent change they feel that their emotions as well as emotions of others are a threat to their own ability to control or regulate their own state, suggesting that this compromises their sense of control, as well as their attachment need for relationships, yet still to be “professional” as part of their identity. This is supported by the card placed in the Cognitive affinity that reflected a tendency to “focus on self”. Together, these points suggest that they may feel that

the driving elements of their experience of emergent change threaten their sense of self.

One particular drawing on a content card from the Emotional affinity (see figure 5.5) visually represents suppression. It also highlights that the narrative shared with others may be vastly different from the reality experienced internally, reinforcing the finding that the impact of emergent change is underestimated, and under-acknowledged. In addition, it highlights a discrepancy between what is being experienced internally, versus what is being shared with others and presented externally.

Figure 5.5. Focus Group Content Card Example from Affinity 3 (Emotional)

This could also suggest there are wider organisational beliefs around whether or not emotions are welcome in the workplace, and the lack of understanding and tools for dealing with them in a healthy ways as individuals and in teams. Incongruence, suppression and overriding one's emotions are highly resource-intensive, energy-draining neurobiological processes and have been linked to traumatic experiences, and they impact individuals as well as their relationships (Levine, 2015; Van der Kolk, 2014). One participant compared their emergent change experiences to the stages of grief in their interview (1B:130). It is clear that emergent change has a significant emotional component for this group and the individuals in it. They are retrospectively aware of their feelings and have a clear narrative about them, but they do not seem to allow themselves to fully feel their experiences in the moment (potentially reflecting a dysregulated salience network), but instead use various Personal Strategies,

Interpersonal Strategies and Coping Mechanisms to keep their emotions and sensations at bay.

In contrast, withdrawing temporarily as an Emotional response may be an approach motivational schema, depending on the emotion and how it is felt, named and managed. Siegel (2012) refers to this process as regulation, where first one monitors one's own system, and then modifies the response. In the quotation below, 1I exhibits a mindfulness strategy and describes how becoming calm (engaging the parasympathetic nervous system and downregulating the sympathetic nervous system) is necessary to help them access their Personal Strategies effectively. This would be neuroprotective, promote congruence, regulate energy reserves and allow the participant to stay resourced for the tasks ahead.

> 1I:745 *"My needs are that I need to calm this [Emotional] down … So that I can turn to my Personal Strategies."*

While there has been acknowledgement in literature about the increasing importance of emotions in the workplace for many years (Fisher & Ashkanasy, 2007; Gus, Rose, & Gilbert, 2015; Oksman, Ermes, & Kati, 2016; Talat, 2017), it has not translated optimally into accepted business practice and lived employee experience. The relationship with one's emotions is not confined to the workplace, but there are inherent cultural expectations about which emotions are appropriate or not at work, which may in itself be reinforcement for further avoidance of one's own emotions, as well as the emotions of others.

Personal Strategies was in a particularly significant position for the focus group SID, as a pivot. Participants had an extensive discussion about this affinity in the focus group and it contained the most cards out of any affinity. This reflects that group was comfortable thinking and speaking about their Personal Strategies, potentially indicating a high cultural valuation of strategies and strategic thinking in the workplace. In the combined interview SID, the Personal Strategies affinity was positioned as a secondary driver, and the participants spoke about their strategies comparatively less in the interviews than the focus group. In the cards the group included in the Personal Strategies affinity, the majority of cards were split between calming (18% of the cards), action-oriented (22% of the cards) and reflective strategies (30% of the cards). The

researcher noted that this proportion of cards represents engagement of the salience, executive and DMN modes respectively, further reinforcing findings that this group engages different mental operating networks to different degrees during emergent change, as discussed in section 5.2.5.2. It is important for individuals to be aware of their strategies, and the needs those strategies are trying to satisfy, individually as well as in the team. Just as a human brain requires a balance between the different mental operating networks for individual wellbeing (Arden, 2019), a group's wellbeing would be influenced by the way the individuals' within it are responding to meet their needs. This inter-related wellbeing between individuals and those around them is expressed through the Triangle of Wellbeing (Siegel, 2018), as discussed in section 3.3.6. There should be space for each person to meet his or her needs as well as for the team to meet theirs and still achieve their project deliverables. A difference in strategies could clash, or may be complementary, depending on how they are applied, and may offer the team new, innovative possibilities. It seems that the strategies they choose in a particular emergent change situation are based upon what they believe will help them deal with their unique blend of preceding experiential system driver elements. In the focus group SID, the Personal Strategies affinity was likely chosen to deal with their unique blend of Physical, Cognitive and Emotional elements of their experience. In the combined interview SID, the Personal Strategies chosen would be to deal with their Emotional and Cognitive elements of experience. In both SIDs, even if they were chosen partly in avoidance, the Personal Strategies would also have been chosen to enable them to still do their work, remain functional and meet deadlines. This reflects the complexity of how individuals try to meet their basic needs in different ways at work while still fulfilling their roles, and how important Personal Strategies are to enable this. The "if-then" hypothesis from the group ART (see table 5.10) supports this.

> *"If you employ a personal strategy to improve your own cognitive and emotional state, then you'll be more effective at employing better interpersonal strategies."*

Developing new Personal Strategies that help facilitate advantageous ways of responding to stress has been found to facilitate neurogenesis (the growth of new neurons) in the nucleus accumbens, which can empower a higher degree of self-control to choose a response that would be more beneficial, rather than perpetuating a bad default habit (Arden, 2019). This highlights the potential for this group in

particular around their Personal Strategies, and the implications thereof will be discussed in chapter 6. One participant, in her individual interview, referred to Personal Strategies as her "spacemaker" (1A:461). Since multiple content cards in the Cognitive affinity referred to the need for space and time, it is likely that the "spacemaker" (1A:461) approach to Personal Strategies would resonate with others in the group and could be a useful tool and way of conceptualising it.

In the focus group SID, the Relational experience influenced their Peak Performance State, which was the primary outcome. These positions were reversed in the combined interview SID. The group system had a narrative about Peak Performance State being the primary outcome, but in the combined interview SID, the main outcome was the Relational experience, highlighting how important relationships and support are for them as individuals during emergent change, which they did not spend much time talking about in the focus group but did in the interviews. This may have been due to feeling neuroceptively safer to discuss it one on one, and less safe to do so with the group. They might also have felt more comfortable speaking about the desire for Peak Performance State with colleagues (in the focus group) than about their need for a healthy Relational environment.

While there were many different individual interpretations and experiences of Peak Performance State, this affinity had almost all positive content cards, unlike the other affinities, and was generally described a desirable state. As Peak Performance State was a primary outcome for the focus group SID and a secondary outcome in the combined interview SID, it suggests that the group feels that emergent change is almost required to reach Peak Performance State, as it does not simply happen on its own. It requires what the group referred to as a "confluence" of many other factors, which was mirrored in both SIDs. The following comment in the focus group discussion about Peak Performance State is evidence of this:

> *"In Psychology they sometimes talk of being congruent, when all parts of yourself are working together. It's like a firing squad: If everyone's firing at the same point and focused, it's likely they'll be dead. But if everyone's firing off in different directions … [group laughter]."*

This acknowledgement of congruence aligns with Grawe's (2007) suggestion that the brain functions most efficiently and effectively when there is a state of complete congruence, and resources are invested towards a common goal. The way this has been described in the above quotation raises the consideration of team congruence, where each member of the team is working on their own tasks but towards shared goals and could achieve team congruence, as well as internal individual congruence.

There was awareness in the group and among individuals that one cannot maintain Peak Performance State over extended periods of time and they seldom felt they reached it, and yet there was also a narrative about the company having a high performance culture. There is also a global trend among organisations to aim for high performance cultures (Bennett & Lemoine, 2014; Bowers, Kreutzer, Cannon-bowers, Lamb, & Bowers, 2017; Bushe & Marshak, 2016; Owens et al., 2015), and yet the impact of these cultural expectations and lived experiences on individuals and teams may not be taken into account sufficiently from a health, wellbeing and ethical perspective. In addition, there is sufficient evidence in literature, which findings from this research support, that one cannot maintain peak performance continuously as it is a resource-intensive process, and is not sustainable even though companies drive for it (Csikszentmihalyi, 2008), which can lead to burnout (Scarlett, 2016). The quotations below from the focus group discussion on Peak Performance State substantiate this experientially.

> *"It allows you to act and produce in a meaningful way, where you can overcome cognitive and emotional burdens."*
>
> *"It's a high performance state, it cannot be sustained and is not social at all."*

Interpersonal neurobiology emphasises the importance and influence of relationships on the ability to integrate experiences and influence one's wellbeing (Siegel, 2001, 2006, 2012, 2018). This aligns conceptually with social constructionism as discussed in section 1.5, which suggests that reality is socially co-created (Geldenhuys & Geldenhuys, 2015). Witnessing one person doing something differently, being in a good mood, or using a tool or strategy or embracing change differently, could inspire others to do the same. Alternatively, if one is not aware of the full spectrum of one's own experience and is anxious, overwhelmed and stressed, it will also impact the

others and will compromise the Relational environment. This finding also supports mirror neuron research discussed in section 3.3.6, which outlines the ability to experience a version of what another person is experiencing merely by witnessing them performing an action (Graziano, 2013; Iacoboni, 2008). It also aligns with organisational mimicry research (Hamilton, 2015), discussed in section 3.4. The individual interview quotations below substantiate how influential the state of others in their environment is, and how more possibilities emerge for them through witnessing and relating with others.

> 1F:390 *"… it could have a long-term impact in the resilience of a group of people handling change on a regular basis if you are neglecting the interpersonal and relational aspects."*
>
> 1H:623 *"It's almost like there's somebody who is almost defusing something before it starts by simply being, by expressing themselves in the way that they do. So even if I as an individual I might be at a place where I'm tired and I'm not able to contain my emotions or my runaway thoughts, having someone like that in my environment saying something possibly entirely unrelated, enables me to take the personal strategy avenue."*

The combined interview SID reflects Relational as the primary outcome, and as discussed in section 5.3.5.2, Relational was seen by a number of the participants as an environment in which the rest of the system is embedded. This is highly salient for this group, and there is an ambiguous, paradoxical relationship with their own need for attachment. If emergent change is paradoxically seen to compromise the Relational environment while increasing the need for support and relational attachment, this need presents a high level of inconsistency for the group in the way they meet this basic psychological need. The name of the affinity, Relational, aligns with the attachment need for relationships. It was clear in the focus group that certain participants seemed to disengage from others when their opinions were not accepted by the group, reflecting how there is less communication (a content card placed in the Relational affinity, as seen in table 5.8) during emergent change. However, in the individual interviews, each participant was engaged and seemed to gain a sense of perceived control and self-esteem enhancement, pleasure maximization and attachment from having the space to express their ideas freely one on one. This may

reflect a sense of compromised neuroception of safety in the group environment where they feel their needs are threatened, and heightened safety one on one, where all the basic needs are met. Thus, the attachment to one's ideas and the need for Relational attachment could clash in team dynamics. This could provide substantiation for some of the incongruence and ambiguity in the ways the group and individuals attempt to meet their attachment and Relational needs at work during emergent change. The attachment need and Relational environment present multiple opportunities to the organisation as a way to shift how individuals and teams experience emergent change. This will be discussed further in chapter 6.

5.4.2 Integrating findings with literature

Applied neurosciences acknowledges that having consistently unmet basic psychological needs is a highly resource intensive neurobiological process that can lead to chronic stress for an individual, and can also negatively impact the relational environment as individuals who are able to pick up the stress of others at a procedural and emotional implicit level, even if they may not consciously know why (Grawe, 2007; Levine, 2015; Scarlett, 2016; Siegel, 2018).

In light of this, the findings of this study integrate well with the literature in applied neurosciences. Epstein's (2003) CEST model, as discussed in section 3.3.1, has two systems of experience that align with the theory on memory systems (Levine, 2015) and mental operating networks (Arden, 2019). Epstein's (2003) experiential level aligns with the implicit procedural and emotional levels of memory encoding (Levine, 2015), and the salience network (Arden, 2019). The cognitive level (Epstein, 2003) aligns with the explicit episodic and declarative levels of memory encoding (Levine, 2015), and the DMN and executive networks (Arden, 2019). Findings suggest that there's inconsistency (both incongruence and discordance) between the experiential, implicit, salient elements of the participants' emergent change experiences which they avoid but are aware of, and the cognitive, explicit, DMN and executive network elements that they approach and leverage in avoidance of the uncomfortable experiential elements to meet their needs and restore a sense of control. Overall, this reflects a highly impactful, draining and systemically demanding situation.

Grawe's (2004, 2007) Consistency-Theoretical Model of Mental Functioning, discussed in section 3.3.2, emphasises that maintaining the consistency of mental processes is essential for overall wellbeing, and that humans engage various mechanisms to try to avoid experiencing inconsistency. The findings from the focus group and interviews suggest that emergent change introduces elements of inconsistency for the participants as well as the team, and may be compromising their mental functioning at an underlying level they may not even be aware of, or not to the full extent.

Rossouw's (2014) Integrated Model of the Base Elements of the Theory of Psychotherapy, as described in section 3.3.3, adds additional insight. The model (Rossouw, 2014) highlights how genetic factors, safety and the environment are essential considerations that shape the motivational schemas one develops and engages to meet one's basic psychological needs. The following quotation from one of the interviews reflects how this participant was extremely aware of the strong influence of the environment on people, and people on the environment.

> 1E:699 *"The working environment isn't allowing that [Peak Performance State] to happen. If everyone is going through this cycle, God, imagine what the environment would be like. The more people going through this cycle feeling burnt out, if they're contributing to the environment, the environment's going to be so toxic."*

While the genetic factors are beyond the scope of possible consideration in this study as well as beyond an organisation's responsibility, participants' genetically and experientially shaped predispositions can influence the environment and should thus be acknowledged. Also, at an implicit, experiential level, emergent change appears to threaten the sense of safety for the individuals as well as the group. This finding is particularly significant. Rossouw (2014) suggests that in environments where safety is perceived as compromised, protective decisions can be made in the short term in an effort to ensure survival that can compromise neural proliferation in the long term. As a result of the neuroception (as discussed in section 3.3.4) of a compromised environment (conscious, subconscious or both), it can lead to a compromise of the basic psychological needs within the working environment (Grawe, 2007). If needs are compromised, it can lead to a motivational schema of avoidance in relation to

emergent change, may become a negative self-perpetuating cycle and this can hinder neural proliferation (Grawe, 2007).

This can put enormous pressure, stress and distress on individuals who want to perform well at work to meet team goals and expectations, but who feel unsafe to a degree and that their needs are compromised, which they may not even be aware of. If there are unmet individual needs, it's likely that there are unmet team and organisational needs too, and there can be a clash, tension or counteracting influence between these three levels. These three levels are framed as inter-levels by the OTIC Model (Todnem By et al., 2018) discussed in section 2.3.3. There may be an incongruence between organisational needs for change, and individual and team needs that are being compromised by the very change they are expected to field on a constant basis, especially if any of the needs are operating beneath awareness.

The following visceral, physically-based interview quotations reflect that the group does experience a compromised sense of safety in relation to experiences of emergent change.

> 1B:229 *"A lot of the time, work does feel like a battle."*
>
> 1C:178 *"The closer to change you are, the more you are fighting off emotions and trying to centre yourself."*
>
> 1E:694 *"I need like a bodyguard, and I think that it would be great if the PM could do that. They have so many projects going on, that they cannot be that present."*

This has far-reaching implications for the individuals, team and organisation, which will be discussed in chapter 6. If there is an imbalance in the mental operating networks engaged at work, while in an unsafe environment and experiencing constant emergent change experiences that compromise their basic needs, it is possible that participants could thus have an underlying level of anxiety, may be "on edge" and are likely to have a fight, flight, freeze or flock response by default habit, rather than an optimal response based on integrated information available to them from all mental operating networks, and by conscious choice (Payne et al., 2015; Porges, 2004; Siegel, 2012).

While the optimal response is something to work towards, it is not the current reality for the participants. The researcher noted how the participants used the words “battle” and “fight” which align with Gleeson’s (2017, para. 4) reference to “change battle fatigue”, as discussed in section 2.4. The quoted reference to needing a “bodyguard” expresses the need for protection, suggesting that they feel what is happening is beyond their control and they need assistance. Presence is included in one of the quotations as a relational need, and is acknowledged in interpersonal neurobiology as an integral aspect of healthy attachment relationships, with oneself and others, as well as being a biological preserver of gene health and integrity (Siegel, 2018). The final quotation above (1E:694) seems to suggest that this participant experiences PM overwork and lack of presence as a threat to their own safety, highlighting that safety is a co-created experience, individually and collectively, and that this participant feels presence is important during emergent change. It also supports the Triangle of Wellbeing’s (Siegel, 2012) suggestion that individual wellbeing is connected to the wellbeing of others.

There also seems to be evidence in the findings to suggest that relationships are an integral aspect of perceiving an environment of safety that can be facilitative for more adaptive and integrative experiences of and responses to emergent change. “Relational energy” has been defined as “energy derived from a relational experience” (Owens et al., 2015, p. 4). The focus group SID acknowledges that their Relational experience, and the energy derived from it, can help them reach Peak Performance State during emergent change, suggesting that the process of experiencing emergent change may be draining (as reflected in their Physical experience descriptions in table 5.7), and Relational support can make a significant difference (as reflected on the card with the words, “support needed”). Literature proposes that teams provide fertile environments for proactive as well as emergent change opportunities (Todnem By et al., 2018). In light of these findings, as well as the literature, this would suggest that the Relational environment could influence what is possible for individuals and teams during emergent change situations, depending on how individuals perceive the relationships.

Integrating the discussion with existing literature reinforces the finding that emergent change experiences for this group and individuals display elements of inconsistency

through both incongruence and discordance. Their resources are being mobilised to protect, survive and meet their basic needs in an effort to restore congruence, or at least controllable incongruence, through their narratives, habits, Coping Mechanisms, Personal Strategies and Interpersonal Strategies. The unconscious narrative of avoidance is being confronted by them having to face constant emergent change in their environment, relationships and own experiences, and this suggests that they are insufficiently equipped and resourced to do so in a sustainable way that could lead to building optimal brain fitness, resilience, healthier relationships and a regenerative state of thriving. The unavoidable prevalence of change is currently experienced as a taxing, overwhelming challenge and yet because of its pervasiveness, it is in a way enforcing a new approach, thereby opening doors to what is possible. Emergent change presents an opportunity for evolving individual and team experiences thereof, as a high potential case of threat learning (Berret et. Al., 2019).

In the Triangle of Wellbeing (Siegel, 2012), as discussed in section 3.3.6, it is suggested that to achieve wellbeing, the brain, mind and relationships need to be healthy and function in an integrated way. The findings of this study suggest that in general, the participants, as a group, and as individuals, are not currently optimally integrating their experiences in any of those three areas during emergent change experiences. The Triangle of Wellbeing (Siegel, 2012) offers a useful framework to compare the systems and findings to, because the overall system drivers for the focus group SID especially are about the brain and body (Physical, Cognitive and Emotional), the Coping Mechanisms and Personal Strategies bridge from the brain to the mind and the Interpersonal Strategies bridge to relationships. Peak Performance State would be an outcome, as would the Relational environment, and both could be experienced individually as well as collectively as elements of overall wellbeing. This underscores the fact that there is an opportunity for development and growth in all these three Triangle of Wellbeing (Siegel, 2012) areas in order to improve overall functioning, integration and wellbeing for this group.

Moving towards wellbeing, Siegel's (2012) Plane of Possibility, as discussed in section 3.3.7, offers a valuable, practical perspective to take on the current experiences of emergent change within the group and for individuals. Findings suggest that the group has some predispositions towards an underlying neuroception of danger and threat

about emergent change and their experience thereof, which has created an elevated plateau of probability, predisposing them towards general aversion towards emergent change, negative experiences and/or narratives and certain avoidant reactive responses. Their avoidance of their Physical, Emotional and even elements of their Cognitive experiences of emergent change could be seen as peaks of activation in response to their heightened state of threat and danger amidst constant emergent change. This increases the likelihood that they will miss opportunities, possibilities, alternatives and the potential that emergent change inherently offers, despite its challenges, which reflects neurobiologically as a compromised prefrontal cortex and executive functioning (Siegel, 2012). If their various levels of wellbeing (mind, brain and relationships) and their needs are all compromised or their resources are too thinly spread, it is unlikely that they would be able to see and/or seize the opportunities and possibilities that may be available (Siegel, 2018).

One focus group content card referenced below highlights a rare positive Emotional experience of emergent change.

> *"I feel that company-driven organisational change is refreshing. I like the fresh start feeling. I see it as an opportunity for improvement and look forward to the benefits."*

This quotation reflects that change can be exciting, necessary and even long awaited in organisations by individuals and teams who have seen the need for change in the environment, and for themselves (Scarlett, 2016; Tasler, 2017). Change could even be a contributor to satisfying the basic psychological needs to varying degrees, and a catalyst for enhanced wellbeing, possibilities, performance and relationships. Excitement can trigger the release of dopamine in the reward and salience network, which contributes to pleasure maximisation and pain avoidance. Improvement can create a sense of control, and self-esteem enhancement, and when there is positive affect circulating about change in the workplace, it can lead to enriching relationships too if it helps employees with their work (Scarlett, 2016). However, if employees are experiencing "change battle fatigue" (Gleeson, 2017, para. 4), they may be in survival mode and may not be sufficiently resourced to tap into moments of enjoyment, improvement, satisfaction and performance during emergent change.

In summary, a rich, descriptive, qualitative narrative was created through the focus group and individual interviews in this study, as reflected by the data. It is clear that the individuals each have their own complex, multifaceted experiences of emergent change, which are different to the group, and they all co-exist and evolve simultaneously. The participants remarked that they had not thought about their experiences of change this way before. Owing to emergent change being so prevalent, with the next change happening before they've processed the previous one, they clearly have not had the chance, let alone in a work context, to reflect on their experiences in a way that could add value for them and help them to make sense of their experiences. And yet, the same context that they experience as a threat is also providing immense opportunities.

5.5 SUMMARY

In summary of the findings, the individuals and teams clearly have certain patterns, habits and predispositions when it comes to their experiences of emergent change. Findings show that overall, emergent change was perceived as neuroceptively unsafe and experienced as creating inconsistency (both incongruence and discordance), leading to a generally avoidant response. Significant resources were engaged to manage the inconsistency (incongruence and discordance) that emergent change triggered for individuals and the group. It is salient to note that participants were avoiding the incongruence they experience during emergent change more than the change itself, highlighting that the overall narrative about change needs to be reframed and the focus shifted to the human experience and a lack of capability dealing with inconsistency and incongruence. Change has almost become a 'scapegoat' when the true challenge lies within humans trying to assimilate their own experiences of emergent change. Findings reflect that individuals and the team have developed various strategies and ways of coping that are not all healthy, and may in fact be compromising health. Some were adaptive (such a reflecting, planning, rallying, asking for support), others were maladaptive (such as suppression, intellectualisation and "being mean to others"), and overall there was clearly a significant negative impact on an interpersonal neurobiological level, which could be compromising individual, team and relational health to varying degrees and reflects apparent dysregulation of mental operating networks, and a discrepancy in the change narratives versus the

change experiences. Naturally, this will impact the business. Findings also reflect that due to their position, the group may need to develop better capabilities for dealing with inconsistency in order to change their relationship with change at the source, rather than using extensive resources to manage the many effects. The SIDs reflect that Personal Strategies and the Relational environment would likely be the two most high-impact leverage points to begin working with to shift this group's experiences of emergent change. This has significant implications for theory and practice which will be discussed in chapter 6.

To close the findings chapter, three quotations by the participants about their experiences of participating in this study are referenced.

> 1E:784 *"I'm proud of this and thank you for letting me do this because yeah, I never thought about it. I mean, I thought about it, but, I mean, not like … I have never really drawn it out like a cycle. And I feel like this is so true for me, and I have gained a lot of insight from this."*
>
> 1H:1244 *"I have really found enormous value in this process. As long as I consign … not consign, resign myself to not always hold the truth as absolute, but rather to flow between truths."*
>
> 1I:1134 *"You can only understand something when you've given it a name. If you haven't named it, it's in the darkness. This is who I am. I could be the best, I could be the number one in my field in the world, once I have this [referring to the participant discovering what they need through the focus group and interview processes]."*

CHAPTER 6: CONCLUSIONS, LIMITATIONS AND IMPLICATIONS

6.1 INTRODUCTION

This chapter outlines the conclusions of this study, both theoretical and relating to the empirical study. This is followed by a discussion of the limitations of the literature review and the empirical study. In conclusion, the implications for both theory and practice, for industrial and organisational psychologists and for business, are highlighted.

6.2 CONCLUSIONS

The theoretical and empirical conclusions are discussed below.

6.2.1 Conclusions relating to theory

This study explored the experiences of emergent change from an applied neurosciences perspective. The conclusions relating to each specific research question explored in this study with regard to the literature are discussed below.

6.2.1.1 How is emergent change conceptualised?

Chapter 2 explored emergent change by conceptualising it, introducing contemporary theory, presenting relevant models and frameworks and focusing the discussion towards the impact of emergent change on individuals and teams.

Change literature is prolific, but there is significantly less on emergent change, and the researcher was unable to find any research specifically exploring how emergent change is experienced by individuals and teams. Theory about emergent change has progressed, and the way it is conceptualised has evolved dramatically over the past five decades. The property of emergence is a common thread relating to how organisations and change itself are being seen as co-creative and reciprocally influencing emergent processes rather than isolated events (Blomme, 2014; Cummings & Worley, 2015; Fulmer & Ostroff, 2015). However, the theory focuses predominantly on change itself and how it can be more effectively facilitated in organisations in order to meet organisational goals, but it fails to adequately account

for or focus on the impact such prolific emergent change has on the individuals and teams expected to assimilate it constantly; nor on their first-hand experiences of emergent change. There has been some research on how change is experienced as a threat by humans in the workplace (Scarlett, 2016), but the researcher was unable to find any literature in the field of organisational change focusing on the underlying motivations and neural mechanisms, and how humans experience it from their own perspective. There also appeared to be no organisational change theory specifically addressing the physiological impact of emergent change on employees at work, from their own perspective. In addition, the researcher found no models directly addressing the interpersonal neurobiological mechanisms at play within organisations experiencing emergent change.

For the purpose of this study, emergent change was conceptualised as an ongoing, embodied, relational process of interaction with oneself, others and an ever-changing environment. The researcher then turned to the integrative field of applied neurosciences because of its focus on humans, their experiences and relationships and the underlying neural mechanisms that drive behaviour, in order to explore and understand in greater depth this complex phenomenon in the context of emergent change.

6.2.1.2 How is applied neurosciences conceptualised?

Chapter 3 explored applied neurosciences by conceptualising the field and discussing relevant theories, models and frameworks. The academic ancestral line of research on the basic psychological needs and the motivational schema developed to satisfy them was tracked from Epstein (2003) to Grawe (2007) to Rossouw (2014), each of whom contributed unique elements, and together they firmly established the basic psychological needs as credible, empirically evidenced constructs in the field of neuropsychotherapy. The Integrated Model of the Base Elements of Psychotherapy (Rossouw, 2014) (see figure 3.2), emphasised the foundational elements of safety, environment and the higher-order construct of the self. Neuroception (Porges, 2004), which explains how humans neurologically assess whether a situation or environment is safe, neutral or dangerous, was discussed in the context of emergent change. It reinforced the importance of considering the individual and team neuroception of their experiences of emergent change, as well as of their working environment, adding

dimension and terminology to Rossouw's (2014) argument that if an individual does not feel safe, it is likely that they will perceive their basic psychological needs as being unmet. Literature on memory systems (Levine, 2015) and mental operating networks (Arden, 2019) continued to weave the golden thread about human experiences of emergent change through the discussion. Both Levine's (2015) and Arden's (2019) research illuminates how emergent change is experienced and encoded in the implicit, least conscious procedural and emotional elements of memory, making it challenging to access and shift. Arden's (2019) work in particular suggests that health requires regulation between the three major mental operating networks, namely the salience network, the DMN and the executive network. The applied neurosciences field of interpersonal neurobiology added further to the discussion, by introducing the essential consideration of wellbeing as an emergent process that requires regenerative health in one's brain, mind and relationships, through the Triangle of Wellbeing (Siegel, 2012). Siegel's (2012) Plane of Possibility also added invaluable conceptualisation of how emergent change experiences can be understood, framed and adapted in order to tap into the infinite possibilities emergent change inherently presents.

6.2.1.3 What is the relevance of applied neurosciences for emergent change?

Chapter 3 also included an integrated discussion about how applied neurosciences can add valuable, relevant insights to deepen understanding of the underlying drivers, mechanisms and impact of the human experience of emergent change at work. Even though applied neurosciences does not explicitly discuss emergent change, there are many references to emergence and emergent properties, to the degree that human evolution can be conceptualised as an embodied and relational process of emergent change (Kandel et al., 2012; Siegel, 2018), and that unmet needs catalyse and drive evolution (Berret et al., 2019; Grawe, 2007). Thus, applied neurosciences provided substantial evidence that there is potential and value in shifting the focus away from change itself and towards the humans experiencing the change, their needs, the beliefs and narratives around their needs and how they can conceptualise and meet their needs in new ways amidst emergent change. While emergent change may in general currently be experienced as a threat to basic psychological needs to varying degrees, by integrating the full spectrum of humans' experiences and the underlying

drivers thereof, there is an opportunity to “flip the script” on emergent change and reframe it is an emergent catalyst for the levels of wellbeing outlined in the Triangle of Wellbeing (Siegel, 2012) and for possibilities, discussed in the Plane of Possibility (Siegel, 2012), to help individuals and teams to flourish and thrive.

However, a foundational requirement for accessing the Plane of Possibility (Siegel, 2012) is a neuroceptive sense of safety for individuals and teams in the work context (Brown et al., 2015; Scarlett, 2016; Siegel, 2018). While there is change literature highlighting the importance of and need for developing change capability in organisations (Leach et al., 2019; Srivastava, 2016; Uhl-Bien & Arena, 2018), applied neurosciences offers insight into the significance of this safety as a prerequisite, and the underlying drivers that should inform and shape the development process. Applied neurosciences highlights how it may be more about human needs, and the way they are experienced and met or threatened amidst emergent change (Grawe, 2007; Rossouw, 2014) than about change itself. The implication here is that the complexity, nuances and experiences of human needs are naturally changing too. This opens doors to new empowering approaches for needs conceptualisation and understanding, as well as to finding new ways to meet them individually and collectively. In this way, the capacity to deal with one’s own experiences and needs amidst and beyond emergent change in a more integrated way can be developed in all individuals and teams. The natural effect of that will be that individuals and teams are better equipped to deal with their experiences of emergent change at work and in life.

6.2.2 Conclusions relating to the empirical study

The specific research question relating to the empirical study was as follows:

(1) How do individuals and teams experience emergent change?

In terms of the overall system experience of emergent change, this group clearly displayed a rich, highly detailed narrative of their experiences of emergent change, beyond what was expected and beyond what could be conveyed through a static SID. It illuminates the complexity, diversity and dynamism of human experience, and the very real yet relatively unexplored experiences, challenges and opportunities facing employees at work in an environment of constant emergent change. It also highlights

the ongoing, cyclical process nature of emergent change, reinforcing literature (Brendel & Chou, 2016; Hernes et al., 2015; Wee & Taylor, 2018).

In the focus group and interviews, the participants were navigating new terrain of attempting to consciously describe elements of experience that are not all conscious, and yet through the data collection process, they offered honest accounts of their experiences in rich detail, sharing visceral images and metaphors, and using highly descriptive language. The focus group was an embodied, relational emergent change process in itself, and a number of participants mentioned physically feeling tension and discomfort when they were asked to imagine an emergent change experience at work, which likely enabled them to describe their Physical and Emotional experiences so viscerally and authentically. If they were simply asked on another occasion to reflect on their experiences, the responses might well have been different.

Through the comparison of the two SIDs, the overall system reflects the experience of an avoidant motivational schema at the outset, which sets the tone for the rest of their experience. The avoidant response is of their initial driver system as a group, namely of their Physical and Emotional experience. The elements of experience they are avoiding are initially encoded in the implicit memory system, which is largely beneath conscious awareness (Arden, 2019). However, they were still able to describe their Physical and Emotional experiences in a narrative richly textured with remarkable, visceral detail, highlighting the impact of their experience and their molecular memory of it as soon as they had a chance to have an embodied, relational experience of emergent change (in the focus group) and were asked to describe and discuss their experience. This reflects that they have an explicit narrative about avoidant elements of their implicit experience, which highlights the fact that awareness, while important, is not sufficient for healthy integration.

The overall system also reflected a potential suboptimal balance in the mental operating networks engaged by the participants at work during emergent change. The findings suggest that different participants engage their mental operating networks to different degrees while experiencing emergent change, and that they may be triggering and/or supporting each other by doing so.

There was significant avoidance of the salience network experience (sensations and emotions of emergent change, which require interoceptive awareness and tools to integrate), as reflected by their tendency to push away and suppress the Physical, Emotional and some Cognitive elements of their experience. This might suggest that in general, the salience network (which involves sensations and emotions) for the group is somewhat underdeveloped or dysregulated at work (Arden, 2019). Alternatively, they may not feel safe or supported enough to engage with it at work or in general; or they do not feel it is appropriate to bring those elements of their experience to the workplace; or they do not have the appropriate tools to integrate those experiences; or they have tried before and it did not change anything; or a combination of any or all of the above. This would probably influence their lives both at and outside work, and suggests that there would be varying degrees of neuroceptively perceived safety influencing the proportional engagement of their different mental operating networks.

Both the group and the individuals displayed an approach motivational schema towards their Personal Strategies and Interpersonal Strategies. Some would have been chosen to ultimately avoid the unpleasant aspects of their Physical, Emotional and Cognitive experience, but others seem to have been chosen more adaptively. These Personal and Interpersonal Strategies reflect the engagement of their executive network to plan, focus and address the matter at hand, as well as the DMN to reflect, interrogate and ruminate (Arden, 2019), with the highest percentage (30%) of Personal Strategies being reflection-based. This could reflect how Personal and Interpersonal Strategies and Coping Mechanisms may be chosen to manage, avoid or suppress the aspects of their experience they are less comfortable with.

Thus, their narrative about their experiences of emergent change suggests that they are avoiding elements of their own experiences and perceived compromise of needs even more than the change itself. These findings directly contribute to the reconceptualisation of the human relationship with change, to be more about the human relationship with their own experiences, needs and others. Findings showed that a lot of the strategies and mechanisms used to deal with their experiences of emergent change are in attempt to create a sense of control, which is the need they seem to be most conscious of experiencing as threatened during emergent change.

During highly stressful times, when there is an experience of perceived threat or compromise of basic needs, it is natural to become avoidant, even taking destructive action towards oneself instead of giving oneself the protection and nurturing one needs (Arden, 2019). The participants' work requires them to face and handle change professionally and still be productive, but individually they have been able to develop mechanisms and strategies to avoid certain elements of their own experiences, and they internalise the cost of doing so, without necessarily having the tools to integrate their experiences healthily. While they are clearly still productive, their experiences of emergent change may also be compromising their ability to reach Peak Performance State, their levels of satisfaction and the health of their relationships.

It seems that the experiences of emergent change for this group threaten the sense of safety as well as all the basic psychological needs, to varying degrees, as discussed in section 5.4. The main basic psychological need that seems to be threatened is a sense of control. Findings show that they use their Cognitive tools, Coping Mechanisms, Personal Strategies and Interpersonal Strategies to try to restore a sense of control, give themselves a short-term "boost", or adaptively calm themselves down from a heightened, anxious or stressed state. One content card that was placed in the Emotional affinity, "Victimised. Why me?" (see table 5.3) substantiates how they might experience emergent change as something that happens to them, from an exogenous source, by implication threatening their sense of control. This underscores how the experience of change is likely completely different depending on how much agency and involvement an individual has in an emergent change situation, and whether they feel they exercised choice (Scarlett, 2016).

There are also elements of system incongruence, discordance and inconsistency at play, with some individuals having an approach response to meet certain needs, and an avoidance response to meet other needs, or both avoidant and approach responses to try to meet the same need. The incongruence stems from a discrepancy between their conscious perceptions and the reality and extent of their experiences, which hasn't been fully integrated. This highlights that there is complexity far beyond merely avoidance and approach in isolation, and that there may be competing motivations both consciously and subconsciously. When there is incongruence, it is experienced as neurological and cognitive tension (Grawe, 2007). The brain then

attempts to employ its resources to restore this tension to congruence, and it can be conceived of as either controllable or incontrollable (Grawe, 2007). Coping Mechanisms the participants were particularly aware of and self-identified that seem to help create a sense of controllable incongruence are intellectualisation and humour.

It was clear in both the focus group and interviews that their experiences of emergent change tired the group, and some of them described feeling burnt out and worn down by the non-stop changes, which would eliminate or at least minimise their ability to see possibilities and to feel a sense of overall resilience and wellbeing. This finding supports research in the literature that suggests that the compound impact of incremental changes on humans is severely underestimated in business (Scarlett, 2016). It also can be integrated with the Triangle of Wellbeing (Siegel, 2012), as if their wellbeing is compromised during experiences of emergent change, the wellbeing of those around them will also be influenced.

Another key finding was the importance of the Relational environment at work during emergent change, and how multiple members in the group felt that the entire experiential system of emergent change was embedded in the Relational environment. This highlights their need for attachment, how it becomes increasingly important during emergent change and yet how their experience of and response to emergent change paradoxically often threatens and compromises that. They were aware of this, and described it as a “vicious cycle” in the sense that they tend to communicate less during emergent change but need people and support more.

This evident inconsistency, discordance and incongruence about how they meet their attachment need is significant because it means that some if not all of the participants may be feeling isolated and alone in their experiences of emergent change at different times, when connecting with others could open themselves up to inspiration, support, alternatives, possibilities and additional tools. It also highlights that they may be trying to meet their attachment need in, at times, resource-intensive and potentially counterproductive ways that may only add to the sense of exhaustion, anxiety, frustration and disconnection experienced under the pressure of constant emergent change.

The Relational environment is a key catalyst for and influencer of emergent change. The organisational Relational environment can paradoxically leave individuals feeling isolated, alone, unsupported, insecure and unsafe, or it can create a sense of trust, support, connection, resilience, shared meaning and purpose. In the Relational environment, emergent change can even strengthen relationships, offer opportunities for bonding, getting to know each other better, learning from one another and mimicry. Witnessing the way someone else responds, or if they try something new, can offer another individual options that they would not have otherwise had on their own. In this way, one person's skills and/or tools can become collectively available through relationships and witnessing each other, which could increase the possibilities available to others as well, down to the level of changing the structure of their own brain if repeated sufficiently. This is an exceptionally powerful opportunity space. Developing healthier relationships, with oneself, one's experiences, others and the environment, is likely the most influential factor in mitigating the negative effects of emergent change and creating opportunities for the positive possibilities and benefits thereof to be actualised.

The SIDs reflect how there is a difference between the individual and group experiences of emergent change, reflecting the co-creation of different realities that exist at the same time. It also highlights the importance of looking at individual and team level experiences, and how they influence each other. The data also reveals how their experiences of emergent change reflect the motivational schema driving their attempts to meet their needs, either through approach, avoidance or both. Findings reflect that the change itself is not always the threat, but the perception and experience of the change, often influenced by resource levels, which are influenced by the environment.

The complexity and nuance of the different experiences highlight how many opportunities there are for change in each system, and between systems, that are currently not being leveraged for many possible reasons, including a perceived lack of safety at certain levels. The sense of threat seems to be in the environment, the group, as well as within the individuals. The organisation is not responsible for individuals' internal narrative and experience. However, theory in applied neurosciences reflects that individuals and their environment are not separate and thus influence each other.

Moreover, the organisational environment likely influences individuals more than has been previously acknowledged in theory as well as practice. All of the findings suggest immense potential and many possibilities for this group to enhance their wellbeing and relationships by changing how they relate to their own experiences of emergent change at work, as well as opportunities for the organisation to focus on establishing an environment of safety, and to facilitate experiences in new ways for individuals and teams through relationships.

6.3 LIMITATIONS

The limitations of the literature review and empirical study are discussed below.

6.3.1 Limitations of the literature review

Literature advances rapidly in different fields. The fields of applied neurosciences and emergent change updates so rapidly that by the time this dissertation is published, there may have been new advances.

Human experiences of emergent change are a complex phenomenon, and there was thus significant ground to cover by bridging two fields of literature in an integrative way in two literature review chapters, while still remaining within the scope of the dissertation.

6.3.2 Limitations of the empirical study

This study was conducted with nine participants. This was a limitation, as the findings are not generalisable to different populations. However, conducting the study on multiple groups at different levels of the organisation was beyond the scope of a master's degree.

6.4 IMPLICATIONS FOR FURTHER RESEARCH, INDUSTRIAL AND ORGANISATIONAL PSYCHOLOGISTS AND BUSINESS

The findings of this study present an abundance of new possibilities, opportunities and implications, which are highlighted below.

6.4.1 Implications for future research

Based on findings, further research could be conducted at the same company into the emergent change experiences of the non-client-facing team, as well as leaders, in order to compare the findings to the original group's findings for this study. These comparisons could offer insight into differences and similarities between the teams and organisational levels.

Considering the rich narratives, similarities and differences between experiences reflected in the findings, other organisations and industries, locally and internationally,

could also benefit from researching employee experiences of emergent change and the extent to which they feel these needs are being met, threatened or compromised.

Since the Relational affinity was prominently positioned and discussed in both the focus group and especially the interviews (where it was the primary driver in the SID; see figure 5.4) there would also be value in exploring the relationships and support dynamics within and between teams in organisations in relation to needs and emergent change experiences. The findings of this study showed how integral the relational environment is for the participants during emergent change, as well as how it relates to performance during emergent change experiences.

It would be useful to use neuroscientific technology to research the neurophysiological impacts of experiencing emergent change in the workplace. This might require further technological advancement first in order to be able to conduct research as naturally as possible in the work setting. In addition, there would be efficacy in doing further research into how the level of integration between the mental operating networks could be assessed or identified.

The findings of this study also suggest that there is immense potential for rigorous inquiry into what safety in organisations “looks and feels like” from the employee perspective, and ways in which organisations could facilitate and maintain an organisational environment of safety.

6.4.2 Implications for theory

Currently, organisational change is considered predominantly from the strategic, organisational and leadership perspective (Nohria & Beer, 2000), with some research emerging about the individual and team level implications (Todnem By et al., 2018). Applied neurosciences tends to focus on the individual level (in neuropsychotherapy, it is predominantly informed by one-on-one therapeutic relationships). The comparison between the focus group SID and combined interview SID highlight significant differences between individual and team level experiences (see section 5.4). This clearly illuminates a gap in research at the team level within organisations, providing opportunities for both individual and team level theory, research, systems, processes, practical tools and skills development to enhance adaptability, based on needs and safety requirements.

This presents the opportunity for theory to explore the democratisation and decentralisation of change specialisation, as all individuals and teams in organisations need to be highly adaptable in order to meet their own needs creatively amidst emergent change in organisations.

Another implication for theory based on the findings of this study, is that the human experience of emergent change is far more rich, descriptive, complex and varied than literature currently accounts for. More research into these experiences is required to expand knowledge about this phenomenon in the field from different perspectives.

Applied neurosciences theory explores the basic psychological needs extensively (Epstein, 2003; Grawe, 2007; Rossouw, 2014), but does not address how these needs play out in the organisational context at individual, team and organisational level. This is another emergent theoretical implication for the field. While change literature does acknowledge that change can be seen as a threat (Scarlett, 2016), it does not link it to the basic needs and underlying drivers from the perspective of the individuals and teams experiencing it. This study should open the doors to this integrated avenue of theoretical and practical inquiry.

The significance of relationships in organisations and how they generate, influence and are influenced by emergent change is another area of research and the field that could be explored, based on the findings of this study.

6.4.3 Implications for industrial and organisational psychologists

The findings of this study are highly salient for industrial and organisational psychologists as they highlight the need for a significant shift in approach towards emergent change at work, and also to employees in general. Based on findings, this shift may be from focusing on the change itself and traditional change management towards the humans experiencing the change, their perception of safety in the work environment, their experiences and needs, how their needs can be met at work in new, creative, potentially collective ways, and what facilitation and support could assist amidst emergent change. It is also important to recognise that different people have different capabilities for dealing with the inconsistencies and incongruences that emergent change triggers.

Industrial and organisational psychologists may need to reframe their roles as relational process facilitators, informed by the experiences of employees, as well as by the latest developments in research. Change management may evolve to become leadership of change experience facilitation through organisational development, and organisational psychologists would play a vital role in the shift towards the skill of adaptability. The findings of this study about the importance of relationships at work for participants and their heightened yet inconsistent and compromised attachment need during emergent change support this, combined with literature on how integral relationships are for wellbeing (Arden, 2019; Cozolino, 2014; Graziano, 2013; Siegel, 2018) are highly salient. Since the heart of change has been said to be social interaction and dialogue (Lawrence, 2015), any shifts in the way organisational psychologists strategise about and handle change need to be facilitated through conversations and relationships. Based on findings from this study, reconceptualising change as a natural, emergent, embodied, experiential, relational co-creative process could be a valuable entry point, as the way change is conceptualised influences how it is experienced.

Regardless of individual, team and company performance, findings from this study suggest that participants feel that their safety is threatened at work to varying degrees. This manifests differently for each person, whether it be through a perceived lack of boundaries with clients, a very visceral battle-like experience of work or a fear of expressing the full extent of the impact of constant change experienced at work, especially on the Physical and Emotional levels. If they feel their basic needs are unmet, this can compromise their ability to gain satisfaction from the incremental successes they work hard for. Organisational psychologists may need to focus more on a needs-based approach than directly on performance; findings from this study suggest that while emergent change is required to reach Peak Performance State, it also compromises it. A complex system of related factors interact to facilitate Peak Performance State as a byproduct or outcome of the process, but if needs are not met, it’s less likely to reach that state, with no guarantee that it would ever be reached. Thus, while individuals and teams may be productive, it does not mean that they are reaching Peak Performance State, nor experiencing the benefits thereof.

Findings from this study highlighted that individuals and the team reflect elements of incongruence and inconsistency in their experiences of and responses to emergent change. Industrial and organisational psychologists need to support individual and team capacity to restore consistency, neural harmony and controllable incongruence, in order to promote wellbeing and development through an approach-motivated schema, rather than to merely move away from the negative experiences that perpetuate avoidant behaviours and can impede development. The current relationship with change positions it as a threat, but it can be repositioned as a possibility-generating opportunity, a natural process and a practice that can be engaged with intentionally, by design. Neuroplasticity is embraced in organisations because it highlights that people are able to learn and develop over the lifespan, referring to internal shifts (Scarlett, 2016). This may be another useful entry point for organisational psychologists repositioning emergent change conversations in a company. Emergent change offers the same opportunity, to learn and develop, but is sometimes perceived as externally enforced, over which people have no control, rather than an opportunity for internal empowerment and agency. Literature (Uhl-Bien & Arena, 2018), reinforced by findings, suggest that adaptability may be one of the most crucial skills to develop currently and in the coming years. Humans adapt constantly beneath conscious awareness in a way that paradoxically maintains stability in a fluid way (Siegel, 2018). Findings from this study show that the experience of emergent change is highly resource intensive for this group, and thus organisational psychologists could support finding more resource-efficient ways to frame experiences, adapt, and new ways to provide support.

Practitioners in the field could also focusing on developing adaptive capability within individuals and teams to relate differently with their own experiences of emergent change as individuals and as a group, based on their needs and sense of safety, in order to descend once more to the Plane of Possibility (Siegel, 2012).

Each element of experience of emergent change could open doors for individuals and teams, as well as an avenue for theoretical and practical inquiry. However, accessing the Plane of Possibility (Siegel, 2012) requires a belief about and perceived sense of inner and outer safety and resourcing, regardless of what is actually happening, reinforcing the need for practitioners to focus first and foremost on supporting

employees and maintaining a safe environment at work. In addition, exploring the procedural and emotional elements of emergent change experiences and integrating the interoception of the salience network may be necessary in order to shift the episodic narratives around change, by studying the extent of their impact and identifying the areas where focus is required. Personal Strategy development around this could be an effective entry point for organisational psychologists, as it was a pivot for the focus group SID and a secondary driver in the combined interview SID.

Findings clearly show that the physiological, emotional, cognitive and relational experiences and impact of emergent change have been underacknowledged in organisational psychology. Thus, due to the far-reaching impact on employees, practitioners also need to aware of this, act in light of it and be strategic leadership level advocates for enriching the human experience at work, substantiated by credible, current, scientific evidence.

Findings also show that turning to the field of applied neurosciences offers the necessary insight into how essential the experiential elements of emergent change are. Industrial and organisational psychologists need to be particularly aware of the physiological experiences that encode at the least conscious procedural level in memory, as discussed in section 3.3.5 (Levine, 2015), as well as the impact of emotions, and to consider how to healthily, professionally invite more conversation about these elements into the workplace.

The findings relating to the focus group and interviews also highlight the significance of relationships amidst emergent change. Industrial and organisational psychologists could add significant value to companies by deepening their understanding of the applied neurosciences perspectives on how relationships are impacted by emergent change, what support individuals and teams truly need and their role in facilitating healthier relationships intrapersonally and interpersonally. Findings suggest that relationships can be seen as environments that can facilitate emergent change and the ability to enrich the environment during emergent change, and organisational psychologists can strategically position relationships that way.

6.4.4 Implications for business

The findings of this study suggest that organisations may be able to deal with emergent change more effectively by changing the way they perceive, experience and respond to their employees who are constantly experiencing emergent change, as well as by reframing change itself.

Whether or not individual and team needs are met will influence how they think, feel, behave, treat each other, relate and perform (Epstein, 2003; Grawe, 2007; Henson & Rossouw, 2013; Rossouw, 2014), which is reinforced by this study's findings. This has direct implications for the organisational environment, and business practices need to take this into account.

As reflected in the complex systemic dynamics for the focus group SID (see figure 5.2) and combined interview SID (see figure 5.3), there is value in organisations positioning the human experiences of their employees as a strategic business priority. Organisations could also formulate strategies and support around developing capabilities where their employees could adapt with less compromise to their own needs, in ways that are aware of and try to minimise incongruence. This also applies to all other stakeholders, who not only have financial goals, but other needs that may be unacknowledged and unmet.

To this end, businesses need to invest resources in creating safe, wellbeing-enhancing working environments that extend beyond superficial initiatives. Organisations could start this process by engaging with their employees about their experiences of safety, needs, relationships and emergent change. Change narratives and capabilities would require intentional resource allocation and development at all levels of the organisation, facilitated by an organisational development practitioner and supported by leadership.

Traditionally, there has been a strategic focus on enhancing productivity and performance for financial gain and competitive advantage, potentially to the point of compromising the health of employees (Scarlett, 2016). As supported by findings of this study, the workplace has a powerful opportunity, by design and co-creation, to become an enriched environment of safety in which employee needs are met as the strategic priority, and where performance and productivity are natural by-products

thereof. A focus on productivity may be at cost to performance, and businesses need to find a balance between the two based on business as well as human needs.

In general, the findings show that a significant number of participants experience a compromised level of perceived safety during emergent change at work, which threatens their basic needs. The integration of the literature and findings highlights that individuals and teams need to feel safe at work in order to be healthy and perform at their best (Scarlett, 2016). This should be a priority for business. If employee needs are not met at work, for eight hours a day, this can have far-reaching implications for organisations, as individuals can pick up on anxiety in others through mirror neurons in the mirror neuron system (Cozolino, 2006; Iacoboni, 2008; Lieberman, 2013). This could lead to (potentially unidentified) collective anxiety or emotional contagion, which could fall below the radar of organisational awareness and influence performance, interactions, relationships and general wellbeing (Scarlett, 2016). However, at a deeper level, what may be required is a reassessment of their relationship with their own perceptions of safety (neuroception) within the environment and amidst emergent change, and their relationship with their own inner sensations (interoception) and emotions that arise during emergent change. In essence, the opportunity would be to develop new ways of restoring or perhaps creating for the first time a new relationship with emergent change, namely one of integrated, embodied, relational, experiential process of maintaining consistency and congruence, embedded in an environment of perceived safety and support.

The findings about a generally avoidant response to the participants' Physical and Emotional experiences of emergent change offer business the opportunity to reassess and shift company culture and narratives around physiological and emotional experiences at work, and to endeavor to create an inclusive and safe environment in which individuals and teams can express their experiences. Practices can be developed to safeguard and enhance the awareness and regulation of those experiences.

Businesses could also benefit from assessing the quality, nature and effectiveness of the professional relationships in the organisation, from the perspective of the individuals and teams, and the overall perception of the relational environment. Proactively working to increase the health of organisational relationships amidst

emergent change could be a significant facilitator of adaptiveness, supported by literature (Scarlett, 2016) and the findings of this study about the importance of the Relational environment and compromised attachment need during change, and the incongruent, inconsistent way in which participants attempt to meet it. Lawrence (2015) suggests that when there seems to be resistance to change, it reflects the need for more conversations, and that dialogue and social interactions are the heart of change, further reinforcing the importance of healthy workplace relationships. This is reinforced by this study's findings, which highlight how emergent change paradoxically increases the need for relationships while also compromising them.

Organisations have the opportunity to become more aware, informed and responsible about taking the brain, human experience and human basic needs into account, and how they can be threatened when facing emergent change situations (Henson & Rossouw, 2013). The organisational narrative needs to shift away from change and change effectiveness towards the human experience in the workplace, taking applied neurosciences into account. The main change that is required begins with the aim of individuals and teams feeling safer and becoming more fluent and adept at processing and integrating their own experiences at work. This would mean that change does not aggravate and threaten their needs as acutely, so that they can find ways to meet their needs amidst, despite and potentially even because of emergent change. This shift would require an organisational development-motivated strategy (as advocated for in Theory O change strategy) rather than change strategies driven by performance and productivity (as reflected in Theory E change strategy) (Nohria & Beer, 2000).

Organisations may require their own contextualised, embedded needs-based frameworks and models about or approaches to change that are flexible over time. Individuals and teams in organisations need practical, experiential tools to better handle change, and self-regulate through monitoring and modifying their own experiences in general, which would influence their experiences of emergent change. Traditionally, frameworks have been developed for change practitioners and leaders organisation-wide. However, since change has been decentralised and democratised and often emerges from the lower levels of the organisation (Todnem By et al., 2018), individuals need internal working models of their own about how to best assimilate and

integrate their own experiences, and how to meet their needs in the midst emergent change.

It is also necessary to acknowledge the fact that since the global environment is one of emergent change, human needs and the way they are met are changing too. This means that the way individual and team needs are perceived and met in organisations may also need creative but practical reimagining. For example, in a VUCA emergent change environment, needs may evolve to be met collectively through teams, systems, technology and processes rather than individually. Organisations should first understand the needs of their employees, and then find effective ways to meet them and to empower individuals and teams to develop the capacity and strategies to ensure their needs are met, as not all needs are the responsibility of the workplace. In light of findings integrated with literature, to become brain-fit environments amidst emergent change, organisations need to co-create a safe working environment in which individuals and teams can integrate their experiences healthily, meet their needs as well as project deliverables effectively, relate meaningfully, embrace possibilities, reach peak performance regularly and ultimately develop resilient adaptiveness towards thriving.

6.5 SUMMARY

This chapter outlined the conclusions of this study, both theoretical and relating to the empirical evidence. The limitations of the literature and of the empirical study were also discussed. The implications for industrial psychologists working in the field of change were then highlighted. The chapter concluded with implications for further research in the field and for the company involved in the study.

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