Rotterdam School of Management
Erasmus University

Max Renault

# All for One and One for All: How Teams Adapt to Crises

RSM - a force for positive change

# All for One and One for All:
# How Teams Adapt to Crises

**All for One and One for All:**
**How Teams Adapt to Crises**

Allen voor eén en eén voor allen:
hoe teams zich aanpassen aan crises

Thesis

to obtain the degree of Doctor from the
Erasmus University Rotterdam
by command of the
rector magnificus

Prof. dr. A.L. Bredenoord

and in accordance with the decision of the Doctorate Board.

The public defence shall be held on
Thursday 14 April 2022 at 10:30 hrs

by

Max-Antoine Jean Renault
born in Paphos, Cyprus

Erasmus University Rotterdam

## Doctoral Committee

| | |
|---|---|
| **Promotor:** | Prof. dr. J.C.M. van den Ende |
| **Other members:** | Prof. dr. D.A. Stam<br>Dr. I. However<br>Dr. B. de Jong |
| **Co-promotor:** | Dr. M. Tarakci |

**Rotterdam School of Management, Erasmus University**
Internet: www.rsm.nl

**ERIM Electronic Series Portal:** repub.eur.nl/

**RSM PhD Series in Research in Management**,

ISBN 978-90-5892-625-8


Design: PanArt, www.panart.nl
Print: OBT bv, www.obt.eu



This publication (cover and interior) is printed on FSC® paper Magno Satin MC.

**ACNOWLEDGEMENTS**

To my family, for their sacrifices, for supporting me and believing in me.

To my PhD brothers and sister in arms, for being in this together.

To my supervisors, for guiding me and turning a practitioner into a scholar.

**CONTENTS**

# CHAPTER 1 - INTRODUCTION

*All for one and one for all, united we stand divided we fall.*

*— Alexandre Dumas, The Three Musketeers*

Surprises and crises can occur anytime, anywhere, and can impart acute challenges on organizations and employees. The Bhopal chemical plant disaster in 1984 challenged operational crews with a series of missed cues and errors, and killed thousands (Weick, 2010). The peril of the Ebola virus in 2014 significantly disrupted emergency medical teams in far corners of the world—for instance Australia—as they prepared for outbreaks and dealing with suspected cases (Wright, Meyer, Reay, & Staggs, 2020). Threats posed by criminals forced SWAT teams to respond to neutralize danger to bystanders and officers (Bechky & Okhuysen, 2011). The risks of fires thrust firefighting teams into reacting and making leaps of faith to put them out (Pratt, Lepisto, & Dane, 2019). The above cases and contexts for the involved teams were undoubtedly difficult and demanding. Unsurprisingly, agile teams have become the backbone of any modern dynamic organization: they are designed to successfully adapt to changing situations.

How do teams *experience* unpredictable change, and what is the role of *emotions*? How do teams *cope* and *collectively* respond to crises? These questions have been somewhat of a personal puzzle, as a professional with 17 years of experience leading teams in diverse industries and functions. My first observation is that change and unpredictability are inevitable challenges teams must deal with, whether they like it or not. The second is how can seemingly analogous teams that follow similar structures and procedures, still differ so much in how well they adapt to surprises. Over the years, I have tried many of the prescribed methods, processes, and recommendations for agility—both from academic and managerial sources—but only had partially successful results. The PhD provided the opportunity to seek more answers.

This dissertation is made up of three research papers (each being a chapter) exploring different aspects of agility in teams. The first begins by untangling the concept of team agility through an integrative review, surfacing it as a capability (input), a team performance (outcome) and the mediational adaptation mechanisms that turn inputs into outcomes. More importantly, the gap that emerges in the understanding of teams' adaptation mechanisms—especially affective—leads to the empirical portion of this dissertation. Evidently, under pressure, not all teams are created equal: they

behave, adapt, and perform differently. Thus, I conducted a two-year long comparative case study of nursing teams who suffered consecutive crises. The extensive collected dataset and grounded-theory analyses enabled two distinct studies comparing how teams differentially adapt through team emotions, affective mechanisms, and leadership. The first such study (Chapter 3) primarily aims to make theoretical contributions to the process of team adaptation. It unearths how crises are emotional upheavals that trigger a multi-level coevolution in teams, between help behaviors, and care and camaraderie. This fresh affect-based understanding of team adaptation shifts consensus away from extant structural and cognitive theories. The second such study (Chapter 4) is managerially focused by exposing implications for agile team design and leadership. It reveals how affective leaders regulate their teams' emotions toward positivity and avoid cliques and the ensuing disintegration of collective coping mechanisms during crises.

## BACKGROUND

### Team Agility

Uncertainty and change characterize today's organizations (Teece, Peteraf, & Leih, 2016). Such unpredictability may come from events external to

organizations (e.g., epidemics, floods, technological disruption) as well as internal (e.g., mergers, leadership change, new systems). And to cope in such environments, teams remain the primary mode of organizing work (Kozlowski, Watola, Jensen, Kim, & Botero, 2008; Rosen et al., 2011). Agile management is often seen as the panacea for teams adapting and responding to quickly shifting circumstances, and unsurprisingly the concept of team agility has enjoyed much success in the world of business (from software development, banking, operations, HR, and so forth).

Notwithstanding its importance, team agility research suffers from inconsistent conceptualizations, fragmented findings and limited theoretical integration. Some scholars consider agility an approach or method, or a behavior, while others blend attributes, performance outcomes and practices, in the same definition (Conforto, Amaral, da Silva, Di Felippo, & Kamikawachi, 2016; Narasimhan, Swink, & Kim, 2006). As a result, the concept of agility lacks clarity, strong theoretical bases and parsimony (Conboy, 2009; Sarker & Sarker, 2009). Agility is often confused with flexibility, adaptation, resilience and so forth. The lack of theoretical clarity is problematic for a concept that has such a significant following in practice and academia. As a result, this problem motivates the first research effort in

this dissertation, with the aim of better understanding team agility and uncovering what is known (and what is less known) about it.

**Team Adaptive Mechanisms**

The literature on team adaptation is rich, with a plethora of studies that show the underlying structural and cognitive adaptation mechanisms. For instance, adaptive teams may switch roles and reconfigure on the fly (Klein, Ziegert, Knight, & Xiao, 2006; LePine, 2005), restructure work (Bechky & Okhuysen, 2011; Rosen et al., 2011), ramp team resources up or down, make membership changes and so forth (Bedwell, 2019; Harrison, McKinnon, Wu, & Chow, 2000). In doing so, teams improvise and communicate, coordinate, and collaborate (Christian, Christian, Pearsall, & Long, 2017; Maynard, Kennedy, & Sommer, 2015). Team adaptation also occurs through cognitive processes such as collective sensemaking (Uitdewilligen & Waller, 2018; Weick, 2010), reflexivity (Schmutz, Lei, Eppich, & Manser, 2018), mental models and situational awareness (Burke, Stagl, Salas, Pierce, & Kendall, 2006; Zajac, Gregory, Bedwell, Kramer, & Salas, 2014). These structural, procedural and cognitive mechanisms that teams draw on to enable adaptation to surprises and crises form a rich scholarly foundation (for recent reviews, see Baard, Rench, & Kozlowski, 2014; Christian et al., 2017; Maynard et al., 2015; Rosen et al., 2011).

Nevertheless, not all teams are created equal, and many still fail in the face of adversity even if they planned and anticipated crises, and trained in advance (Quarantelli, 1988; Stachowski, Kaplan, & Waller, 2009). Studies of adaptation and crises evidence that some teams perform better than others (e.g., Majchrzak, Jarvenpaa, & Hollingshead, 2007; Marsch et al., 2005; Schakel, van Fenema, & Faraj, 2016; Stachowski et al., 2009), where structural or procedural mechanisms are not a major differentiating factor. This is perhaps unsurprising when one considers that surprises and crises contain distinctive and unexpected components (Kaplan, LaPort, & Waller, 2013) which trigger emotions in the people involved (Hällgren, Rouleau, & De Rond, 2018; Maitlis & Sonenshein, 2010; Weiss & Cropanzano, 1996). And it is known that such conditions can have a lasting and harmful effect on team relations (Kahn, Barton, & Fellows, 2013). It is interesting that prominent adaptation studies have not surfaced emotional and relational components of teams during surprise and crisis events in teams (e.g., Bechky & Okhuysen, 2011; Weick, 2010; Wright et al., 2020), despite such mechanisms being a major factor in team processes (LePine et al., 2008). Overall, the poorly understood—but likely critical—role of emotions in the context of team adaptation (DeCelles & Anteby, 2020; Hällgren et al., 2018; O'Neill & Rothbard, 2017) motivate this dissertation

to uncover how teams may augment their chances of success under such conditions.

**Change, Surprises, Crises**

According to the Cambridge Dictionary and others, change is an umbrella term used to designate something becoming different. It may take the form of revision to project requirements by a customer, or adjustment in routine procedures. Change also includes sudden unexpected events such as surprises and crises. Surprises stem from situations—events or processes—that are unanticipated or that did not go according to plan (Cunha, Clegg, & Kamoche, 2006), and are characterized by a deviation from the standard way of doing things (Bechky & Okhuysen, 2011). Surprises may happen daily or rarely, may have no impact or be catastrophic. Studies of team agility typically deal with change in the form of surprises. Of additional interest in this dissertation are crises—a subset of surprises—as they are infrequent high-impact events that often require swift action (Pearson & Clair, 1998; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). The Ebola outbreak, the Bhopal disaster, flash floods and the recent COVID-19 pandemic, are examples of crises that can shock organizations. And much less is known on how teams cope with crises because they are less commonly experienced and observed than regular work surprises.

Interestingly, change, surprises and crises are regarded as disorienting and ambiguous situations (Maitlis & Sonenshein, 2010).

## DISSERTATION OVERVIEW

The dissertation consists of three research chapters (2, 3, 4) that apply different designs and methods. Chapter 2 is an integrative review, while Chapters 3 and 4 are qualitative case studies. All three ensuing papers presented in this dissertation relate to how teams adapt in fluid situations, and are intended to be stand-alone and publishable in their own right. Throughout this report, I use “we” instead of “I” to describe work to which my supervisors contributed. Table 1.1 provides an overview of the chapters.

Table 1.1 Overview of dissertation chapters

| | Research question | Method | Main findings | Authors | Dissemination and status |
|---|---|---|---|---|---|
| **Chapter 1** | Introduction | | | | |
| **Chapter 2 (study 1)** | What is team agility, and how does it translate to adaptive outcomes? | Integrative literature review and synthesis | Team agility is defined, review findings are integrated in IMOI (inputs, mediators, outcomes) model. Team affective mechanisms surface as poorly understood. | M. Renault | Paper presented at British Academy of Management annual conference, Sep 2020. |
| **Chapter 3 (study 2)** | How do crises influence affective mechanisms of team adaptation? | Grounded theory-building, comparative case study (of teams) | Crises trigger emotions and give rise to affectively driven help cycles which through successive events co-evolve with team care and camaraderie. Teams with high adaptive performance positively convert emotions. | M. Renault<br>M. Tarakci | Paper presented at INGRoup annual conference, Oct 2021 (received 'Best Student Paper' award). Under revision in Academy of Management Journal. |
| **Chapter 4 (study 3)** | How do Agile teams' emotional experiences impact their agility? | | Following Agile principles is insufficient to adapt to crises. Thanks to affective leaders regulating team emotions, high-performing teams avoid cliques and collectively unite to respond to crises. | M. Renault<br>M. Tarakci | Paper submitted to California Management Review, 2021 special Issue on Business Agility. Awaiting second round review. |
| **Chapter 5** | Conclusion | | | | |

**Study 1 (Chapter 2): Untangling team agility: an integrative review and conceptualization**

This study explores the popular concept of team agility through an integrative review, to understand what it is and what is known about how teams adapt to changing situations and surprises. Grounded in the literature, I synthesize and conceptualize agility as a team capability characterized through its structural and cultural elements, and define its performance outcomes (speed, flexibility, and responsiveness). For instance, a team culture centered around a learning orientation or and a customer focus is associated with agility. A team structure that promotes self-organization and simplicity, relates to agility. Then, the mediational adaptation mechanisms that turn agility inputs into outcomes are teamwork processes (e.g., communication, collaboration, changing membership, iterative working) as well as emergent cognitive (e.g., mental models, transactive memory) and affective states (e.g., trust). The team agility framework that ensues integrates all such factors into a popular inputs-mediators-outputs model. Finally, a team's affective adaptation mechanisms are surfaced as poorly understood, thus paving the path for further research. This poor understanding of affective adaptation in teams was unexpected: it fueled my interest as a scholar and practitioner, and totally transformed the

direction of my dissertation. From my initial self-declared interest in structural and procedural perspectives of team adaptation, I embarked into what became an enthralling endeavor to understand the role of team emotions.

Subsequently, studies 2 and 3 build upon rich data that I collected independently, in an in-depth, grounded theory-building case study of teams in a hospital. Over 24 months, I conducted semi-structured interviews, observed meetings, followed the WhatsApp chats of teams, and conducted a pulse emotion survey. We contrasted the journey of nine nursing teams who differentially experienced, coped, and adapted to consecutive crises in the hospital (floods, organizational restructuring, and the COVID-19 pandemic).

To introduce the next two chapters, I submit to the reader this harrowing revelation from one of the nurses I interviewed during the pandemic:

> *I'm on the verge of having my meltdown and I don't know when it will hit, and it will hit so hard because I know, I'm not feeling well. I want to cry all the time. If I don't want to murder myself, I want to murder everyone I work with. With COVID... I come to work with this feeling that I want to slap the shit out of everyone I encounter.*

Notwithstanding her profound emotional suffering, how can this nurse and her teammates unite and adapt to crises as a team? Chapters 3 and 4 expose several avenues.

**Study 2 (Chapter 3): An affect-based view of team adaptation during crises**

By comparing teams with opposing levels of past adaptive performance, this second study seeks to better understand *how* teams adapt: we contribute the fresh understanding of 'affective adaptation'. Teams' affective behaviors and interactions surface as a vital adaptation mechanism during crises, representing a departure from the more popular structural and cognitive adaptations. Specifically, we make theoretical contributions to theories of team adaptation, emotion-based emergence, and help. Our qualitative findings change the way we understand team adaptation, and reveal teams as emotionally charged collectives who adapt and respond to crises through affective behaviors and states. We show that crises trigger immense (negative) emotions in team members; although this may be intuitive, it is not well captured in extant literature. Then, emotions give rise to (affectively driven) help-seeking and help-giving cycles between teammates. Through time and successive crises, a team's help cycles co-evolve with emergent affective states (namely, team care and camaraderie)

which play a reinforcing and amplifying role, notably during COVID-19. We find that highly adaptive teams experience psychological safety, emotional support, positive harmony, commitment, and familial affect. Such affective states enable teams to convert negative member emotions into positive emotional sentiment, further facilitating affective adaptation. The study attempts to shift consensus in theories of team adaptation by directly revealing how adaptation over time is impacted by emotions.

**Study 3 (Chapter 4): One for all and all for one: emotions and affective leaders in agile teams**

This third study uses the same dataset and events as study 2 but focuses on managerial antecedents of agile performance. It conducts different analyses and shows that although nursing teams follow the principles of Agile management (e.g., self-organization, daily standups, retrospectives, and so forth), this is insufficient to result in adaptive performance during crises. Crises are undoubtedly challenging and negative events for people. Nevertheless, we observe that high-agility teams benefit from more positive emotions and affective tone. In particular, we unveil the critical role of a new breed of leaders—that we coin ‘affective leaders’—in cultivating team members’ emotions toward a positive team-level affective tone. Thanks to this emotion regulation, high-agility teams avoid cliques as member

emotional needs are met, and the team collectively unites to respond to crises. Theoretically, our emotion-based theoretical understanding of cliques is new. For organizational practice, we offer managerial implications and recommendations, underscoring the importance of emotion regulation during crises: a team's emotions and affective ties must be regulated and nurtured for the benefit of the whole, and leaders take front stage in this.

## DECLARATION OF CONTRIBUTIONS

This section showcases contributions to the chapters of this dissertation and acknowledges the involvement of my promotor and co-promotor.

### Chapter 1

I wrote this introductory chapter independently and tried to clarify key motivations for undertaking the research program. I explained my research design choices and summarized the three papers' main findings. My supervisory team (Prof. Dr. Van Den Ende and Dr. Tarakci) provided high-level feedback which I implemented.

### Chapter 2

This study consisting of an integrative review and conceptualization of team agility was conducted independently, to gain a better understanding of

the field and more easily identify a possible research agenda. The supervisory team (Prof. Dr. Van Den Ende and Dr. Tarakci) provided review comments throughout the writing process, which I implemented.

**Chapter 3**

This is a study I initially designed independently and for which I began collecting field data. Quite early during data collection however, my co-promotor (Dr. Tarakci) provided critical feedback and ideas on emergent concepts, which enhanced the study's potential theoretical contributions. We then decided to collaborate and expand the study. I conducted the literature review, all data collection, coding and analyses, while Dr. Tarakci guided how to best make sense of the results and integrate them—for instance, how to distinguish the individual- from team-level phenomena or better position the findings in the literature. While I drafted the majority of the paper, my co-promotor constantly challenged my theoretical background, methods and implications sections, and helped improve the storyline. As a result, we have co-authored the paper of which I am first author.

**Chapter 4**

I conducted the work of this paper largely independently based on data I solely collected. My co-promotor (Dr Tarakci) directed me toward

conducting a more practitioner-focused study. This new outlook forced me to go back to my collected data and discover more practical insights. I am the main contributor of how nursing teams work according to Agile principles, how cliques emerge and how leadership style moderates performance. Nonetheless, Dr Tarakci gave important feedback throughout the process—especially focusing on leadership style and how to make more practical managerial contributions. As a result, we have co-authored the paper of which I am first author.

**Chapter 5**

I wrote this final chapter independently. I discuss the main implications for theory and practice and reflect on key adaptations that my research and I have experienced. My supervisory team (Prof. Dr. Van Den Ende and Dr. Tarakci) provided high-level feedback which I implemented.

## CHAPTER 1 - REFERENCES


Baard, S. K., Rench, T. A., & Kozlowski, S. W. J. (2014). Performance adaptation: A theoretical integration and review. *Journal of Management, 40*(1), 48-99.

Bechky, B. A., & Okhuysen, G. A. (2011). Expecting the unexpected? how SWAT officers and film crews handle surprises. *The Academy of Management Journal, 54*(2), 239-261.

Bedwell, W. L. (2019). Adaptive team performance: The influence of membership fluidity on shared team cognition. *Frontiers in Psychology, 10.*

Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding team adaptation: A conceptual analysis and model. *Journal of Applied Psychology, 91*(6), 1189-1207.

Christian, J. S., Christian, M. S., Pearsall, M. J., & Long, E. C. (2017). Team adaptation in context: An integrated conceptual model and meta-analytic review. *Organizational Behavior and Human Decision Processes, 140,* 62-89.

Conboy, K. (2009). Agility from first principles: Reconstructing the concept of agility in information systems development. *Information Systems Research, 20*(3), 329-354.

Conforto, E. C., Amaral, D. C., da Silva, S. L., Di Felippo, A., & Kamikawachi, D. S. L. (2016). The agility construct on project management theory. *International Journal of Project Management, 34*(4), 660-674.

Cunha, M. P. e., Clegg, S. R., & Kamoche, K. (2006). Surprises in management and organization: Concept, sources and A typology*. *British Journal of Management, 17*(4), 317-329.

DeCelles, K. A., & Anteby, M. (2020). Compassion in the clink: When and how human services workers overcome barriers to care. *Organization Science.*

Hällgren, M., Rouleau, L., & De Rond, M. (2018). *A matter of life or death: How extreme context research matters for management and organization studies* Routledge.

Harrison, G. L., McKinnon, J. L., Wu, A., & Chow, C. W. (2000). Cultural influences on adaptation to fluid workgroups and teams. *Journal of International Business Studies, 31*(3), 489-505.

Kahn, W. A., Barton, M. A., & Fellows, S. (2013). Organizational crises and the disturbance of relational systems. *The Academy of Management Review, 38*(3), 377-396.

Kaplan, S., LaPort, K., & Waller, M. J. (2013). The role of positive affectivity in team effectiveness during crises. *Journal of Organizational Behavior, 34*(4), 473-491.

Klein, K. J., Ziegert, J. C., Knight, A. P., & Xiao, Y. (2006). Dynamic delegation: Shared, hierarchical, and deindividualized leadership in extreme action teams. *Administrative Science Quarterly, 51*(4), 590-621.

Kozlowski, S. W. J., Watola, D. J., Jensen, J. M., Kim, B. H., & Botero, I. C. (2008). Developing adaptive teams: A theory of dynamic team leadership. *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches* (pp. 113-155) Routledge.

LePine, J. A. (2005). Adaptation of teams in response to unforeseen change: Effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology, 90*(6), 1153-1167.

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights from weick (1988). *Journal of Management Studies, 47*(3), 551-580.

Majchrzak, A., Jarvenpaa, S. L., & Hollingshead, A. B. (2007). Coordinating expertise among emergent groups responding to disasters. *Organization Science, 18*(1), 147-161.

Marsch, S. C. U., Tschan, F., Semmer, N., Spychiger, M., Breuer, M., & Hunziker, P. R. (2005). Performance of first responders in simulated cardiac arrests*. *Critical Care Medicine, 33*(5).

Maynard, M. T., Kennedy, D. M., & Sommer, S. A. (2015). Team adaptation: A fifteen-year synthesis (1998-2013) and framework for how this literature needs to "adapt" going forward. *European Journal of Work and Organizational Psychology, 24*(5), 652-677.

Narasimhan, R., Swink, M., & Kim, S. W. (2006). Disentangling leanness and agility: An empirical investigation. *Journal of Operations Management, 24*(5), 440-457.

O'Neill, O. A., & Rothbard, N. P. (2017). Is love all you need? the effects of emotional culture, suppression, and work–family conflict on firefighter risk-taking and health. *Academy of Management Journal, 60*(1), 78-108.

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *The Academy of Management Review, 23*(1), 59-76.

Pratt, M. G., Lepisto, D. A., & Dane, E. (2019). The hidden side of trust: Supporting and sustaining leaps of faith among firefighters*. *Administrative Science Quarterly, 64*(2), 398-434.

Quarantelli, E. L. (1988). Disaster crisis management: A summary of research findings. *Journal of Management Studies, 25*(4), 373-385.

Rosen, M. A., Bedwell, W. L., Wildman, J. L., Fritzsche, B. A., Salas, E., & Burke, C. S. (2011). Managing adaptive performance in teams: Guiding principles and behavioral markers for measurement. *Human Resource Management Review, 21*(2), 107-122.

Sarker, S., & Sarker, S. (2009). Exploring agility in distributed information systems development teams: An interpretive study in an offshoring context. *Information Systems Research, 20*(3), 440-461.

Schakel, J. -., van Fenema, P. C., & Faraj, S. (2016). Shots fired! switching between practices in police work. *Organization Science, 27*(2), 391-410.

Schmutz, J. B., Lei, Z., Eppich, W. J., & Manser, T. (2018). Reflection in the heat of the moment: The role of in-action team reflexivity in health care emergency teams. *Journal of Organizational Behavior, 39*(6), 749-765.

Stachowski, A. A., Kaplan, S. A., & Waller, M. J. (2009). The benefits of flexible team interaction during crises. *Journal of Applied Psychology, 94*(6), 1536-1543.

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review, 58*(4), 13-35.

Uitdewilligen, S., & Waller, M. J. (2018). Information sharing and decision-making in multidisciplinary crisis management teams. *Journal of Organizational Behavior, 39*(6), 731-748.

Weick, K. E. (2010). Reflections on enacted sensemaking in the bhopal disaster. *Journal of Management Studies, 47*(3), 537-550.

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. (pp. 1-74). US: Elsevier Science/JAI Press.

Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Annals, 11*(2), 733-769.

Wright, A. L., Meyer, A. D., Reay, T., & Staggs, J. (2020). Maintaining places of social inclusion: Ebola and the emergency department. *Administrative Science Quarterly.*

Zajac, S., Gregory, M. E., Bedwell, W. L., Kramer, W. S., & Salas, E. (2014). The cognitive underpinnings of adaptive team performance in

ill-defined task situations: A closer look at team cognition. *Organizational Psychology Review*, *4*(1), 49-73.

# CHAPTER 2 - UNTANGLING TEAM AGILITY: AN INTEGRATIVE REVIEW

*We have to humbly acknowledge that COVID-19 is a fast-evolving situation. We may not always have the best evidence at hand on which to base our decisions, but we do not have the luxury of time. Taking the appropriate actions in a timely manner can affect the course of this pandemic.*
*—Regional Director for Europe, World Health Organization, March 2020*

Unpredictable and changing environments keep people and organizations awake at night, as recently exposed by the calamitous COVID-19 pandemic. To deal with this reality, teams are often used and relied upon due to their adaptive nature: the ability to respond to surprises is known as agility. Despite its importance and popularity, agility remains an ill-defined concept that lacks theoretical foundations and consensus. As a remedy, this paper thoroughly reviews and makes sense of the accumulated agility knowledge. It explicates team agility through three facets of a team model: inputs, mediators and outcomes. First, team agility is a capability (input) characterized by the team's culture and structure. Then, these give way to a host of agile adaptation mechanisms (processes and mediators), which result in agile performance (speed, responsiveness, flexibility). Finally, the

study exposes promising avenues for future agility research, especially in the arena of team affective states which surfaced as underexplored.

## INTRODUCTION

Uncertainty and change characterize today's innovation-driven economy (Teece, Peteraf, & Leih, 2016). And because teams remain the primary mode of organizing (Kozlowski, Watola, Jensen, Kim, & Botero, 2008; Rosen et al., 2011), being agile—defined as a team's capacity to rapidly and flexibly respond to fluid situations—becomes crucial to organizational survival. For instance, police SWAT teams (Bechky & Okhuysen, 2011), hospital emergency personnel (Klein, Ziegert, Knight, & Xiao, 2006) and firefighters (Barton & Sutcliffe, 2009) embody agility as they respond to surprises by shifting roles and reconfiguring work on the fly, with potentially life-and-death repercussions.

Consider some of the effects of the ongoing coronavirus pandemic (COVID-19). Tens of millions of people are infected globally, with millions of lives lost—and counting. Notwithstanding the human tragedy, financial markets face crashes, economies are on the brink of recession, and consumer confidence is low (Carlsson-Szlezak, Reeves, & Swartz, 2020). Companies in aviation, manufacturing, energy or consumer goods are in

serious decline (The Economist, 2020). Many leaders and groups are challenged to adapt teamwork, such as working remotely using a variety of tools (Hasija, Padmanabhan, & Rampal, 2020). The COVID-19 crisis is a harsh reminder of the unquestionable and urgent relevance of agility to organizational teams.

Thus, understanding team agility and how to attend it, is vital. In scholarly work, a rich line of research has accumulated, albeit with inconsistent conceptualizations, fragmented findings and limited theoretical integration. For instance, team agility is often characterized by: effective communication and coordination between teammates (Fontana, Fontana, da Rosa Garbuio, Reinehr, & Malucelli, 2014; Lindsorn, Sjoberg, Dingsoyr, Bergersen, & Dyba, 2016); a high level of autonomy in members' work (Lee & Xia, 2010; Vidgen & Wang, 2009); a strong focus on learning and competencies (Bunderson & Sutcliffe, 2003; Xing, Liu, Boojihawon, & Tarba, 2020); an ethos of partnership and close collaboration (Conboy, 2009; Hoda, Noble, & Marshall, 2011). Aside from the insights offered by such studies, issues that persist are outlined below along with the benefits of confronting these.

First, agility is not new: it is a concept that has been widespread in the business, operations, information systems and organizational literature,

as well as industry and practice. Its mere popularity means that its theoretical value cannot be overlooked. However, it is unclear and habitually confused with related concepts such as adaptability, adaptation, flexibility or responsiveness. It is not clear if it is a capability, a process, or an outcome. Some consider agility a characteristic of practice, an approach or method, or a behavior (Conforto, Amaral, da Silva, Di Felippo, & Kamikawachi, 2016). Others blend attributes, performance outcomes and practices, in the same classification (Narasimhan, Swink, & Kim, 2006). As a result, the concept of agility lacks clarity, strong theoretical bases and parsimony (Conboy, 2009; Sarker & Sarker, 2009). A perpetuation of these trends severely hinders further theoretical development of team agility. This paper aims to create consensus by shedding light on the concept of team agility, because having a clear and common understanding is a prerequisite to any consistent line of scholarly inquiry. Thus, a first step in this comprehensive review is to distill the team agility construct as a team capability and situate it within a wider team adaptation context.

Second, although many researchers have empirically uncovered a multitude of factors that describe team agility, an organizing framework is lacking to be able to easily make sense of them. This is because often scholars do not sufficiently consider the complexity, dynamism and

behaviors of teams as a work unit, and thus a unified theoretical understanding of team agility has been absent (Conboy, 2009; Sarker & Sarker, 2009). To address this issue, I synthesize the various factors unearthed from the review and analysis of the literature that characterizes team agility, according to the Inputs-Mediators-Outputs-Inputs (IMOI) model (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). Consequently, I separate: (1) the factors that conceptualize team agility as a capability (inputs); (2) the outcomes or measures that characterize an agile team's performance (outputs); (3) the team adaptive mechanisms (mediators) that transform inputs into outputs. As a result, team structure (and composition) and team culture (i.e. values, rituals) describe the starting conditions of team agility. Then, teamwork processes (i.e. how the team works, interacts and makes decisions together) and emergent states (i.e. a team's dynamic properties: cognitions, behaviors, motivations, affections) make up the mediators that lead to the agile outcomes of speed, responsiveness and flexibility.

Such a comprehensive agility framework helps better grasp the complexity of how agility can be pursued and is a necessary step towards strengthening and consolidating agility theory. For practitioners, the benefit is clear: as not all teams are created equal, this agility framework allows

managers to more easily identify their own gaps, and focus their team's energy on factors most relevant to them.

Finally, the paper highlights the knowledge gaps in the team agility literature, and discusses the most relevant insights. It proposes avenues for an impactful research agenda, while reflecting on the upheaval caused by the COVID-19 pandemic.

## METHODOLOGY

### Prior Reviews

Frequently, agility has been discussed as a dynamic organizational capability. It has been defined as a business' capacity to redeploy and redirect resources in response to internal and external circumstances (Teece et al., 2016). Given the importance to organizations and to set the scene for this paper, a number of excellent reviews have previously examined agility. At the level of the organization, agility has been defined as involving a change in magnitude of variety (i.e. flexibility) and/or rate of variety generation (i.e. speed) (Singh, Sharma, Hill, & Schnackenberg, 2003). At the workforce level, agility has been reviewed as a capability characterized by a number of attributes such as being flexible, fast and developmental (Muduli, Ashutosh, 2013). Another study contrasted the concepts of agility,

flexibility and responsiveness, in the context of operational systems (Bernardes & Hanna, 2009) which is relevant as teams are complex adaptive systems (Vidgen & Wang, 2009). Finally, a number of relevant studies review team adaptation (Burke, Stagl, Salas, Pierce, & Kendall, 2006; Christian, Christian, Pearsall, & Long, 2017; Maynard, Kennedy, & Sommer, 2015). As can be discerned, previous reviews of agility are scarce, often not at the team or group level of analysis, and are relatively outdated. This is believed to be the first dedicated review and conceptualization of team agility, and more importantly, it takes stock of the many relevant studies conducted.

**Review Criteria**

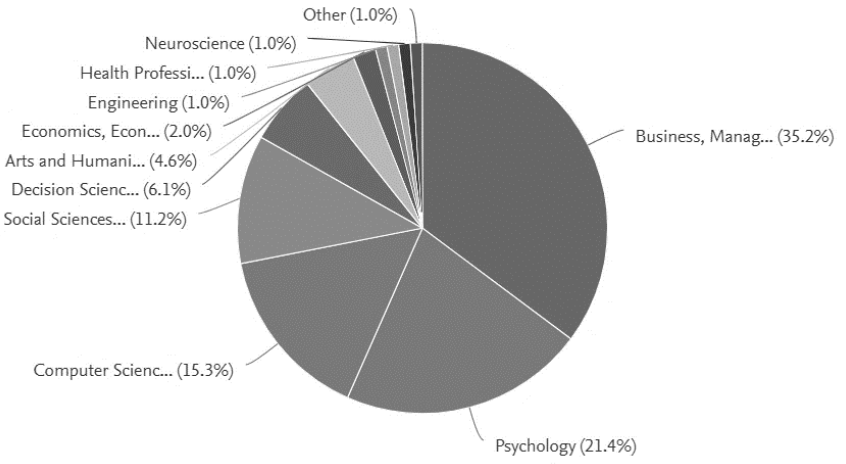
This paper follows guidance on producing analytically-strong and impactful reviews (Jones & Gatrell, 2014; Post, Sarala, Gatrell, & Prescott, 2020): deeply exploring the literature, analyzing it to focus on constructs and themes, identifying gaps to integrate findings, exposing emerging perspectives and avenues. The review begins by conducting a comprehensive manual literature search of articles that target agility in top management and other relevant organizational journals. This being the first team agility review, the focus is on works since 2001, in electronic databases (e.g., Scopus, WorldCat, Google Scholar). The keyword search

consisted of agil*, as well as its related terms (e.g., flexib*, adapt*, respons*) since scholars do not always explicitly use the word agility. Additionally, diverse organizational contexts and disciplines are incorporated (Webster & Watson, 2002) to develop a multidisciplinary integration from organizational science, operations management, human resources, psychology and information systems. The paper includes review, theoretical and empirical articles. The references of prior reviews were studied in detail to ensure pertinent works were included in the search. Agility in the literature is considered under all the forms it can take: a capability with starting conditions as inputs, a resulting performance or outcome, or as intermediary interactions and processes.

Initial searches yielded over 4,000 articles. When restricted to the keywords team or group appearing in the title, the search returned over 1,800 sources. At this juncture, it is important to clarify that the advent of “Agile” (with capital “A’) development methods and approaches for planning and executing work—mostly in information systems—has yielded often inconsistent theoretical and empirical works. This is because the “Agile” movement—which began with the “Agile Manifesto” in 2001 in software development teams (Beck, Schwaber, Beedle, & Highsmith, 2001)—quickly turned into a commercial endeavor. Firms began a

proliferated promotion of “Agile” project management products and services, with no empirical evidence of effectiveness. Being agile and resulting in agile performance are not necessarily the same as implementing “Agile” methods and tools. As a result, “Agile” is widely considered a “pop” management practice which has often lacked scientific rigor and has weakened the agility concept (Janes & Succi, 2012). Thus, explicit narrow studies of “Agile” methods, tools and practices are excluded from this review. This remedy minimizes the biased subsection of the associated agility literature, and the final reduced search produced 32 results which are reviewed in this paper and illustrated in Figure 2.1.

Figure 2.1 Reviewed agility sources, by field



As can be seen, most are in the field of Business Operations and Management, Psychology and Computer Science.

## REVIEW AND RESEARCH QUESTION

Agility has often been studied at the organizational level of analysis. One definition is as a capacity that intentionally senses and responds to change through generating variety (Singh et al., 2003). It is the ability to quickly detect opportunities and assemble assets, knowledge and relationships (Sambamurthy, Bharadwaj, & Grover, 2003), and quickly reconfigure resources and processes (Bernardes & Hanna, 2009; Teece et al., 2016; Yusuf, Sarhadi, & Gunasekaran, 1999) in response to mostly external stimuli. Modern organizations are largely team-based, and many organizational phenomena have their theoretical foundation in group processes, cognition, behavior and so forth, which interact, amplify and manifest at the level of the organization. As evidenced in this paper, team agility bears a resemblance to organizational agility but has a primarily internal focus.

### Team Agility

Teams (used interchangeably with groups in this paper) are embedded within the wider workforce, perform organizational tasks, and share goals

and interactions among members (Kozlowski & Ilgen, 2006; Mathieu, Maynard, Rapp, & Gilson, 2008). Teams are effective in recognizing changes and cause-effect mechanisms (Randall, Resick, & DeChurch, 2011), and adaptably deal with new and emergent changing conditions (Hagemann, Kluge, & Ritzmann, 2012). For instance, they do this by allocating resources, self-correcting, and redistributing workload on the fly (Day, Gronn, & Salas, 2004) according to stakeholder needs (Conforto et al., 2016). A number of diverse definitions and characterizations of agility exist in the literature, some of which are presented here.

Many consider agility a capability. One conceptualization is of agility as the group's capabilities in: intelligence (in responsiveness to customer needs and market conditions); speed (of acquiring competencies); collaboration (across functional boundaries and between projects); culture (employee empowerment); and rapid introduction of new technologies (Breu, Hemingway, Strathern, & Bridger, 2002). Another definition of team agility as a capability is as: sensitivity (perception and awareness of developments); leadership unity (bold fast decisions); and resource fluidity (reconfiguration of capabilities and rapid redeployment of resources) (Doz & Kosonen, 2010). Yet another characterization of team agility is being capable of efficient and effective response to task volatility, technological

disruption and group instability (Kude, Bick, Schmidt, & Heinzl, 2014). A final portrayal presented here is of agility as a group capability in responsiveness, quickness, competence, cooperativeness and adaptability (meaning accepting to perform in changing conditions) (Qin & Nembhard, 2015). Others, define agility as an outcome, for instance: an adaptive team performance (Bedwell, 2019) of individuals and groups represented by improvisational behavior (Zheng, Venters, & Cornford, 2011), or as quick plan change (Conforto et al., 2016).

Many scholars have proposed an abundance of team attributes or characteristics to describe team agility. In software teams, controlling sources of threat while concurrently staying alert to opportunities are associated with agility (Dönmez & Grote, 2018). These authors stress the importance of anticipating and accruing information on the change the team faces. Others find agility is achieved by collective mindfulness, improving processes and coevolving value with customers (Vidgen & Wang, 2009). Learning is found to play an important role (Kude et al., 2014), as do the group's developmental stage and maturity (de O. Melo, S. Cruzes, Kon, & Conradi, 2013; Gren, Torkar, & Feldt, 2017). Teamwork, open communication and honest feedback are essential for agility (Gren et al., 2017), but this type of knowledge and information sharing is impacted by

the group's diversity, values and technical skills (Ghobadi & Mathiassen, 2016; Lee & Xia, 2010).

Finally, few measures of agility are uncovered in the literature. Two examples are noted here. The first, measures agility through the software team's response extensiveness (extent, range, scope, variety) and efficiency (in time, cost, personnel, resources) (Lee & Xia, 2010). A second measure was developed specific to project management settings, around: plan update time; decision time; customer interaction; frequency of delivery; and customer validation (Conforto et al., 2016).

**Related Concepts**

The extant literature surfaces one clear and major issue: agility is often confused with adaptability, adaptation, adaptive performance, resilience—and what differentiates them is unclear. Adaptability is the ability, disposition, willingness, to alter or fit different task, social, and environmental features (Cullen, Edwards, Casper, & Gue, 2014). It represents a capacity of a team to change its performance (Burke et al., 2006). Adaptability poses as antecedent to the team adaptation process (Maynard et al., 2015; Rico, Gibson, Sánchez-Manzanares, & Clark, 2019) which itself is conceptualized as a change in team performance in reaction to a stimulus (Burke et al., 2006). Adaptation, in this case, may occur in the

context of dealing with new physical challenges, new technologies, or the introduction of new staff in a team (Pulakos, Arad, Donovan, & Plamondon, 2000). Adaptation can be in the form of processes such as communication, coordination, planning and so forth. The result of the team adaptation process is known as adaptive outcomes or team adaptive performance, often in the form of team effectiveness and other performance measures (Christian et al., 2017; Maynard et al., 2015; Rico et al., 2019). So overall, adaptation is a process that transforms team capabilities and inputs (i.e. adaptability) into adaptive performance outcomes, under the conditions of change and uncertainty (and other environmental/contextual factors).

In relation to the concept of team resilience, there are commonalities with agility. Team resilience refers to "a team's capacity to bounce back from adversity-induced process loss" to pre-adversity performance or even going beyond this through persistence (Stoverink et al., 2020, p. 395). Many recent comprehensive reviews of team resilience have conceptualized resilience as a second-order emergent state or outcome that is the result of team-level factors, and that enables the team to achieve performance under adversity (Bowers, Kreutzer, Cannon-Bowers, & Lamb, 2017; Hartmann, Weiss, Newman, & Hoegl, 2020; Hartwig, Clarke, Johnson, & Willis,

2020; Raetze, Duchek, Maynard, & Kirkman, 2021; Stoverink, Kirkman, Mistry, & Rosen, 2020). Many of these resilience studies identify team-level antecedents such as team characteristics, resources, and mediators. Thus, in line with recent reviews, this paper considers resilience as a possible emergent state or outcome consistent with a nomological network of team agility.

Finally, agility is often interchangeably used with flexibility or responsiveness (Bernardes & Hanna, 2009; Teece et al., 2016). These are reviewed in detail later in the paper because they emerge as performance characterizations of team agility.

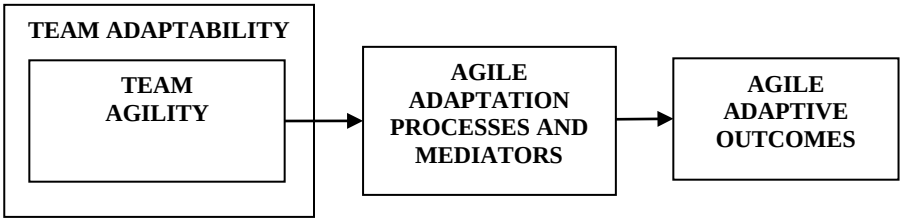
**Research Question**

The result of the extant literature is a rich collection of works with potential for advancing team agility knowledge and theory. And yet, the concept can be unclear, confusing, fragmented disintegrated, all of which weaken theory. This paper attempts to bridge some of these gaps by asking: ***what is team agility, and how does it translate to adaptive outcomes?***

As can be seen, team agility is not inconsistent with the aforementioned concepts, quite the opposite: it simply must be adequately positioned. A common team adaptation framework (Maynard et al., 2015; Maynard, Kennedy, Tannenbaum, Mathieu, & Levy, 2020) is used as

guiding model to help categorize and integrate findings from the review of the agility literature. The framework by Maynard and colleagues helps situate agility as a team capability and a subset of team adaptability. While adaptability is about change in general, agility is rather marked by a context of dynamic stimulus that may often require urgent response (e.g., a pandemic, a fire, sudden patient deterioration, surprise schedule change etc.). Then, as Figure 2.2 illustrates, team agility unfolds as a set of agile adaptation processes and mediating mechanisms that teams engage in, and these ultimately result in adaptive performance. The next section shows the integration of team agility's inputs, mediators and outcomes.

Figure 2.2 Situating agility in relation to adaptation nomological network




## AN INTEGRATIVE SYNTHESIS AND CONCEPTUALIZATION

Performance is what organizations are all about, and so this section integrates the various antecedents of a team's agile outcomes. Thus, to

begin, this section focuses on conceptualizing the performance outcomes of team agility. Then, antecedents of agile outcomes are organized in line with Maynard's team adaptation model and according to the *Input-Mediator-Outcome-Input* (IMOI) categories (Ilgen et al., 2005).

**Agile Adaptive Outcomes**

Concepts are "abstract terms that specify the features, attributes, or characteristics of the phenomenon, that distinguish them from other related phenomena" (Podsakoff, MacKenzie, & Podsakoff, 2016). To conceptualize agile outcomes from the literature, this paper follows recommendations for developing constructs: (1) identify potential concept attributes through collection; (2) organize them by themes; (3) develop a preliminary concept definition; and (4) refine it until it is satisfactory (Podsakoff et al., 2016). During the literature review and analysis of team agility, a number of themes emerged in relation to the adaptive outcomes that can characterize it. After an iterative qualitative synthesis, I condensed these into three major categories that help define and characterize outcomes of team agility: speed, responsiveness, flexibility. Each one, as well as its constituent subdimensions, are then reviewed in turn.

**Speed.** In team research the most commonly cited agility outcome was found to be quickness and swiftness. Indeed, when faced with surprise,

teams need to be fast in decision-making (Conforto et al., 2016; Doz & Kosonen, 2010) and have a quick response to requirement changes (Lee & Xia, 2010) by adjusting their plans (Conforto et al., 2016). Agile teams rapidly move towards completing their work or projects (Pirola-Merlo, 2010) through swiftly restructuring, reconfiguring and redeploying resources such as personnel or technologies (Doz & Kosonen, 2010; Sarker & Sarker, 2009). Finally, team agility means quickly learning new skills or technologies, for example, (Breu et al., 2002; Kude et al., 2014; Vidgen & Wang, 2009) or even formalizing lessons-learned (Fontana et al., 2014).

Clearly, agile teams do things faster than others. Following the iterative procedure by Podsakoff et al. (2016), I condense the outcome of team speed through the following dimensions: speed in (1) work implementation; (2) resource reconfiguration; (3) team learning.

**Responsiveness.** This is a concept commonly linked to agility studies. Surprise and change may be technological or regulatory in nature, market or customer driven, or simply internal to the organization. How teams perceive and react to them amounts to their responsiveness. Agile teams are sensitive to their external situation and to opportunities that may present themselves (Xing et al., 2020). They constantly scan the environment for potential cues (Kude et al., 2014), and plan for, and anticipate, change

(Dönmez & Grote, 2018; Li, Chang, Chen, & Jiang, 2010; Sarker & Sarker, 2009). Clearly, this positive outlook on change (Conboy, 2009) requires that teams possess a proactive attitude for idea-implementation and problem-solving (Parker, Williams, & Turner, 2006).

Beyond having a positive change-orientation, teams must identify and evaluate change through accruing information, and deciding what course of action to implement (Dönmez & Grote, 2018; Kude et al., 2014). This requires effective knowledge and information sharing among team members (de O. Melo et al., 2013; Ghobadi & Mathiassen, 2016). Evidently, agile teams must have diverse response mechanisms in their arsenal, depending on the risk and uncertainty presented to them. Risk and uncertainty refer to a surprise condition that can have a positive or negative impact on outcomes. Under risk, one can relatively predict the possibility of a future result and manage it, but under uncertainty it cannot be foreseen nor controlled (Project Management Institute, 2008). And so, the way teams can respond to change through action, can be simplified as twofold. A methodical planned approach to minimize risk, or an unprepared intuitive tactic to deal with unpredictability. The effectiveness of risk planning and management will depend on: the extent to which risks and their consequences are analyzed; the comprehensiveness of plans; and the effort

taken to design detailed responses (Salomo, Weise, & Gemunden, 2007). Conversely, in unpredictable environments, experimentation and improvisation can be used to rapidly build intuition and flexible options (Brown & Eisenhardt, 1997; MacCormack, Verganti, & Iansiti, 2001). Improvisation deals with the unforeseen, and is spontaneous and unprepared (Crossan, E Cunha, Vera, & Cunha, 2005; Moorman & Miner, 1998). It draws on the team's cognitive, affective, social and material resources to produce conscientious action (Kamoche, Pina e Cunha, & Da Cunha, 2003). As a temporal team process, adaptation is found to consist of preemptive as well as improvised mechanisms (Abrantes, Passos, Cunha, & Santos, 2018). By means of these two different approaches, agile teams produce what is considered a mindful response to changing circumstances. In fact, agile teams are expected to proficiently perform both preplanning and improvisation depending on the demands of any given situation, and be able to switch from one to the other.

Consequently, team responsiveness is a multi-dimensional outcome of team agility, which following Podsakoff et al. (2016) can be organized into three main themes: (1) change embrace; (2) change preparedness; (3) mindful response action (planned and improvisational).

**Flexibility.** The third most common way scholars conceptualize agility outcomes is through flexibility. To make sense of it, a valuable framework exists for understanding managerial flexibility, from operational and structural angles (Volberda, 1996). Volberda's *operational flexibility* enables response to changes that typically lead to short-term work variations; for instance, this is demonstrated through changing production output, contracting-out or using temporary labor. *Structural flexibility* allows adaptation of structure, decision-making and communication processes. They can result in changes in assigned responsibilities, shifts in team autonomy, incorporating new technologies or creating partnerships (Volberda, 1996). Such flexibilities in teams are associated with higher performance, even in fuzzy and turbulent times (Christensen & Knudsen, 2008). And so, in the pursuit of operational and structural flexibilities, the ways teams are composed and structured, and their decision-making processes and values, are important factors. The reviewed agility literature described several flexibility aspects. For instance, when confronted with environmental change, and using available resources, teams may adjust their tactics, practices and tasks (Okhuysen & Eisenhardt, 2002; Wright, P. M. & Snell, 1998), or behaviors, structures and downsizing strategies (DeRue, Hollenbeck, Johnson, Ilgen, & Jundt, 2008; Günsel & Açikgöz,

2013; Zheng et al., 2011). Such team flexibilities consist of response extensiveness to business changes and response extensiveness to technical changes (Li, Shepherd, Liu, & Klein, 2017) and represent a team outcome (He, Baruch, & Lin, 2014). Research in high-responsibility groups shows that flexibility is about adapting communication, reprioritizing their objectives, reallocating workload dynamically and compensating for others (Hagemann et al., 2012). In fact, collectivism—putting the team first—is associated with flexibility, decision-making effectiveness and positive team performance (Lin C.-P., Wang H.-J., Joe S.-W., & Chen S.-C., 2015; Randall et al., 2011). Some describe a team's functional flexibility according to multifunctionality (how many tasks a member has mastered) and redundancy (how many members are qualified to perform a specific task) (Molleman & Slomp, 1999). Similarly, flexibility is viewed as the degree to which team members can complete each other's tasks (Barrick, Neubert, Mount, & Stewart, 1998). As can be seen, the aforementioned flexibilities fit aptly into Volberda's operational and structural dimensions.

Agile teams achieve such flexibilities using a variety of internal and external means. For instance, it is vital to show flexibility through internal components and relationships, as well as externally through relations with the group's environment (Conboy, 2009). The integration of stakeholders is

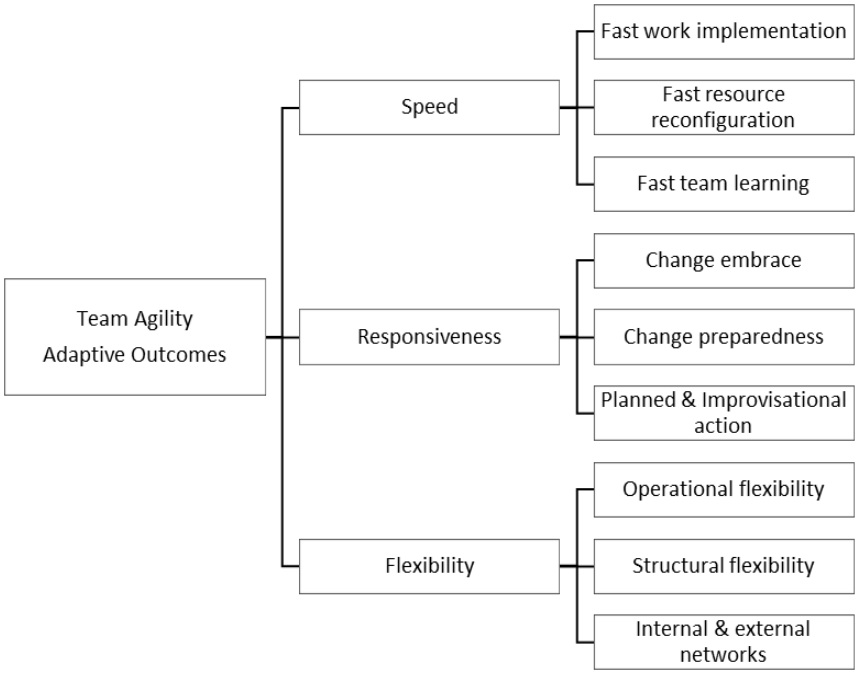
found to be important (Dönmez & Grote, 2018), as well as capitalizing on vendor or partner resources (Sarker & Sarker, 2009). Obtaining the active involvement and collaboration of a team's customers is critical (Conforto et al., 2016; Hoda et al., 2011), as is building a close "co-evolutionary" relationship with them (Vidgen & Wang, 2009).

In summary, flexibility is a team agility outcome that can be condensed into: (1) operational flexibility; (2) structural flexibility; (3) use of internal and external networks. Thus, agile teams typically show evidence of concurrently capitalizing on their internal and external relations, and accessing resources.

In conclusion, a team is said to have agile performance when it collectively: (1) displays speed in working, reconfiguring, and learning [SPEED]; (2) mindfully produces planned and improvisational action through embracing, and being prepared for, change [RESPONSIVENESS]; (3) exhibits operational and structural flexibility by capitalizing on its internal and external networks [FLEXIBILITY]. These dimensions are illustrated in Figure 2.3. Agile teams are expected to display high speed, responsiveness and flexibility—but to varying degrees because it also depends on factors such as context, the nature of the dynamic stimulus, and the task at hand. Overall, the degree with which teams score in each of the

outcome dimensions will qualify them as more or less fast, flexible and responsive. Teams that score high in all three outcome dimensions would be qualified as highly agile overall.

Figure 2.3 Team Agility concept and subdimensions




Each of the three dimensions (speed, responsiveness, flexibility) is necessary, but not individually sufficient, to characterize the adaptive outcomes of team agility. As a set however, these dimensions constitute the unique outcome of team agility. This conceptualization reduces ambiguity

and enhances the theoretical definition by describing each dimension precisely. The definition is also broad and aims to apply to organizational teams irrespective of context. The outcome dimensions are developed throughout the lifetime of an agile team, and may depend on factors that vary through time such as tenure, team size, and leadership style. Specifically, the extent of the agility of a team may very well depend on how developed and mature the team is (de O. Melo et al., 2013; Gren et al., 2017). Now that team agility is better understood and characterized by its outcomes, an important next step is to synthesize theory by shedding light on the adaptive mechanisms (i.e., antecedents) that enable a flexible and rapid response to fluid situations.

Each reviewed study shows many factors that contribute to agile performance. After an initial thematic examination and reduction, I make sense of the many enablers of agile performance by integrating them into antecedent categories according to the theoretically-based *Input-Mediator-Outcome-Input* (IMOI) framework (Ilgen et al., 2005) and in line with the team adaptation model (Maynard et al., 2015; Maynard et al., 2020).

**Agile Adaptation Processes and Mediators**

Teams respond to change or surprise interdependently through behavioral teamwork processes and dynamic emergent states. Together, they are the

mediators that link inputs to outputs in a team model (Marks, Mathieu, & Zaccaro, 2001). On the one hand, team processes describe how members work together, and such interactions are categorized as: *action* (acts that contribute directly to goal accomplishment) or *transition* (planning and evaluation activities) (Marks et al., 2001). Conversely, emergent states represent the dynamic properties of the team and are products of collective experiences (Marks et al., 2001). They are interpersonal and engage a team's cognitions and affections (Kozlowski & Ilgen, 2006). Consequently, agility mediators that link the model's inputs to outputs are split according to team processes or emergent states.

**Team processes.** The team agility literature predominantly cites *action* and *behavioral* processes such as communication, coordination, cooperation and collaboration. For instance, a large meta-analytical review found communication and coordination to significantly be correlated to adaptive team performance (Christian et al., 2017). These processes occur internally to the team between members (Fontana et al., 2014; Lindsorn et al., 2016; Qin & Nembhard, 2015), as well as externally with other teams or departments (Breu et al., 2002) and suppliers and customers (Fontana et al., 2014; Sarker & Sarker, 2009). Regarding coordination, teams employ four modes—ambidextrous, exploratory, exploitative, and experiential

coordination—to respond to the situational demand for stability versus flexibility (Grote, Kolbe, & Waller, 2018). Very often cited in association with team agility are action processes that are incremental and iterative (Dönmez & Grote, 2018; Kude et al., 2014; Lee & Xia, 2010; Sarker & Sarker, 2009), that consist of working "sustainably with rhythm" (Vidgen & Wang, 2009) and with frequent interaction with members and stakeholders (Stettina & Hörz, 2015; Xing et al., 2020). However, simulations in crisis scenarios showed that higher performing teams displayed fewer, shorter and less complex interactions (Stachowski, Kaplan, & Waller, 2009). In general, the adaptive performance literature favors processes that are more iterative than linear, and more experimental than planned (Eisenhardt & Tabrizi, 1995). Such iterative and dynamic processes are well suited to absorb change and lead to agile performance (Zheng et al., 2011). Some *transition* processes are found in the agility literature too. For instance: ramping the team's human resources up or down (Sarker & Sarker, 2009); continuously gathering requirements (Hoda et al., 2011; Vidgen & Wang, 2009); and making changes in team membership (Bedwell, 2019; Harrison, McKinnon, Wu, & Chow, 2000) depending on the situational demand.

**Team emergent states.** To characterize the dynamic properties of the team that interact with team processes, the term “emergent states” was coined. Emergent states are separated into the cognitive and affective characteristics of a team that are influenced by inputs, processes and outcomes (Marks et al., 2001). These are context-dependent, originate in team interactions and influence members (Waller, Okhuysen, & Saghafian, 2016). Unlike team processes, emergent states are less prominent in the agility literature. Starting with cognitive states which are most referred to, some cite: team socialization (the team’s collective social connectivity) (Sarker & Sarker, 2009) or cohesion (the team members’ commitment to each other) (Zheng et al., 2011). Also, collective sensemaking is linked to agility (Sarker & Sarker, 2009) as is seen in cases of teams responding to crises (Uitdewilligen & Waller, 2018; Weick, 2010). This cognitive processing is epitomized in emergency situations where clinical teams use reflexivity during their response through ongoing “conscious reflection on objectives, strategies and processes” (Schmutz, Lei, Eppich, & Manser, 2018). Rare references are made in agility research to shared mental models (mental representation of shared team knowledge), yet these are relevant to how teams may more effectively cognitively respond to change and surprise (Bedwell, 2019; Moe, Dingsøyr, & Dybå, 2010). Finally, the

adaptation literature provides a promising research avenue for agility: it relates team situational awareness (shared understanding of the team's present situation) to effectiveness of change response (Burke et al., 2006; Zajac, Gregory, Bedwell, Kramer, & Salas, 2014) and links mental models to situational ones (Rico et al., 2019). As opposed to cognitive states, affective emergent states in agility studies are seldom found. They include some direct evidence on motivation and mutual trust (Moe et al., 2010; Rosen et al., 2011), but it is the adaptive performance literature that provides pertinent avenues to further explore for agility: psychological and participative safety—the shared belief that the team is a safe place for risk taking—(Burke et al., 2006), group potency—the collective belief in the team's own effectiveness—(Kozlowski & Ilgen, 2006) and member empowerment (Kirkman, Rosen, Tesluk, & Gibson, 2004).

**Team Agility as Capability**

The next section describes how agility is a capability that is specified by the team's input factors. The analysis of such factors from the review of the agility literature surfaced that a team's structure and culture characterize the starting conditions for a team to be agile. These inputs are enablers of the aforementioned agile mediational mechanisms that turn a capability into outcomes.

**Team structure.** Some structure in teams is necessary to enable sensemaking, avoid indecision and enable confident action (Eisenhardt & Tabrizi, 1995). Many team types and classifications exist in the literature and in practice. For instance: traditional top-down teams, cross-functional teams, temporary project teams, and so forth (Kozlowski & Ilgen, 2006).

Many find that agility means having team structures that promote self-management, self-organizing and autonomy (Günsel & Açikgöz, 2013; Lee & Xia, 2010; Vidgen & Wang, 2009). In general, team design choices are crucial, and have a significant effect on group productivity and performance: switching from decentralized back to centralized structures (Hollenbeck, Ellis, Humphrey, Garza, & Ilgen, 2011) or from functional to divisional structures (Moon et al., 2004) can have deleterious effects, as can the types of downsizing strategies employed (DeRue et al., 2008). Several authors additionally find that to be agile, teams can benefit from cross-functionality (Breu et al., 2002; Lee & Xia, 2010; Qin & Nembhard, 2015). Many other structural factors are found to be associated with agility, for instance: a small team size with a minimal structure (de O. Melo et al., 2013; Mafakheri, Nasiri, & Mousavi, 2008; Zheng et al., 2011); a structure that empowers (Breu et al., 2002; de O. Melo et al., 2013); structural

characteristics of team tasks and technologies (Thomas & Bostrom, 2010), and even changing membership (Harrison et al., 2000).

**Team Culture.** The second aspect that defines the capability of team agility is team culture. The agreed upon norms, values, attitudes, expectations and beliefs that team members share collectively represent a team's culture. Culture enables the group to regulate member behavior and performance (Cohen, S. G. & Bailey, 1997). The reviewed agility literature considered many cultural aspects, summarized next.

Team agility is synonymous with a culture of knowledge, that is, attaching importance to constant learning and development of members (Kude et al., 2014; Muduli, A., 2016; Vidgen & Wang, 2009). A team's climate of proactive learning reflects a shared understanding of the team's attention to learning (Bunderson & Sutcliffe, 2003). Teams tend to learn from the change they experience through the "collective components and relationships with their environment" (Conboy, 2009). Research widely shows that a learning culture leads to adaptive behaviors and outcomes, and this is important in dynamic environments that require rapid response (Bunderson & Sutcliffe, 2003; LePine, 2005). Yet, alarm is sounded for when the responding team has insufficient slack resources (Porter, Webb, & Gogus, 2010). Other factors that help in such response circumstances are

formalizing how lessons are learned from past experience, and how they can be applied to new problems (Fontana et al., 2014). Also prominent in the agility literature is a culture that focuses on building, maintaining and enhancing core competencies. These represent the pooled knowledge, skills and expertise that are the main tangible team strengths. Technical and social skills are found to play an important role for flexible and agile teams (Ghobadi & Mathiassen, 2016; Moe et al., 2010), as is member multiskilling (Vidgen & Wang, 2009). Such competencies are linked to workers' problem-solving abilities (Breu et al., 2002; Qin & Nembhard, 2015). Beyond a focus on learning and competencies, a culture of partnership and close collaboration is associated with agility. For instance, the customer needs to be deeply understood and engaged (Hoda et al., 2011; Lindsorn et al., 2016; Vidgen & Wang, 2009). A similar close working relationship is advocated with other external stakeholders such as suppliers and distributors (Conboy, 2009; Sarker & Sarker, 2009).

**Integrative Framework**

In summary, the various identified inputs (structure, culture), mediators (team processes, emergent states), and outcomes (speed, responsiveness, flexibility), form the building blocks to an integrated IMOI model (Ilgen et al., 2005) for team agility. IMOI provides an extensive organizing model of

team functioning and considers variability in performance as well as causal feedback (Ilgen et al., 2005). For each reviewed article in Table 2.1, the various agile performance enablers are categorized as inputs, mediators or outcomes. Moreover, one must recognize the inherent cyclical and temporal dynamics of teams, where outcomes can influence mediators and inputs (Ilgen et al., 2005; Mathieu et al., 2008).

Figure 2.4 Team agility model. List of variables (in team culture, structure, processes and emergent states) are illustrative rather than comprehensive.

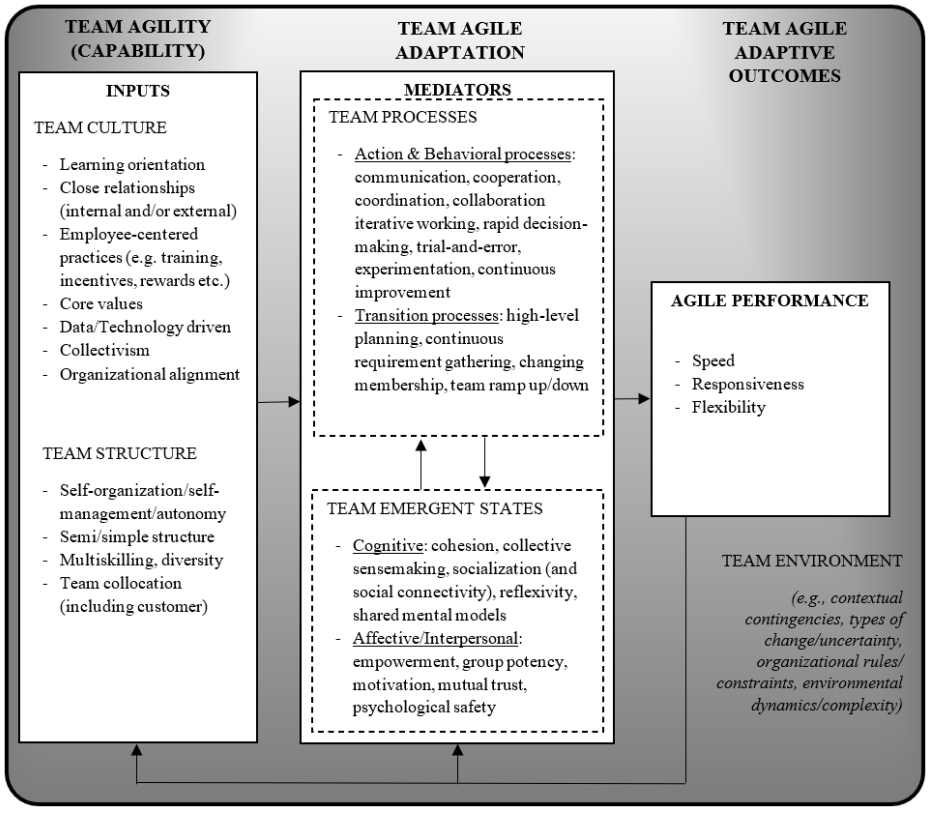


Figure 2.4 maps the reviewed contributors according to behavioral team processes (action, transition) and emergent states that represent the team's climate (cognitive, affective) (Kozlowski & Ilgen, 2006; Marks et al., 2001). Additionally, team processes and emergent states interact with one another and may become new inputs or outcomes to one another, as depicted in the model (Klotz, Hmieleski, Bradley, & Busenitz, 2014; Marks et al., 2001; Rosen et al., 2011). Team agility is a capability formed through certain team structural and cultural components. The agile adaptation teams then go through is represented in the model by the mediators that turn inputs into adaptive outcomes. This integrated framework lays down a roadmap for further research and allows a more comprehensive understanding of agility. Finally, scholars must also reflect on the specific team environmental context in which their agility model operates, along with its contingencies and effects. For instance, are there specific organizational contexts or constraints that affect the model? Do certain types of change and uncertainty affect the outcomes? Does the team's type, or maturity play a role? And so on and forth.

## DISCUSSION AND FUTURE RESEARCH

It is crucial for organizations to intentionally respond to uncertainty, change and surprise, considering how pervasive and costly they tend to be (Teece et al., 2016). They do so by cultivating factors that enable their teams to be agile. Notwithstanding agility's importance which is epitomized by the COVID-19 pandemic, the perplexing backdrop of the team agility literature and lack of integrated theory motivated this foundational paper. Several important contributions are offered.

This review provides a detailed understanding and integration of the extant agility and related literature, which is important in building consensus on agility theory. It exposes team agility as a polymorphous concept: an agile capability, an agile outcome, and the intermediary agile mechanisms. The review defines team agility as ***an organizational team's adaptive capability in rapidly and flexibly responding to fluid situations***. The paper offers a practical integrated theoretical framework for describing team agility. First, agility is formed through a team's structure and culture. These are inputs which are then turned into agile performance by agile adaptation processes and mediators. This model allows scholars to identify lacking knowledge and define their research questions in a clearer and more structured manner. In organizations, the model can help teams identify their

agility gaps and focus their energy on factors that are most relevant to them, or matter most to their setting. The final contribution is to expose select future research avenues.

**Measuring Team Agility**

With the achieved conceptualization of agile performance outcomes, an obvious next step would be to establish a valid and reliable measurement scale. All three outcomes (speed, responsiveness, flexibility) must be measured to determine the level of agility of any given team. Some limited but relevant scales exist already (Lee & Xia, 2010; Mafakheri et al., 2008; Qin & Nembhard, 2015; Sarker & Sarker, 2009) which could be appropriately adapted and broadened in applicability. Additionally, a contextual lens through which to examine team agility could be considered; in fact, there are many. One such convenient framework could be based on temporal, range, intention and focus contexts (Evans, 1991; Golden & Powell, 2000); I summarize a possible mapping of the agility concept in Table 2.2, and propose initial measurement guidance for scholars.

Table 2.2 Example mapping of team agility onto Golden and Powell's contextual framework

| Team Agile Performance - Dimensions | Team Agile Performance - Subdimensions | Contextual Framework (Evans 1991; Golden, Powell 2000) | Example Measurement Questions |
|---|---|---|---|
| Speed | -Work<br>-Reconfiguration<br>-Learning | *Temporal* | How temporally agile was the team? (e.g. slow vs. fast) |
| Responsiveness | -Change Embrace<br>-Change Preparedness<br>-Planned and improvisational action | *Intention* | How intentionally agile was the team? (e.g. reactive vs. proactive)<br>How did the team intentionally respond through preplanned or improvisational action? |
| Flexibility | -Operational<br>-Structural | *Range* | What was the range of operational and structural actions/options the team used, to respond to change? |
| | -Internal/External networks | *Focus* | Was the team's focus internal and/or external, in responding to change? |

## Agility and COVID-19

The recent and ongoing COVID-19 pandemic which affects virtually everyone everywhere, is a striking example of an event that can help better understand agility in teams. With millions infected globally and hundreds of thousands having died (BBC, 2020), the consequences on society are dire. Many organizations have gone into lockdown to minimize virus contagion, forcing team members to separate and work from home. During

the pandemic, the majority of companies report that what they fear most is a drop in productivity (EY, 2020) and they are implementing a variety of countermeasures to cope.

Evidence from Chinese organizations' response to the COVID-19 pandemic shows that new processes and practices were necessary, as was enhancing collaboration with internal as well as external parties (Narayandas, Hebbar, & Li, 2020). Customer interactions are changing during the pandemic, for instance in hospitals where non-critical patients are asked to communicate with their healthcare teams virtually for medical follow-up (Slotkin, Murphy, & Ryu, 2020). In sales or contract teams, negotiating virtually with suppliers or partners is challenging and often causes feelings of reduced trust with counterparts (Movius, 2020). As many organizational staff are laid off, reskilling is important to deal with the changing customer demand and ensuing work variations (Enders, Haggstrom, & Lalive, 2020). In the Unites States for instance, the pandemic generated an urgent demand for medical and technology personnel who came out of retirement or career breaks, and joined teams in their response efforts, for instance in processing increasing numbers of unemployment claims (Cohen, C. F., 2020).

Arguably, the psychological effects caused by COVID-19 are as important—if not more—to organizations. As firms cautiously reopen and ramp up their operations during and after the pandemic, teams' affective needs such as truthful communication and humane management must be considered (Joly, 2020). For instance, healthcare front line staff are significantly affected because they face a high risk of infection (WHO, 2020), which causes them much distress and anxiety (Spoorthy, Pratapa, & Mahant, 2020; Tan et al., 2020). The impact on team morale and emotional states are hefty, even for emergency department staff who are widely viewed as supremely adaptive and agile (Wright, A. L., Meyer, Reay, & Staggs, 2020). In non-medical sectors, remote work is causing managers to be overly controlling and policing toward team members, which they can overcome by building deeper emotional connections with their staff (DiGangi, 2020). As studies related to coping with the pandemic proliferate, and will continue doing so, the integrated IMOI model presented in this paper can provide valuable and structured guidance to scholars. Of particular interest in upcoming agility and adaptive performance research, would be to understand the role of team affect. The COVID-19 pandemic reinforces the necessity for a much more humane approach to managing teams and interactions in organizations.

## The Promise of Emergent Affective States

Clearly, the importance of addressing emotion and motivation in teams cannot be overstated, and crises like the COVID-19 pandemic exemplify the urgency. The integrated framework in this paper only provides the building blocks for a team agility model along with some of its known contributors. As noted, there are important knowledge gaps around affective emergent states.

Affect is largely recognized as the driving force behind the behavior of team members (Ashkanasy, Humphrey, & Huy, 2017). Yet, there is a lack of understanding of how affective states impact responding to changing conditions (Hodgkinson & Healey, 2011; Kaplan, LaPort, & Waller, 2013; Maitlis & Sonenshein, 2010). For instance, change can cause fear and anger and may result in proactive team behaviors and response (Lebel, 2017), while also causing lack of commitment and decreased motivation (Kiefer, 2005). Consequently, affective states may present a vital adaptive mechanism and antecedent of team adaptive performance, and certainly deserve further attention. This is in line with recent antecedents—for instance emotions, social support and relationships (Hartmann et al., 2020; Raetze et al., 2021)—of team resilience, which as seen is itself considered a second-order emergent outcome (Stoverink et al., 2020).

To research agile teams' affective states will also inevitably uncover the individual-level agility, which is understudied in organizations. Change can trigger negative emotions in individuals (Liu & Perrewé, 2005) and the way they respond varies depending on their cognitive and emotional appraisals of the event (Perrewé & Zellars, 1999). Individuals' values, working preferences or coping mechanisms could be at odds with those of the aggregate team, especially when responding to external stimuli (Meglino & Ravlin, 1998).

Undoubtedly, literature on psychology and organizational behavior contribute significantly to this line of enquiry, and it is hoped this paper serves as a call to deeply explore emergent affective states of teams who face change and surprise.

**Limitations**

Notwithstanding its contributions, this paper wants to present boundaries for the review, while making choices about which sources to include—for instance, books were excluded. Furthermore, explicit studies of "Agile" methods and tools were left out to avoid bias toward that subsection of the literature, but this admittedly may have omitted important contributions. Additionally, the aim being an integrative review, it necessitated a thematic analysis and reduction of the factors presented in the IMOI framework into

categories. An alternative categorization could have yielded different insights. Finally, the proposed integrated framework itself does not depict the directionality or strength of relationships between individual agility antecedents, but merely positions them in a structured manner into a blueprint of input, mediators and outcomes.

## CONCLUSION

Agility, the so-called “holy grail” of organizations in a fast-changing world, has yet to live up to its full potential. This is evidenced by an often fragmented and ambiguous literature, exacerbated by often limited studies of “Agile” tools and methods. Deeper theoretical and evidence-based research is expected to weed out the benefits and dark sides of agility, its adaptive mechanisms and performance, and its complex boundary conditions. This paper offers scholars of change and agility a sound basis to advance academic work and strengthen theory, starting by bringing clarity and building consensus. Additionally, insights offer practitioners a richer understanding of the potential complex managerial implications (e.g., structural, cultural, procedural, affective) of pursuing agility. It is hoped that this article serves as a call to deeply examine the impact of teams’ affective states on agile teams’ performance. Arguably, this is a timely and

urgent endeavor as teams globally continue to battle the lasting challenges of COVID-19.

## CHAPTER 2 - REFERENCES


Abrantes, A. C. M., Passos, A. M., Cunha, M. P. e., & Santos, C. M. (2018). Bringing team improvisation to team adaptation: The combined role of shared temporal cognitions and team learning behaviors fostering team performance. *Journal of Business Research, 84*, 59-71.

Ashkanasy, N. M., Humphrey, R. H., & Huy, Q. N. (2017). Integrating emotions and affect in theories of management. *Academy of Management Review, 42*(2), 175-189.

Barrick, M. R., Neubert, M. J., Mount, M. K., & Stewart, G. L. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology, 83*(3), 377-391.

Barton, M. A., & Sutcliffe, K. M. (2009). Overcoming dysfunctional momentum: Organizational safety as a social achievement. *Human Relations, 62*(9), 1327-1356.

BBC, N. (2020, 5 June). Coronavirus pandemic: Tracking the global outbreak. *BBC News* Retrieved from https://www.bbc.com/news/world-52428162.

Bechky, B. A., & Okhuysen, G. A. (2011). Expecting the unexpected? how SWAT officers and film crews handle surprises. *The Academy of Management Journal, 54*(2), 239-261.

Beck, K., Schwaber, K., Beedle, M. & Highsmith, J. (2001). Manifesto for agile software development. Retrieved from http://agilemanifesto.org/

Bedwell, W. L. (2019). Adaptive team performance: The influence of membership fluidity on shared team cognition. *Frontiers in Psychology, 10.*

Bernardes, E. S., & Hanna, M. D. (2009). A theoretical review of flexibility, agility and responsiveness in the operations management literature. *International Journal of Operations & Production Management, 29*(1/2).

Bowers, C., Kreutzer, C., Cannon-Bowers, J., & Lamb, J. (2017). Team resilience as a second-order emergent state: A theoretical model and research directions. *Frontiers in Psychology, 8.*

Breu, K., Hemingway, C. J., Strathern, M., & Bridger, D. (2002). Workforce agility: The new employee strategy for the knowledge economy. *Journal of Information Technology*, *17*(1), 21-31.

Brown, S. L., & Eisenhardt, K. M. (1997). The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly, 42*(1), 1-34.

Bunderson, J. S., & Sutcliffe, K. M. (2003). Management team learning orientation and business unit performance. *Journal of Applied Psychology, 88*(3), 552-560.

Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding team adaptation: A conceptual analysis and model. *Journal of Applied Psychology, 91*(6), 1189-1207.

Carlsson-Szlezak, P., Reeves, M., & Swartz, P. (2020). What coronavirus could mean for the global economy. *Harvard Business Review Digital Articles.*

Christensen, M., & Knudsen, T. (2008). Entry and exit decisions in flexible teams. *Journal of International Business Studies, 39*(8), 1278-1292.

Christian, J. S., Christian, M. S., Pearsall, M. J., & Long, E. C. (2017). Team adaptation in context: An integrated conceptual model and meta-analytic review. *Organizational Behavior and Human Decision Processes, 140*, 62-89.

Cohen, C. F. (2020). How the pandemic has created new demand for older workers. *Harvard Business Review Digital Articles.*

Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, *23*(3), 239-290.

Conboy, K. (2009). Agility from first principles: Reconstructing the concept of agility in information systems development. *Information Systems Research, 20*(3), 329-354.

Conforto, E. C., Amaral, D. C., da Silva, S. L., Di Felippo, A., & Kamikawachi, D. S. L. (2016). The agility construct on project management theory. *International Journal of Project Management, 34*(4), 660-674.

Crossan, M., E Cunha, M. P., Vera, D., & Cunha, J. (2005). Time and organizational improvisation. *Academy of Management Review, 30*(1), 129-145.

Cullen, K. L., Edwards, B. D., Casper, W. C., & Gue, K. R. (2014). Employees' adaptability and perceptions of change-related uncertainty: Implications for perceived organizational support, job satisfaction, and performance. *Journal of Business and Psychology, 29*(2), 269-280.

Day, D. V., Gronn, P., & Salas, E. (2004). Leadership capacity in teams. *Leadership Quarterly, 15*(6), 857-880.

de O. Melo, C., S. Cruzes, D., Kon, F., & Conradi, R. (2013). Interpretative case studies on agile team productivity and management. *Information and Software Technology, 55*(2), 412-427.

DeRue, D. S., Hollenbeck, J. R., Johnson, M. D., Ilgen, D. R., & Jundt, D. K. (2008). How different team downsizing approaches influence team-level adaptation and performance. *The Academy of Management Journal, 51*(1), 182-196.

DiGangi, J. (2020). Feeling uncomfortable with reentry? you're on the right track. *Harvard Business Review Digital Articles.*

Dönmez, D., & Grote, G. (2018). Two sides of the same coin – how agile software development teams approach uncertainty as threats and opportunities. *Information and Software Technology, 93*, 94-111.

Doz, Y. L., & Kosonen, M. (2010). Embedding strategic agility: A leadership agenda for accelerating business model renewal. *Long Range Planning, 43*(2-3), 370-382.

Eisenhardt, K. M., & Tabrizi, B. N. (1995). Accelerating adaptive processes: Product innovation in the global computer industry. *Administrative Science Quarterly, 40*(1), 84-110.

Enders, A., Haggstrom, L., & Lalive, R. (2020). How reskilling can soften the economic blow of covid-19. *Harvard Business Review Digital Articles.*

Evans, J. S. (1991). Strategic flexibility for high technology manoeuvres: A conceptual framework. *Journal of Management Studies, 28*(1), 69-89.

EY, I. (2020). ***72% of the organisations stated that the covid-19 impact will be felt much beyond six months – EY survey***. ( No. Press Release 10 Apr 2020).Ernst & Young India. Retrieved from https://www.ey.com/en_in/news/2020/04/72-percent-of-the-organisations-stated-that-the-covid-19-impact-will-be-felt-much-beyond-six-months

Fontana, R. M., Fontana, I. M., da Rosa Garbuio, P. A., Reinehr, S., & Malucelli, A. (2014). Processes versus people: How should agile software development maturity be defined? *Journal of Systems and Software, 97*, 140-155.

Ghobadi, S., & Mathiassen, L. (2016). Perceived barriers to effective knowledge sharing in agile software teams. *Information Systems Journal, 26*(2), 95-125.

Golden, W., & Powell, P. (2000). Towards a definition of flexibility: In search of the holy grail? *Omega, 28*(4), 373-384.

Gren, L., Torkar, R., & Feldt, R. (2017). Group development and group maturity when building agile teams: A qualitative and quantitative investigation at eight large companies. *Journal of Systems and Software, 124*, 104-119.

Grote, G., Kolbe, M., & Waller, M. J. (2018). The dual nature of adaptive coordination in teams: Balancing demands for flexibility and stability. *Organizational Psychology Review, 8*(2-3), 125-148.

Günsel, A., & Açikgöz, A. (2013). The effects of team flexibility and emotional intelligence on software development performance. *Group Decision and Negotiation, 22*(2), 359-377.

Hagemann, V., Kluge, A., & Ritzmann, S. (2012). Flexibility under complexity: Work contexts, task profiles and team processes of high responsibility teams. *Employee Relations, 34*(3), 322-338.

Harrison, G. L., McKinnon, J. L., Wu, A., & Chow, C. W. (2000). Cultural influences on adaptation to fluid workgroups and teams. *Journal of International Business Studies, 31*(3), 489-505.

Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the workplace: A multilevel review and synthesis. *Applied Psychology, 69*(3), 913-959.

Hartwig, A., Clarke, S., Johnson, S., & Willis, S. (2020). Workplace team resilience: A systematic review and conceptual development. *Organizational Psychology Review, 10*(3-4), 169-200.

Hasija, S., Padmanabhan, P., & Rampal, P. (2020). Will the pandemic push knowledge work into the gig economy? *Harvard Business Review Digital Articles.*

He, H., Baruch, Y., & Lin, C. (2014). Modeling team knowledge sharing and team flexibility: The role of within-team competition. *Human Relations, 67*(8), 947-978.

Hoda, R., Noble, J., & Marshall, S. (2011). The impact of inadequate customer collaboration on self-organizing agile teams. *Information and Software Technology, 53*(5), 521-534.

Hodgkinson, G. P., & Healey, M. P. (2011). Psychological foundations of dynamic capabilities: Reflexion and reflection in strategic management. *Strategic Management Journal, 32*(13), 1500-1516.

Hollenbeck, J. R., Ellis, A. P., Humphrey, S. E., Garza, A. S., & Ilgen, D. R. (2011). Asymmetry in structural adaptation: The differential impact of centralizing versus decentralizing team decision-making structures. *Organizational Behavior and Human Decision Processes, 114*(1), 64.

Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models. *Annual Review of Psychology, 56*, 517-543.

Janes, A., & Succi, G. (2012). The dark side of agile software development. Paper presented at the *SPLASH 2012: Onward! 2012 - Proceedings of the ACM International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software*, 215-227.

Joly, H. (2020). Lead your team into a post-pandemic world. *Harvard Business Review Digital Articles.*

Jones, O., & Gatrell, C. (2014). Editorial: The future of writing and reviewing for IJMR. *International Journal of Management Reviews, 16*(3), 249-264.

Kamoche, K., Pina e Cunha, M., & Da Cunha, J. V. (2003). Towards a theory of organizational improvisation: Looking beyond the jazz metaphor. *Journal of Management Studies, 40*(8), 2023-2051.

Kaplan, S., LaPort, K., & Waller, M. J. (2013). The role of positive affectivity in team effectiveness during crises. *Journal of Organizational Behavior, 34*(4), 473-491.

Kiefer, T. (2005). Feeling bad: Antecedents and consequences of negative emotions in ongoing change. *Journal of Organizational Behavior, 26*(8), 875-897.

Kirkman, B. L., Rosen, B., Tesluk, P. E., & Gibson, C. B. (2004). The impact of team empowerment on virtual team performance: The moderating role of face-to-face interaction. *The Academy of Management Journal, 47*(2), 175-192.

Klein, K. J., Ziegert, J. C., Knight, A. P., & Xiao, Y. (2006). Dynamic delegation: Shared, hierarchical, and deindividualized leadership in extreme action teams. *Administrative Science Quarterly, 51*(4), 590-621.

Klotz, A. C., Hmieleski, K. M., Bradley, B. H., & Busenitz, L. W. (2014). New venture teams: A review of the literature and roadmap for future research. *Journal of Management, 40*(1), 226-255.

Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest, Supplement, 7*(3), 77-124.

Kozlowski, S. W. J., Watola, D. J., Jensen, J. M., Kim, B. H., & Botero, I. C. (2008). Developing adaptive teams: A theory of dynamic team leadership. *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches* (pp. 113-155) Routledge.

Kude, T., Bick, S., Schmidt, C., & Heinzl, A. (2014). Adaptation patterns in agile information systems development teams. *ECIS 2014 Proceedings - 22nd European Conference on Information Systems.*

Lebel, R. D. (2017). Moving beyond fight and flight: A contingent model of how the emotional regulation of anger and fear sparks proactivity. *Academy of Management Review, 42*(2), 190-206.

Lee, G., & Xia, W. (2010). Toward agile: An integrated analysis of quantitative and qualitative field data on software development agility. *MIS Quarterly: Management Information Systems, 34*(1), 87-114.

LePine, J. A. (2005). Adaptation of teams in response to unforeseen change: Effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology, 90*(6), 1153-1167.

Li, Y., Chang, K. -., Chen, H. -., & Jiang, J. J. (2010). Software development team flexibility antecedents. *Journal of Systems and Software, 83*(10), 1726-1734.

Li, Y., Shepherd, M., Liu, J. Y. -., & Klein, G. (2017). Enhancing development team flexibility in IS projects. *Information Technology and Management, 18*(1), 83-96.

Lin C.-P., Wang H.-J., Joe S.-W., & Chen S.-C. (2015). Better to be flexible than to have flunked: The mediating role of service flexibility and its determinants for team performance. *Journal of Service Management, 26*(5), 823-843.

Lindsorn, Y., Sjoberg, D. I. K., Dingsoyr, T., Bergersen, G. R., & Dyba, T. (2016). Teamwork quality and project success in software development: A survey of agile development teams. *Journal of Systems and Software, 122,* 274-286.

Liu, Y., & Perrewé, P. L. (2005). Another look at the role of emotion in the organizational change: A process model. *Human Resource Management Review, 15*(4), 263-280.

MacCormack, A., Verganti, R., & Iansiti, M. (2001). Developing products on "internet time": The anatomy of a flexible development process. *Management Science, 47*(1), 133-150.

Mafakheri, F., Nasiri, F., & Mousavi, M. (2008). Project agility assessment: An integrated decision analysis approach. *Production Planning and Control, 19*(6), 567-576.

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights from weick (1988). *Journal of Management Studies, 47*(3), 551-580.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review, 26*(3), 356-376.

Mathieu, J., Maynard, T. M., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management, 34*(3), 410-476.

Maynard, M. T., Kennedy, D. M., & Sommer, S. A. (2015). Team adaptation: A fifteen-year synthesis (1998-2013) and framework for how this literature needs to "adapt" going forward. *European Journal of Work and Organizational Psychology, 24*(5), 652-677.

Maynard, M. T., Kennedy, D. M., Tannenbaum, S., Mathieu, J., & Levy, J. (2020). Team adaptation and resilience : Where the literature currently stands and how it applies to long-duration isolated, confined, and extreme contexts. *Psychology and human performance in space programs* (pp. 151) Taylor & Francis Group.

Meglino, B. M., & Ravlin, E. C. (1998). Individual values in organizations: Concepts, controversies, and research. *Journal of Management, 24*(3), 351-389.

Moe, N. B., Dingsøyr, T., & Dybå, T. (2010). A teamwork model for understanding an agile team: A case study of a scrum project. *Information and Software Technology, 52*(5), 480-491.

Molleman, E., & Slomp, J. (1999). Functional flexibility and team performance. *International Journal of Production Research, 37*(8), 1837-1858.

Moon, H., Hollenbeck, J. R., Humphrey, S. E., Ilgen, D. R., West, B., Ellis, A. P. J., . . . Ellis, A. P. J. (2004). Asymmetric adaptability: Dynamic team structures as one-way streets. *The Academy of Management Journal, 47*(5), 681-695.

Moorman, C., & Miner, A. S. (1998). The convergence of planning and execution: Improvisation in new product development. *Journal of Marketing, 62*(3), 1-20.

Movius, H. (2020). How to negotiate — virtually. *Harvard Business Review Digital Articles.*

Muduli, A. (2016). Exploring the facilitators and mediators of workforce agility: An empirical study. *Management Research Review, 39*(12), 1567-1586.

Muduli, A. (2013). Workforce agility: A review of literature. *IUP Journal of Management Research, 12*(3).

Narasimhan, R., Swink, M., & Kim, S. W. (2006). Disentangling leanness and agility: An empirical investigation. *Journal of Operations Management, 24*(5), 440-457.

Narayandas, D., Hebbar, V., & Li, L. (2020). Lessons from chinese companies' response to covid-19. *Harvard Business Review Digital Articles.*

Okhuysen, G. A., & Eisenhardt, K. M. (2002). Integrating knowledge in groups: How formal interventions enable flexibility. *Organization Science, 13*(4), 370.

Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology, 91*(3), 636-652.

Perrewé, P. L., & Zellars, K. L. (1999). An examination of attributions and emotions in the transactional approach to the organizational stress process. *Journal of Organizational Behavior, 20*(5), 739-752.

Pirola-Merlo, A. (2010). Agile innovation: The role of team climate in rapid research and development. *Journal of Occupational and Organizational Psychology, 83*(4), 1075-1084.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2016). Recommendations for creating better concept definitions in the organizational, behavioral, and social sciences. *Organizational Research Methods, 19*(2), 159-203.

Porter, C. O. L. H., Webb, J. W., & Gogus, C. I. (2010). When goal orientations collide: Effects of learning and performance orientation on team adaptability in response to workload imbalance. *Journal of Applied Psychology, 95*(5), 935-943.

Post, C., Sarala, R., Gatrell, C., & Prescott, J. E. (2020). Advancing theory with review articles. *Journal of Management Studies, 57*(2), 351-376.

Project Management Institute, P. (2008). *A guide to the project management body of knowledge : (PMBOK guide)* (4th ed. ed.). Newtown Square, PA : Project Management Institute.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology, 85*(4), 612-624.

Qin, R., & Nembhard, D. A. (2015). Workforce agility in operations management. *Surveys in Operations Research and Management Science, 20*(2), 55-69.

Raetze, S., Duchek, S., Maynard, M. T., & Kirkman, B. L. (2021). Resilience in organizations: An integrative multilevel review and editorial introduction. *Group & Organization Management, 46*(4), 607-656.

Randall, K. R., Resick, C. J., & DeChurch, L. A. (2011). Building team adaptive capacity: The roles of sensegiving and team composition. *Journal of Applied Psychology, 96*(3), 525-540.

Rico, R., Gibson, C. B., Sánchez-Manzanares, M., & Clark, M. A. (2019). Building team effectiveness through adaptation: Team knowledge and implicit and explicit coordination. *Organizational Psychology Review, 9*(2-3), 71-98.

Rosen, M. A., Bedwell, W. L., Wildman, J. L., Fritzsche, B. A., Salas, E., & Burke, C. S. (2011). Managing adaptive performance in teams: Guiding principles and behavioral markers for measurement. *Human Resource Management Review, 21*(2), 107-122.

Salomo, S., Weise, J., & Gemunden, H. G. (2007). NPD planning activities and innovation performance: The mediating role of process management and the moderating effect of product innovativeness. *Journal of Product Innovation Management, 24*(4), 285-302.

Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information

technology in contemporary firms. *MIS Quarterly: Management Information Systems, 27*(2), 237-264.

Sarker, S., & Sarker, S. (2009). Exploring agility in distributed information systems development teams: An interpretive study in an offshoring context. *Information Systems Research, 20*(3), 440-461.

Schmutz, J. B., Lei, Z., Eppich, W. J., & Manser, T. (2018). Reflection in the heat of the moment: The role of in-action team reflexivity in health care emergency teams. *Journal of Organizational Behavior, 39*(6), 749-765.

Singh, J., Sharma, G., Hill, J., & Schnackenberg, A. (2003). Organizational agility: What it is, what it is not, and why it matters. *Academy of Management Proceedings, 2013*(1), 11813.

Slotkin, J., Murphy, K., & Ryu, J. (2020). How one health system is transforming in response to covid-19. *Harvard Business Review Digital Articles.*

Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic-A review. *Asian Journal of Psychiatry, 51*, 102119-102119.

Stachowski, A. A., Kaplan, S. A., & Waller, M. J. (2009). The benefits of flexible team interaction during crises. *Journal of Applied Psychology, 94*(6), 1536-1543.

Stettina, C. J., & Hörz, J. (2015). Agile portfolio management: An empirical perspective on the practice in use. *International Journal of Project Management, 33*(1), 140-152.

Stoverink, A. C., Kirkman, B. L., Mistry, S., & Rosen, B. (2020). Bouncing back together: Toward rhetorical model of work team resilience. *The Academy of Management Review, 45*(2), 395-422.

Tan, B. Y. Q., Chew, N. W. S., Lee, G. K. H., Jing, M., Goh, Y., Yeo, L. L. L., . . . Sharma, V. K. (2020). Psychological impact of the COVID-19

pandemic on health care workers in singapore. *Annals of Internal Medicine, 173*(4)

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review, 58*(4), 13-35.

The Economist, T. (2020). How covid-19 will change the global business climate. Retrieved from https://www.economist.com/graphic-detail/2020/04/09/how-covid-19-will-change-the-global-business-climate.

Thomas, D. M., & Bostrom, R. P. (2010). Vital signs for virtual teams: An empirically developed trigger model for technology adaptation interventions. *MIS Quarterly: Management Information Systems, 34*(1), 115-142.

Uitdewilligen, S., & Waller, M. J. (2018). Information sharing and decision-making in multidisciplinary crisis management teams. *Journal of Organizational Behavior, 39*(6), 731-748.

Vidgen, R., & Wang, X. (2009). Coevolving systems and the organization of agile software development. *Information Systems Research, 20*(3), 355-376.

Volberda, H. W. (1996). Toward the flexible form: How to remain vital in hypercompetitive environments. *Organization Science, 7*(4), 359-374.

Waller, M. J., Okhuysen, G. A., & Saghafian, M. (2016). Conceptualizing emergent states: A strategy to advance the study of group dynamics. *Academy of Management Annals, 10*(1), 561-598.

Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS Quarterly, 26*(2), xiii-xxiii.

Weick, K. E. (2010). Reflections on enacted sensemaking in the bhopal disaster. *Journal of Management Studies, 47*(3), 537-550.

WHO, G. (2020). *Coronavirus disease (COVID-19) outbreak: Rights, roles and responsibilities of health workers, including key considerations for occupational safety and health.* ( No. WHO/2019-nCov/HCW_advice/2020.2).World Health Organization. Retrieved from https://www.who.int/publications-detail/coronavirus-disease-(covid-19)-outbreak-rights-roles-and-responsibilities-of-health-workers-including-key-considerations-for-occupational-safety-and-health

Wright, A. L., Meyer, A. D., Reay, T., & Staggs, J. (2020). Maintaining places of social inclusion: Ebola and the emergency department. *Administrative Science Quarterly,*

Wright, P. M., & Snell, S. A. (1998). Toward a unifying framework for exploring fit and flexibility in strategic human resource management. *Academy of Management Review, 23*(4), 756-772.

Xing, Y., Liu, Y., Boojihawon, D. K., & Tarba, S. (2020). Entrepreneurial team and strategic agility: A conceptual framework and research agenda. *Human Resource Management Review, 30*(1), 100696.

Yusuf, Y. Y., Sarhadi, M., & Gunasekaran, A. (1999). Agile manufacturing: The drivers, concepts and attributes. *International Journal of Production Economics, 62*(1-2), 33-43.

Zajac, S., Gregory, M. E., Bedwell, W. L., Kramer, W. S., & Salas, E. (2014). The cognitive underpinnings of adaptive team performance in ill-defined task situations: A closer look at team cognition. *Organizational Psychology Review, 4*(1), 49-73.

Zheng, Y., Venters, W., & Cornford, T. (2011). Collective agility, paradox and organizational improvisation: The development of a particle physics grid. *Information Systems Journal, 21*(4), 303-333.

Table 2.1 Team agility literature review

| Study Author(s) | Method/ Design | Inputs[(a)] | Process/Mediators[(a)] | Outcomes[(a)] | Agility Definition | Key findings/Propositions |
|---|---|---|---|---|---|---|
| Abrantes et al (2018) | Survey | Shared temporal cognitions (e.g. opinions), team learning | Team preemptive adaptation, team improvised adaptation | Team performance (goal achievement, work quality, and productivity) | N/A | The impact of team preemptive adaptation and improvised adaptation on team performance is unequal. |
| Bedwell (2019) | Experiment | Team membership fluidity | Team Mental Models (TMM) | Adaptive Team Performance | N/A | Teammate TMMs (i.e., shared knowledge of member preferences/tendencies) and Team Interaction TMMs (i.e., shared knowledge of roles/ responsibilities) are differentially influenced by member movement in/out of teams and differentially predict adaptive team performance. |
| Breu et al (2002) | Survey | Culture (empowerment), Information systems (IS) | Collaboration | Responsiveness (customer & market), speedy acquisition & development of competencies. | ***Workforce/collective agility*** as a set of capabilities: intelligence, competencies, collaboration, culture, information systems. | Managers to focus on developing the 5 competencies, especially intelligence (responsiveness to customer and market) and IS (support of the IT infrastructure and rapid introduction of new systems). |
| Christian et al (2017) | Meta-analysis | Cognitive ability, personality, goal orientation, leader briefing | Communication, coordination, planning, learning, mental models, transactive memory | Team adaptive performance | N/A | Adaptive stimuli and their nature (i.e. context) moderate the team processes-adaptive performance relationship. Team processes and cognition are positively related to team adaptive performance. |
| Conboy (2009) | Conceptual & Case study | N/A | N/A | N/A | ***IS development agility***: continual readiness to rapidly or inherently create change, proactively or reactively embrace change, and learn from change while | Agility is a combination of flexibility and leanness. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | contributing to perceived customer value, through its collective components and relationships with its environment. | |
| **Study Author(s)** | **Method/ Design** | **Inputs[(a)]** | **Process/Mediators[(a)]** | **Outcomes[(a)]** | **Agility Definition** | **Key findings/Propositions** |
| Conforto et al (2016) | Survey | N/A | N/A | Rapid project planning change and decision-making, active customer involvement. | ***Project team agility*** is the performance of quickly changing the project plan as a response to customer or stakeholders' needs, market or technology demands to achieve better project and product performance in an innovative and dynamic project environment. | Agility as a team's performance indicator has different levels and one could investigate how different levels of agility are influenced by internal and external factors, and how these levels might impact project results in different degrees. |
| de O. Melo et al. (2013) | Case study | Team design (structure, work allocation, diversity, collocation), team stage of development, team member turnover | Coordination; conflict management; knowledge sharing | Team productivity (e.g. customer satisfaction, work quantity, innovation, efficiency, etc.). | N/A | Team design choices as well as intra- and inter-team processes have a significant effect on agile teams' productivity measures. |
| Dönmez & Grote (2018) | Case study | Uncertainty in: requirements, resources, tasks | Uncertainty anticipation (planning, vigilance), information accrual (incremental feedback, task analysis, knowledge sharing), solution inspection (prototyping, | N/A | Software developers manage uncertainty in a way that aims at controlling threats while simultaneously remaining receptive for opportunities that may arise from the same sources. | Role-based coordination in team consists of: creating functional roles, integrating stakeholders, switching tasks. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | creating alternatives), role-based coordination | | | |
| **Study Author(s)** | **Method/ Design** | **Inputs[(a)]** | **Process/Mediators[(a)]** | **Outcomes[(a)]** | **Agility Definition** | **Key findings/Propositions** |
| Doz & Kosonen (2010) | Conceptual | (1) Strategic sensitivity (anticipating, experimenting, gaining perspective & generality, reframing); (2) leadership unity (dialoguing, revealing, integrating, aligning, caring); (3) resource fluidity (decoupling, modularizing, dissociating, model switching and grafting) | N/A | Business model renewal and transformation | ***Management Team strategic agility*** is capability made of: (1) strategic sensitivity (perception and awareness of developments); (2) leadership unity (bold fast decisions); (3) resource fluidity (reconfiguration of capabilities and rapid redeployment of resources) | N/A |
| Ghobadi & Mathiassen (2015) | Case study | Barriers: Team diversity; team perceptions (attitudes and values); team capabilities (sociotechnical skills); use of tech; project setting | Barriers: Team communication; team organization; | Effective knowledge sharing | N/A | Team, Process and Contextual factors are found as 7 barriers to effective knowledge sharing in agile software development teams. |

| Study Author(s) | Method/ Design | Inputs[(a)] | Process/Mediators[(a)] | Outcomes[(a)] | Agility Definition | Key findings/Propositions |
|---|---|---|---|---|---|---|
| Gren et al. (2017) | Case study | Group development stages | N/A | Team agility: dedication to teamwork and results; open communication; agile planning; leadership style; honest feedback to management | | Group maturity is correlated to "dedication to teamwork and results" and "open communication", meaning agile teams tend to be mature teams. |
| Grote et al. (2018) | Conceptual | Flexibility demands, stability demands | Coordination (ambidextrous, exploratory, exploitative, experiential) Moderating influences (e.g. team adaptive capacity, goal orientation, leader characteristics etc) | Adaptive outcomes, e.g. team effectiveness, learning, satisfaction | N/A | Team adaptation triggers characterized in terms of stability and flexibility demands with four modes of adaptive coordination that enable teams to adequately balance demands. |
| He et al (2014) | Survey | Collectivism | Within-team competition | Team flexibility, empowerment, knowledge sharing | N/A | Collectivism leads to team development competition (competing for team functioning and development without a primary focus on winning against other members) which leads to empowerment and flexibility. |
| Hoda et al. (2011) | Case study | | Customer involvement and collaboration | Problems in: Pressure to Over-commit; Gathering and Clarifying Requirements; Prioritizing Requirements; Securing Feedback, Loss of Productivity; Business Loss | N/A | Levels of agile team's customer collaboration may vary largely with different real-life project contexts. Customers must realize their responsibilities in ensuring project success. |

| Study Author(s) | Method/ Design | Inputs[(a)] | Process/Mediators[(a)] | Outcomes[(a)] | Agility Definition | Key findings/Propositions |
|---|---|---|---|---|---|---|
| Kude et al. (2014) | Case study | Cues: task volatility; technological disruption; team instability | Iterative processes | Adaptation; learning | **Team agility**: ability to efficiently and effectively react to task volatility, technological disruption, and team instability. | The theoretical link between different types of events and adaption patterns depends on the type of event and the reach of the events' impact as well as on the extent to which the teams followed an iterative development approach. |
| Lee & Xia (2010) | Survey & case study | Team autonomy, team diversity | N/A | (1) Response extensiveness (proportion of user requirements responded to and incorporated), (2) response efficiency (minimal time, cost, personnel, resources needed for the change). | ***Development team agility***: ability to efficiently and effectively respond to end user requirement changes. | Increased autonomy without increased diversity may result in decreased response extensiveness, and that only autonomy, not diversity, increases response efficiency. |
| LePine (2005) | Experiment | Cognitive ability, difficulty of team goals, learning orientation, performance orientation | Interpersonal, transition, and action processes | Role structure adaptation | ***Role structure adaptation*** is the extent to which a team modifies its configuration of roles into a new one. of transaction alternatives | Teams with difficult goals and high-performance orientation were especially unlikely to adapt, whereas a high-learning orientation made them especially likely to adapt. |
| Li et al (2010) | Survey | Team anticipation, team reaction capabilities | Team flexibility: response effectiveness and efficiency | Product quality | ***Team flexibility*** is defined as the extent to which a software development team can effectively and efficiently respond to socio-technical changes in the course of a software development project. | Team flexibility has a positive impact on quality. Reaction capability is positively related to flexibility, but anticipation capability positively relates to response efficiency but not to extensiveness. |
| Li et al (2017) | Survey | Participative culture, | Project coordination, | Product quality, project learning | ***Team flexibility*** consists of response extensiveness to | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | cooperative norms | knowledge sharing, | | business changes and response extensiveness to technical changes. | |
| **Study Author(s)** | **Method/ Design** | **Inputs[(a)]** | **Process/Mediators[(a)]** | **Outcomes[(a)]** | **Agility Definition** | **Key findings/Propositions** |
| Lin et al (2015) | Survey | Team efficacy, service recovery, collectivism | Service flexibility | Team performance | ***Team flexibility*** reflects adapting the team's processes to better customer needs. | Service team flexibility fully mediates the relationship between team performance and its exogenous factors. Collectivism positively moderates the relationship between service flexibility and team performance. |
| Mafakheri et al (2008) | Case study | Team size; skills and knowledge; culture | Communication; frequent and continuous integration | Dynamism (responsiveness); | ***Project (team) agility***: the ability to respond to a changing environment effectively i.e. to adapt to the dynamism that exists in the stakeholders' needs, technological changes, etc. | N/A |
| Moe et al. (2010) | Case study | Team orientation, team leadership, specialized skills | Coordination, trust, shared mental models | Team effectiveness | N/A | Problems with team orientation, team leadership and coordination in addition to highly specialized skills and corresponding division of work were important barriers for achieving team effectiveness. |
| Moon et al (2004) | Experiment | Nature of task, team structure & composition, cognitive ability | Coordination | Structural adaptation, team performance | N/A | Teams shifting from a functional to a divisional structure showed better performance than vice-versa. Team coordination mediated this difference, and cognitive ability moderated it. |
| Pirola-Merlo (2010) | Survey | Team innovation climate (member vision, participative | N/A | Project performance (meeting objectives, meeting output requirements, | N/A | Teams with more positive initial ratings of "participative safety" and "task orientation" progressed significantly faster |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | safety, task orientation, support for innovation) | | innovation) | | towards project completion. |
| **Study Author(s)** | **Method/ Design** | **Inputs[(a)]** | **Process/Mediators[(a)]** | **Outcomes[(a)]** | **Agility Definition** | **Key findings/Propositions** |
| Qin & Nembhard (2015) | Literature review & conceptual | Staffing practices, training, incentives, empowerment/ involvement | Coordination, collaboration, | Responsiveness, quickness, competence, adaptability, cooperativeness | ***Workforce/collective agility*** is an outcome with five dimensions (responsiveness, quickness, competence, adaptability, cooperativeness). | Workforce agility obtained through two Operations Management practices: workforce flexibility, dynamic workforce planning. |
| Randall et al (2011) | Simulation | External sensegiving, team cognitive ability, collectivism. | Mental model accuracy and similarity, information sharing | Decision effectiveness | N/A | Sensegiving prompted the emergence of team strategy mental models. Psychological collectivism facilitated information sharing. Team mental models and information sharing enabled reactive strategy adaptation and decision effectiveness. |
| Sarker & Sarker (2009) | Case study | Distributed decision making, ICT infrastructure, shared assumptions, close stakeholder relationships, cultural training/sensitivity, social connections, team/customer colocation | Team ramp up/down, team reconfiguration, frequent short (multi-stakeholder) meetings, formal sense-making processes | (1) Resource agility (people, technology), (2) process agility (methods, environmental awareness, temporal bridge), (3) linkage agility (culture mutuality, communicative relationship) | ***Distributed team agility*** is made of: (1) Resource agility (shifting personnel and technological resources quickly as needed; (2) Process agility (seamlessly working with differences due to methods, geographic/temporal differences, and environmental changes); (3) Linkage agility (leveraging intercultural and communicative competence to respond with speed). | N/A |
| Thomas et al (2010) | Case study | Team inputs: task, technology, | Intervention focus (technology | Project outcomes | N/A | There are 5 triggers to engage in adaptation: (1) external |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | group structure | adaptation), work focus (team interaction) | | | constraint, (2) internal constraint, (3) ICT inadequacy, (4) ICT knowledge, skills and abilities inadequacy, (5) trust and relationship inadequacies. |
| **Study Author(s)** | **Method/ Design** | **Inputs[(a)]** | **Process/Mediators[(a)]** | **Outcomes[(a)]** | **Agility Definition** | **Key findings/Propositions** |
| Vidgen & Wang (2009) | Case study | Self-management and discipline, multiskilling, | Continuous requirement gathering, iterative work planning and executing, continuous improvement, routinizing exploration | (1) Co-evolved business value with customer, (2) sustainable working rhythm, (3) collective mindfulness, (4) team learning, (5) process adaptation and improvement, (6) product innovation. | ***Development team agility*** is a capability for: (1) matching co-evolutionary change rate with customer, (2) optimizing self-organizing, (3) synchronizing exploitation and exploration. | Inhibitors to agility include: top-down management, elaborate change control procedures, whole project up-front planning, external centralized project management, over-reliance on informal communication etc. |
| Woolley (2009) | Experiment | Team outcome focus, team process focus | Action identification, adaptation | Team performance | N/A | Measures of the teams' performance as well as level of action identification and ability to adapt work processes point to an advantage for outcome-focused teams in dynamic environments. |
| Xing et al. (2020) | Conceptual | Entrepreneurial team cognition, composition and identity | Opportunity, speed of decision-making | Strategic sensitivity, resource fluidity, leadership unity | **Strategic team agility** consists of strategic sensitivity, resource fluidity and leadership unity. | Propositions: (1) team cognition is correlated with propensity of strategic sensitivity, (2) team composition is correlated with resource fluidity, (3) team identity is correlated with leadership unity, (4) speed of decision-making depends on the experience/ diversity/ readiness of decision-makers, (5) speed of decision-making depends on the psychological & organizational biases of decision-makers, (6) speed of decision-making |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | depends on the learning/ language/communication/ interaction of decision-makers. |
| **Study Author(s)** | **Method/ Design** | **Inputs[(a)]** | **Process/Mediators[(a)]** | **Outcomes[(a)]** | **Agility Definition** | **Key findings/Propositions** |
| Zheng et al (2011) | Case study | E.g. High-level planning, minimal structure, common goals, etc. | Communication, collaboration, trial-and-error, experimentation, cohesion, etc. | N/A | ***Collective agility*** structuring property of a collective, instantiated in improvisational behavior of individuals and groups and in their social interactions. Agility is a performance. | Collective agility—possible in small as well as large groups—emerges from collective enactment of certain qualities and processes. Deals with paradoxes: learned improvisation vs. reflective spontaneity, planned agility vs. structured chaos, collective individuality vs. anxious confidence. |

**(a)** *inputs, processes/mediators and outcomes, are related to a team model for agility.*

# CHAPTER 3 - AN AFFECT-BASED VIEW OF TEAM ADAPTATION DURING CRISES

*This is the most challenging crisis we have faced since the Second World War. We face a colossal test which demands decisive, coordinated and innovative action from all, for all. We are in this together – and we will get through this, together.*

— *António Guterres, Secretary-General of the United Nations, 2020*

These are especially turbulent times for teams, and failing to respond during crises can be costly. Prior work on team adaptation has unveiled many cognitive and structural adaptive mechanisms. Yet, the affective workings of team adaptation remain a blur despite crises being emotionally-charged. Through a 24-month field case study of nurses who experienced flooding, restructuring and the COVID-19 pandemic, we develop a multilevel theory of how team camaraderie and care emerge from successive help cycles. We reveal how these emergent affective states that had accrued or depleted over initial crises differentially shaped how teams coped and adapted to the pandemic. Thereby, we offer an affective-laden theory of team adaptation to advance research on team adaptation, emergent states, and help.

## INTRODUCTION

The extreme uncertainty and threat posed by the COVID-19 pandemic illustrate the burden that crises place on teams. A crisis is characterized as "a time of intense difficulty or adversity" that prevents normal functioning and is perceived as a threat requiring urgent adaptation (Roychowdhury, 2020, p.2). Team adaptation has loomed large for healthcare workers and emergency room staff (Klein, Ziegert, Knight, & Xiao, 2006; Wright, Meyer, Reay, & Staggs, 2020), SWAT teams (Bechky & Okhuysen, 2011), firefighters (Barton & Sutcliffe, 2009; Pratt, Lepisto, & Dane, 2019), chemical factory staff (Weick, 2010) and nuclear power plant employees (Kaplan, LaPort, & Waller, 2013). Prior work on team adaptation has shown teams adjust their processes (Burke, Stagl, Salas, Pierce, & Kendall, 2006; Manser, Howard, & Gaba, 2008), structures (Burtscher et al., 2011; Gorman, Cooke, & Amazeen, 2010; A. Majchrzak, Rice, Malhotra, King, & Ba, 2000), and members' roles (LePine, 2003, 2005). However, this focus on cognitive and structural rewiring has left affective mechanisms of adaptation—a key element of team processes (LePine, Piccolo, Jackson, Mathieu, & Saul, 2008; Marks, Mathieu, & Zaccaro, 2001)—in the dark.

This is surprising because experiencing crises also stimulates emotions that, in turn, may shape teams' adaptation. Consider healthcare

workers who have been facing a disproportionately higher risk of infection as frontline responders during the COVID-19 pandemic (Quinn, 2020; WHO, 2020). Europe's initial outbreak epicenter, Italy, saw the coronavirus cost the lives of at least 163 working doctors and 40 nurses between February and May 2020 alone (Bettiza, 2020). At the individual level, the pandemic incurred stress, anxiety, and depression among workers (Spoorthy, Pratapa, & Mahant, 2020; Tan et al., 2020). And such individual emotions triggered by crises subsequently impact team emotions, dynamics and behavior (Jasper, 1998; Kaplan et al., 2013; Maitlis & Sonenshein, 2010; Thoits, 1989). In fact, several research streams such as compassion (Dutton, Worline, Frost, & Lilius, 2006; Kanov et al., 2004; Toegel, Anand, & Kilduff, 2007; Toegel, Kilduff, & Anand, 2013), relational coordination (Gittell, Cameron, Lim, & Rivas, 2006), team resilience (Bowers, Kreutzer, Cannon-Bowers, & Lamb, 2017; Chapman et al., 2020; Hartmann, Weiss, Hoegl, & Carmeli, 2021; Hartmann, Weiss, Newman, & Hoegl, 2020), team affective climate (Gamero, González-Romá, & Peiró, 2008; Levecque, Roose, Vanroelen, & Van Rossem, 2014), and group affect (Barsade & Knight, 2015; Menges & Kilduff, 2015) have provided undeniable evidence that emotions lie central to team functioning. Yet, the corresponding affective dynamics have eluded scholars of team adaptation,

fixated largely on cognitive and structural processes (Kaplan et al., 2013; Maitlis & Sonenshein, 2010; O'Neill & Rothbard, 2017). Investigating affective mechanisms in relation to crises is critical since affect is likely to play an essential role in how teams prepare for, and cope with, subsequent events. Thus, our central aim is to investigate this question: ***How do crises influence affective mechanisms of team adaptation?***

We conducted a qualitative, theory-building case study of nursing teams who dealt with the wake of shattering facility floods, experienced organizational restructuring, and heroically confronted the challenges of the COVID-19 pandemic. Over the course of 24 months, we closely followed nine teams by conducting 45 interviews, attending 19 team meetings, and monitoring WhatsApp text communications. A multilevel theory emerges from these rich data explaining that crises are intensely emotional events that trigger distress at the individual level, prompting the affected member to seek help. Teams convert members' negative emotions into positive or negative team sentiment, ensuing a collective help-giving process at the team level where teammates support the affected member. We observe two team affective states emerging from the repeated help cycles. First, help-seeking leads to team care (represented by an emotionally supportive, psychologically safe, and harmonious team state). Next, help-giving yields

team camaraderie (as members experience a state of deep commitment and familial affect). Our theoretical model emphasizes the importance of repeated help cycles and affective states over time, and explains some of the differential adaptation of teams during crises (Kaplan et al., 2013; LePine, 2005). Thereby, we make important contributions to theories of team adaptation, emergent team states, team affect, and help.

## THEORETICAL BACKGROUND

### Delineating the Theoretical Scope

Every team inescapably experiences change in its environment, demanding the team to adapt. These changes might vary in magnitude ranging from surprises to crises. Studies of team adaptation have so far dealt with change in the form of surprises, characterized as "deviations in team processes from standard procedure" (Maynard, Kennedy, & Sommer, 2015, p. 656). Surprises happen often (e.g., floor layout diverging from a SWAT team's plans, or missing film crew members) and may have no impact or be catastrophic (Bechky & Okhuysen, 2011). Although surprises refer to unanticipated situations (Cunha, Clegg, & Kamoche, 2006), teams often have procedures to prepare for surprises such as regular fire and evacuation drills, checklists for an emergency aircraft landing, or simulation training

for a patient's sudden loss of consciousness. Less is known, however, about how teams adapt to crises—defined as the infrequent high-impact events that often require swift action (Pearson & Clair, 1998; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). The Ebola outbreak (Wright, Meyer, Reay, & Staggs, 2020), the Bhopal disaster (Weick, 2010), and our own events of flash floods and the COVID-19 pandemic are examples of crises. Compared to surprises, crises' infrequency hampers learning and developing routines, and their magnitude and urgency make adapting to crises vital for teams.

Consequently, we investigate the process of team adaptation to crises. Research on team adaptation proposes an input-process-outcome model that distinguishes "adaptability as a characteristic possessed by teams or members of the team (i.e., experienced leaders), which enables the team adaptation process (i.e., deviations in team processes from standard procedure) and shapes team adaptive outcomes (i.e., surgical outcomes)" (Maynard et al., 2015, p. 656). We focus on unpacking the team adaptation process, which refers to the adjustments teams make as they tackle changes in their setting (Baard, Rench, & Kozlowski, 2014; Burke et al., 2006; Christian, Christian, Pearsall, & Long, 2017). It is noteworthy also to distinguish team adaptation from team resilience. Team resilience refers to

"a team's capacity to bounce back from adversity-induced process loss" (Bowers et al., 2017; Hartmann et al., 2021, 2020; Hartwig, Clarke, Johnson, & Willis, 2020; Stoverink, Kirkman, Mistry, & Rosen, 2020, p. 395). While adaptation (i.e., changing course) can lie at the core of resilience, resilience also entails staying the course (Stoverink et al., 2020). Although our focus is on the team adaptation process, we present our findings' theoretical implications for the resilience research in the discussion section.

**Limits to Structural and Cognitive Premises of Team Adaptation**

Prior adaptation research has yielded important insights toward structural and cognitive mechanisms underpinning team adaptation. Structural mechanisms entail how teams adjust their structure or composition in response to disruptions or triggers. Teams may switch roles and reconfigure on the fly (Klein, Ziegert, Knight, & Xiao, 2006; LePine, 2003, 2005) or restructure their work (Bechky & Okhuysen, 2011; Rosen et al., 2011). Teams may also ramp team resources up or down, making membership changes as needed (Bedwell, 2019; Christian et al., 2017; Harrison, McKinnon, Wu, & Chow, 2000).

Adapting cognitively means adjusting teamwork and cognitive processes in response to a trigger. For instance, assessment, formulation,

execution and learning, are a set of cognitive adaptation steps for teams (Burke et al., 2006). Beyond this relatively planned view, team adaptation may involve improvisation (Abrantes, Passos, Cunha, & Santos, 2018; Bechky & Okhuysen, 2011), thus activating communication, coordination, and collaboration among team members (Christian et al., 2017; Maynard et al., 2015). Adaptation also tends to unfold through iterative, experimental planning and execution of work (Eisenhardt & Tabrizi, 1995) with an emphasis on conducting frequent debriefs (Maynard, Kennedy, Tannenbaum, Mathieu, & Levy, 2020). Team adaptation occurs through cognitive processes such as: collective sense-making (Uitdewilligen & Waller, 2018; Weick, 2010), reflexivity (Schmutz, Lei, Eppich, & Manser, 2018), mental models and situational awareness (Burke et al., 2006; Christian et al., 2017; Zajac, Gregory, Bedwell, Kramer, & Salas, 2014).

Yet, this wealth of prior research on structural and cognitive team adaptation has remained mute as to elements that underpin how adaptation unfolds through time, and specifically in the largely untapped area of relational and affective mechanisms (for recent reviews, see Baard et al., 2014; Christian et al., 2017; Maynard et al., 2015; Rosen et al., 2011). Overlooking the underlying affect-laden process of adaptation leaves a large void in our understanding because as teams adapt in response to

crises, team members experience strong emotions (Hällgren, Rouleau, & De Rond, 2018; Kaplan et al., 2013; Ann Majchrzak, Jarvenpaa, & Hollingshead, 2007; Weiss & Cropanzano, 1996), disorientation, anxiety and fear (Maitlis & Sonenshein, 2010), pain (Dutton et al., 2006), ambiguity (Maitlis & Sonenshein, 2010), as well as tension in member relations (Kahn, Barton, & Fellows, 2013). Emotions thus incur downstream consequences (Elfenbein, 2007), cueing individuals and teams to adapt (Cangelosi & Dill, 1965).

At this juncture, it is important to distinguish emotions (e.g., fear, anger) that are typically transitory responses to events experienced at the individual level (Jasper, 1998) from affective states that form relatively enduring relationships at the team level (Thoits, 1989). These states emerge from lower-level interactions among members that influence them through feedback loops (Waller, Okhuysen, & Saghafian, 2016). Fortunately, a solid body of research on team affective states such as trust (Pratt et al., 2019; Rosen et al., 2011), psychological safety (Burke et al., 2006; Edmondson, 1999; Edmondson & Lei, 2014), and relational coordination (Bolton, Logan, & Gittell, 2021; Carmeli & Gittell, 2009), has shown that these states impart meaning to change and can foster information processing, decision-making and learning (Catino & Patriotta, 2013; Maitlis

& Sonenshein, 2010; Netz, Svensson, & Brundin, 2019; Oliver & Roos, 2005).

The lack of research on affective processes within team adaptation literature is surprising since several research streams provided evidence for the critical role of affect in team functioning. For example, affective experiences at work have been proposed to shape work attitudes (Weiss & Cropanzano, 1996). These experiences can be shared by team members creating an affective team climate (e.g., Gamero et al., 2008). This work has associated positive affective climate with reduced psychological distress (Levecque et al., 2014), improved team coordination and cooperation (Barsade, 2002; Sy, Côté, & Saavedra, 2005; West, Patera, & Carsten, 2009), team resilience (Hartmann et al., 2020) and teamwork (Barsade & O'Neill, 2014), as well as lower task conflict (Choi & Cho, 2011), psychological distress (Levecque et al., 2014), and exhaustion and absenteeism (Barsade & O'Neill, 2014). Organizations can also cultivate a positive climate proactively. For example, research on organizational compassion underscores building processes to collectively notice, feel and respond to situations in which organizational members suffer (for a review, see Kanov et al., 2004). Dutton and colleagues (2006) have documented how these processes at a business school in the U.S. helped the organization

attend and coordinate responses to the pain of three students who had lost their belongings in a fire. Organizational compassion builds strong employee relationships, coined as relational reserves. For instance, airlines which retained relational reserves by not laying off employees during the 9/11 crisis, recovered better (Gittell et al., 2006).

These research streams unanimously agree that crises prompt emotions, and team affective mechanisms play a critical role for team outcomes (for reviews, see Barsade & Knight, 2015; Menges & Kilduff, 2015). However, they have paid less attention to *how* and *why* teams differ in managing individual members' emotions and team affective states during the adaptation process. Clearly, there remains a lack of understanding of whether and how team affective processes—and associated team emotions, behaviors and dynamics—serve as an adaptation mechanism. To address this void, we define affective adaptation as the adjusting of a team's interpersonal, relational, and affective processes in response to a crisis.

The apparent lack of research on how teams emotionally experience and cope with crises merits concern (DeCelles & Anteby, 2020; Hällgren et al., 2018; Hodgkinson & Healey, 2011; Kaplan et al., 2013; Loewenstein, Rick, & Cohen, 2008; Maitlis & Sonenshein, 2010; O'Neill & Rothbard, 2017). Team responses to crises can vary wildly—even in the same settings

(Kaplan et al., 2013; LePine, 2005)—and it is crucial to explain why. We propose team affective adaptation as the missing puzzle piece. Thus, our study aims to uncover the adaptation process itself: ***how crises influence affective mechanisms of team adaptation***.

## RESEARCH CONTEXT AND METHODOLOGY

Addressing the research question on affective team dynamics during crises and its lack of answers in extant team-adaptation literature, we conducted a grounded field study comprising multiple cases (Edmondson & Mcmanus, 2007). We compared several teams that feature almost identical nursing tasks embedded in one organization, in their natural setting over time, favoring a process view of emergent phenomena (Langley, 2007). The multiple-case approach better yields robust, generalizable, testable theory (Eisenhardt & Graebner, 2007). Moreover, studying similar teams in a single organization facilitates control of external variations and task-related factors during the research (Eisenhardt, 1989, 2021).

### Setting

Our study took place in a modern hospital of 3000 staff and 400 beds in the Middle East, only a handful years old. We investigated nursing teams where each was nested in a ward. Each ward was supervised by a Clinical

Nurse Manager (CNM) in charge of about five Clinical Nurse Leaders (CNL) who, in turn, each directed a team of typically six to ten Clinical Nurses (CN). As confirmed by managers, nurses generally conduct very similar tasks regardless of clinical specialty and typically move between specialties with relative ease. Their daily duties involve conducting physical exams, taking detailed health care histories, listening to patients, coordinating with other specialists, drawing blood, checking vital signs and so forth. This comparability of nursing tasks is not unique to our empirical context but embodied in the nursing profession. Recent studies (e.g., Chamberlain et al., 2019; E. Coyne & Needham, 2012; I. T. Coyne, 1997) echo that the broad education received by nurses allows them to transition between specialties, and tasks are largely common across nursing. This similarity in nursing work allowed participating teams to be contrasted in our comparative case study.

We selected the hospital context because the nature of nursing generally presents an uncertain and dynamic setting where nurses experience change and surprise as part of their daily work (Alonso et al., 2006). For instance, patients deteriorate and need to be intubated, or critical equipment malfunctions, or they deal with an infection-control problem. It is difficult for nurses to predict how the workday may unfold and what

crises they need to handle. This context features nurses typically coping and working through issues *collectively* with their own teammates (Hofmann, Lei, & Grant, 2009). Nurses must interact with patients and team members, anticipate, adjust to needs, and constantly reprioritize according to emerging situations. For these reasons, nurses are primed for dealing with surprises. Critically, for our research of team adaptation, and to our own surprise, we noticed that our nursing teams also experienced crises, which made us pivot our study slightly by abandoning general surprises in favor of crises. In the end, the nursing teams offered the ideal stage for study since they experienced three crises described next.

***Hospital flooding*.** In late 2018, unforeseen torrential rains severely flooded the hospital for the first time in its history. No advance warning was provided. The facility—and many others in the country—was suddenly inundated with water leaking through ceilings plus severe floor flooding where much of the workforce and offices were located (see Figure 3.1). This hampered the ability to admit new patients and care for existing ones. The nursing teams under study, as the hospital's front line, were required to urgently reorganize and relocate within the premises, assist one another, transfer patients, cancel appointments, and so forth.

Figure 3.1 Photos of floods at the hospital under study

**Organizational restructuring.** Many nurses also experienced a substantial amount of organizational upheaval in the hospital, including many leadership and major policy changes. Although some of these may not amount to crises in mature organizations, they were a first for our participating teams. Such events caused much upset, disturbing their work processes and even interpersonal relationships. To illustrate, the sudden introduction of a new healthcare assistant role (HCA) caused varying levels

of confusion toward existing nurse functions. Moreover, the unexpected and sudden implementation of a new housing policy caused distress and demotivation among the staff. These are events that affected all our nursing teams equally: the new role was specific to nursing, and the housing policy was applied to the job grades and bands of nurses.

**The COVID-19 pandemic.** The COVID-19 pandemic invaded the hospital in early 2020. Although most administrative and support functions of the organization began working remotely, clinical nursing teams served the frontline on site. About three months into the event, the hospital began allocating some of its nurses to aid overwhelmed national COVID sites while taking in non-COVID patients to alleviate the load on other organizations. The hospital established strict new protocols against infection spread that minimized direct human interactions. For instance, the hospital discouraged, and often cancelled, in-person team meetings.

These crises were distinctly different in origin, nature, duration, and impact. The floods, a natural disaster of a few days requiring initial swift action, left an impact felt over several weeks. Restructuring upheavals originated *within* the hospital and *permanently* affected nurses' roles, resources, and processes. Finally, the COVID-19 crisis merged characteristics of the other two: initial rapid action followed by medium-

term changes in processes. The three crises were perceived as negative events imposing large effects on the hospital and its teams. The significance of these events favored data collection from nurses, as negative events are often related with vivid recall (Elfenbein, 2007).

**Data Collection**

Data were amassed through a in-depth, 24-month effort with nine teams (totaling 29 participants). Figure 3.2 depicts the timeline of our research, the main crises, and how they overlapped with data collection efforts. As recapped in Table 3.1, data collection involved: individual semi-structured interviews, direct observation of daily team meetings, and review of WhatsApp texting messages. These qualitative data from primary and secondary sources were collected by the first coauthor and analyzed by both coauthors.

Our study follows nurses' accounts of three consecutive crises and emotional upheavals through time. We began our first round of interviews by asking participants to recount the hospital flash floods which had just happened a few weeks before and were still vivid in their minds. They recalled their own experiences as well as the teamwork and dynamics at the time. Later, we interviewed nurses as other organizational events occurred (e.g., change of housing policy, and the COVID-19 pandemic) about the

nurses' experiences and team relations, to understand how team interpersonal dynamics changed over time. The temporal research design we adopted over a two-year duration allowed us to investigate the past of teams, as well as follow their present in real-time (Langley & Tsoukas, 2010). Table 3.2 shows how interviews are distributed.

Figure 3.2 Timeline of change events and data collection

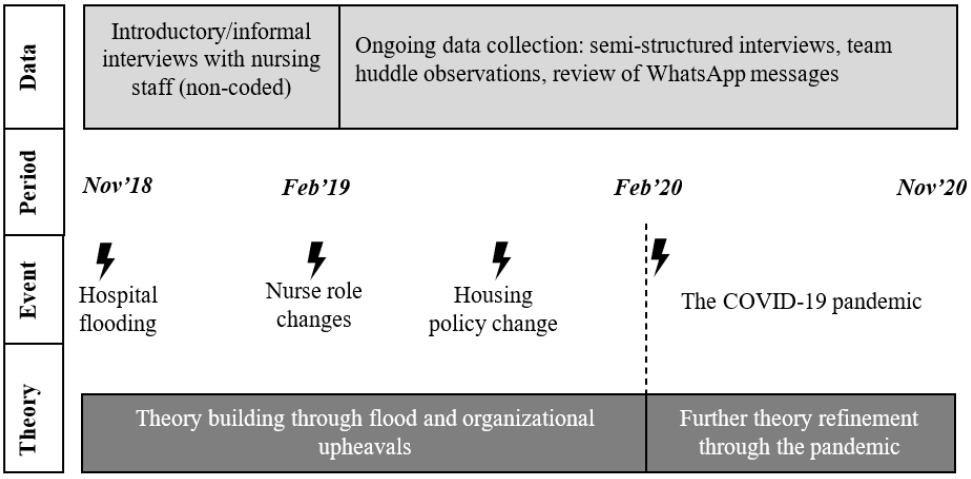


Table 3.1 Overview of data collected

| Semi-structured Interviews | # Interviewees | # Interviews | Description |
|---|---|---|---|
| Clinical Nurse Managers | 4 (3 female; 1 male) | 5 | Avg. duration 51 min<br>Avg. age 46 years<br>Avg. tenure 2.5 years |
| Clinical Nurse Leaders | 9 (6 female; 3 male) | 18 | Avg. duration 35 min<br>Avg. age 45 years<br>Avg. tenure 2 years |
| Clinical Nurses | 16 (16 female) | 22 | Avg. duration 24 min<br>Avg. age 33.5 years<br>Avg. tenure 1.8 years |
| **Observations** | **# Participants** | **# Huddles** | **Description** |
| Observation of team huddles (Leaders & Nurses), with field notes | 75 | 19 | Avg. duration 13 minutes<br>Avg. 5 members/huddle |
| **Team communications** | **# Participants** | **# Text messages** | |
| WhatsApp text messages | 2 teams | 1,235 | 1 team with high past adaptive performance,<br>1 team with low past adaptive performance, |

Table 3.2 Interview and Observation Distribution During the Study

| Year/Month | # Interviews | # Observations | Notes in relation to crises |
|---|---|---|---|
| 2019 March | 2 | 2 | Recounting of hospital floods & organizational upheavals as they occured (nurse role changes, housing policy change) |
| 2019 May | 2 | | |
| 2019 June | 2 | 4 | |
| 2019 July | 2 | 3 | |
| 2019 August | 5 | | |
| 2019 September | 3 | 2 | |
| 2019 October | 4 | | |
| 2020 January | 2 | 5 | COVID-19 pandemic |
| 2020 February | 7 | 3 | |
| 2020 May | 5 | | |
| 2020 July | 11 | | |

**Sampling.** Prior research has often advised sampling contrasting cases to reveal patterns more sharply (Eisenhardt, 2021; Forgues, 2012). One common practice of sampling notably involves selecting cases at the conclusion of data collection based on outcomes of interest (Eisenhardt, 2021; Forgues, 2012). For example, one study selects collaborations based on their performance to uncover processes that lead to high or low

performance (Martin & Eisenhardt, 2010). Another, samples two successful and two failed firms to uncover identity-related antecedents of their adaptive performance (Zuzul & Tripsas, 2020). Our context allowed us to avoid this issue of sampling on the dependent variable by sampling opposed cases at the onset of our study based on *prior* adaptive performance to reveal the distinguishing patterns in their adaptation process—the central focus of this study. Interestingly, because we did not know how a team's past performance in one crisis would impact future ones, our sampling choice also allowed to investigate the shaping of team performance through time. This approach is akin to 'controlling for' past adaptive performance. At the start of the study, we looked at the array of data being collected in the hospital to help select our teams. As expected, a lot of quality and patient outcomes data were available, but unfortunately nothing that we could relate to teams' adaptive performance. This is why, we decided to ask departmental nursing managers to rate their teams—which luckily had just responded to the flash floods—based on their prior adaptive performance.

Thus, at the very beginning before any data collection, we asked departmental nurse managers to identify teams with seemingly opposed levels of prior adaptive performance. Classifying teams this way enabled us to contrast the subsequent adaptation mechanisms and how they differed

over the whole duration of the study. We defined team adaptive performance to the managers and offered examples of what it may look like. Subsequently, we asked them to "*list and rate your teams' adaptive performance in relation to the recent floods that affected the hospital and your unit*". They answered questions we adapted from scales of team improvised adaptation scale[1] (Abrantes et al., 2018) and team flexibility[2] (He, Baruch, & Lin, 2014) in relation to the floods. We then asked these ward managers to select their best and worst teams, in terms of prior adaptive performance, from the various clinics (e.g., General Pediatrics, Neurology, Orthopedic, Oncology, and Urology). Thus, when we refer to teams with high versus low adaptive performance, we mean the highest and lowest (for each concerned ward). We selected five high- and four low-adaptive performance teams who agreed to participate. Throughout the paper we use the term 'high-performing' (or 'low-performing') to also mean 'high past adaptive performance' (or 'low past adaptive performance'). Since departmental managers oversee several teams and are responsible for their formal performance evaluations, they serve as key informants in the upper hierarchy to provide reliable assessments of team

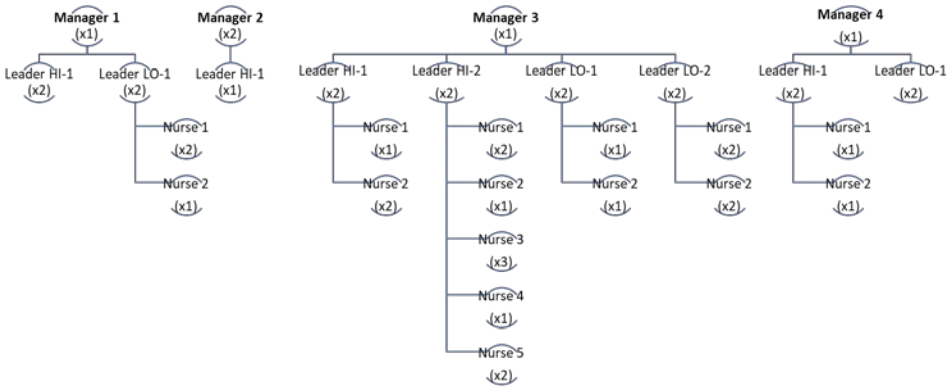
[1] A sample question reads "When unexpected problems appear, the team reacts in the moment."
[2] A sample question reads "Team members are able to make any adjustments necessary to cope with changing circumstances."

adaptive performance (Christian et al., 2017) for recent disruptive events (Homburg, Klarmann, Reimann, & Schilke, 2012). Thus, our study casts them as ideal to provide us with unbiased insights on the relative adaptive performance of the various teams reporting to them. We note the team leaders did not change and there was very little turnover in participating nurses during the study.

**Semi-structured interviews.** Semi-structured individual interviews followed a protocol to guide our entry to the field and collect data (Eisenhardt, 1989; Remenyi, 1998; Yin, 2009). First, departmental managers were interviewed to exploit the upper-level overview they held of their wards and nursing teams. After learning of the study during team meetings, members who volunteered were interviewed individually. We interviewed all the leaders in the nine participating teams, whilst some nurses were interviewed once and others more. Figure 3.3 depicts the organigram of interviewed participants, the number of interviews conducted with each, and the shorthand[3] used in the rest of the paper.

[3] We used the following shorthand codes: <departmental manager id>-<Prior adaptive performance as HI or LO>-<Leader id (i.e., team id) >-<Nurse id>. For example, 3-HI-2-5 represents nurse 5 in the second high performing team, under ward Manager 3.

Figure 3.3 Organigram of Interviewed Participants and Number of Interviews for Each
(x1 denotes one interview conducted, x2 denotes 2 interviews, and so forth)




All interviews were two-phased: we began with a narrative prompt for interviewees to tell their story their way to allow initial themes to emerge (Kvale, 2007). We next undertook a semi-structured inquiry geared to team emergent states, relationships and dynamics during adaptation to steer our data collection (Yin, 2009). Appendix A shows example interview questions posed. The protocol was followed, updated, and fine-tuned after each case as needed (Eisenhardt, 1989). As a result, interview protocols and questions were amended nine times over the course of the research. Some nurses and leaders were interviewed multiple times as crises ensued. On average, interviews lasted 51 minutes for departmental managers, 35 minutes for leaders, and 24 minutes for nurses who were typically more

time constrained. In total, we conducted 45 in-depth interviews with a pool of 29 staff.

**Daily team meetings.** Each nursing team has short 15-minute meetings every morning—known as huddles—which are held to clarify expectations and plan for issues that may arise (Baloh, Zhu, & Ward, 2018). We observed such huddles to get an additional perspective on the teams and to triangulate interviewees' accounts (Eisenhardt & Graebner, 2007; Polkinghorne, 2005). Each of the nine teams was observed twice, save for one which we observed three times (team 3-HI-2). We attended a total of 19 huddles, and timing of observations is shown in Table 3.2. Similar to the interview guide, we developed a template for observation notes. Specifically, during each huddle we took notes observing how team members interacted through communication style (e.g., formal versus informal) and affective behaviors with one another (e.g., close versus distant), as well as the general team emotional atmosphere (e.g., positive versus negative). These observations provided us the opportunity to complement insights from our primary data source (i.e., interviews) with our own formed impressions of spontaneous member interactions in meetings (Benner, 1994; Gill, 2014).

**WhatsApp messages.** The onset of the COVID-19 pandemic forced us to change methods to exploit the real-time unfolding of the new crisis. This data collection effort tapped WhatsApp mobile instant messaging of two teams (one with high prior adaptive performance, the other with low). Messaging platforms have become widespread in organizations as a common way for workers to communicate (Sheer & Rice, 2017). Members of a WhatsApp group can send instant mobile-to-mobile text messages to the group, as well as share images, videos, and documents. Some of the ward managers refused to give access to their teams' WhatsApp groups. One manager allowed it but it was at the ward level, but we were unable to use those non-team level data. Fortunately, access was allowed by the ethical committee to two nursing teams with contrasting performance: 3-HI-2 (high performing, with 10 members) and 3-LO-2 (low performing, with 9 members).

The text messaging groups were intrateam. Only members of a specific team were part of it without any overlapping memberships. We stripped out any exchanges that did not consist of text to amass a sum of 1235 text messages among members over 185 days. This dataset provided unobtrusive measures untainted by the researchers, that supplemented the other data sources in our study.

**Analytical Approach**

We adopted a grounded theorizing approach in our analysis (Glaser & Strauss, 1967) of team adaptation processes, allowing concepts to organically emerge (Suddaby, 2006). We developed a detailed case history of the hospital's, and each participating nursing teams', responses along the timeline of unfolding crises (see also Table 3.2 and Figure 3.2). We used constant comparison techniques (Corbin & Strauss, 2008) and conducted data collection, coding, and analysis iteratively in parallel (Glaser & Strauss, 1967; Suddaby, 2006) throughout the study's crises (i.e., floods, restructuring, pandemic). We did this first for *within* cases and then *across* cases (Eisenhardt, 1989). Following a replication logic (Eisenhardt & Graebner, 2007), we compared and contrasted coded data across our five high and four low cases that differed in past team adaptive performance. The analysis and theory refinement consisted of leveraging our diverse data sources over time to track and understand how these teams differentially coped and responded to successive crises by identifying patterns, connecting concepts, comparing findings from one case with others, and iterating with literature on team adaptation and emotions.

We addressed internal validity via theoretical sampling and constant pattern-matching between collected data and past research. We worked on

construct validity through multiple data sources and a clear chain of evidence. Finally, we sought reliability by thoroughly documenting study procedures and all collected information—including audio recordings—and by transcribing interviews verbatim (Denzin & Lincoln, 2018; Gibbert & Ruigrok, 2010; Silverman, 2015; Yin, 2009). As explained in our sampling choices, we selected cases through departmental nursing managers based on the teams' prior adaptive performance. Moreover, further avoiding researcher involvement, we used the WhatsApp's unintrusive data as a third source to triangulate interviewees' accounts and our own meeting observations. The study—interview protocol, informed consent forms, use of WhatsApp messages, and so forth—was reviewed and approved by the hospital's Institutional Review Board.

**Analyzing the interviews, observations, and memos.** The initial broad question we entered the field with was: How do teams cope and adapt during crises? We began by manually coding all collected data to describe early interviewee accounts with ongoing amendment of initial codes (Silverman, 2015). After conducting a few interviews and observing huddles, we identified many well-known structural and cognitive processes of team adaptation described earlier in our paper: self-organization, frequent communication, daily meetings, a focus on learning, and so forth.

These elements were common to all participating nursing teams since these practices have been prescribed by the hospital (and the profession).

However, the prevalence and emergence of *affective relations and mechanisms* quickly became apparent, with significant differences observed between teams. Thus, we moved from describing all data in detail to a more purposeful interpretation for theory building (Glaser & Strauss, 1967; Van Maanen, 1979). Consequently, throughout our within-case analyses, we asked ourselves these questions: How did *individual* members experience the crises? How did the team act to cope *collectively*? How did members *behave*, *engage* and *interact*? To guide the analysis, we examined data from the perspective of emergent group phenomena, especially behavioral patterns and team states (Humphrey & Aime, 2014; Waller et al., 2016).

The analytical process within each team began by identifying first-order terms under open coding, closely adhering to interviewees' accounts (Corbin & Strauss, 2008; Gioia A, Corley G, & Hamilton L, 2012). For instance, "we create harmony in the team" and "encouraging and using positivity" are some of the many first-order codes that emerged. Next, we distilled these into second-order categories through axial coding. For the aforementioned examples, their second-order theme was "positive harmony." Constant comparison of low- and high-performing teams

allowed us to unpack key differences in how teams coped and adapted to crises through diverse behavioral patterns and relational team dynamics—specifically affective. The next step involved creating aggregate dimensions and linking the second-order codes to relevant theory. For instance, the above theme was categorized into "team care" as representing an emergent state. Overall, the analytical process comprised a non-linear iteration among all three coding steps.

Finally, the theoretical within-case categories were cross-linked and integrated to develop theory, constantly comparing similarities and differences across the participating teams. For the cross-case comparisons, we were guided by the following question: *How did high- versus low-performing teams act consistently over successive events*? To answer this, we compared and contrasted our data, insights and codes, with the aim of uncovering patterns between participating cases. As evidenced by the coding tables, we rapidly realized that important differences existed between teams—specifically in how they convert negative emotional reaction to crises, and their helping behaviors and affective relations. Consequently, we focused our efforts on trying to understand the differing underlying team mechanisms. Such cross-case comparisons allowed to map the mutual links between *help-seeking* and *care*, as well as *help-giving* and

*camaraderie*. Throughout the study, we used our observations of team huddles (and later WhatsApp message analysis) to juxtapose our sense of team relational dynamics with interviewees' accounts. For instance, our notes attending the June 12th, 2019 meeting of a team with low adaptive performance summarized: "It is mostly the leader speaking, team ambience is low key, almost a little down." In contrast, our notes attending the July 28th, 2019 huddle of a team with high adaptive performance read: "Ambience is relaxed, open exchange, atmosphere upbeat. They laughed a few times." The questions that guided the within-case and cross-case analyses, and exemplary interview data, are illustrated in Table 3.3.

Finally, we also maintained a coding and analytical memo to document our intuitions, coding and data categorizations, as well as analytical steps and links among various codes and categories (Birks, Chapman, & Francis, 2008). The first author jotted the following memo notes early in the study after conducting several interviews and observing meetings. His very first intuitions about the emergence and importance of the affective state of care for team adaptation were:

> *Is the way to successfully adapt through caring, and basically giving a damn? i.e., only teams who care can truly be adaptable? In this scenario, it seems perhaps that "care" would be the key category within very adaptable teams … this is a recurrent theme with some nurses, of course, but I can see how care does really*

*make a difference in my own team, too, when we need to deal with problems … i.e., individuals need to care about each other, what it is they are trying to achieve as a team, to serve the customer, etc. Meaning: if they care enough, they will find motivation to push through.*

Table 3.3 Guiding Questions During Interview Data Analysis

| Guiding Questions during Coding/Analysis | Teams with High Past Adaptive Performance | Teams with Low Past Adaptive Performance |
|---|---|---|
| How did individual members experience the crises? | Overall, members of teams with high adaptive performance had a more positive outlook of crises, experienced less severe stress and anxiety, their emotions more optimistic.<br>Illustrative interview quotes:<br><br>"On a personal note, I think it makes me just be careful with everything. We were assigned in Emergency Department, we were deployed there. We had the orientation. It was really refreshing because we learned a lot." (Interview Nurse, 3-HI-2-5)<br><br>"I feel sad of course, if I put myself in the shoes of those patients, I feel they need some care, some treatment, of course I feel sad. Especially for those urgent cases." (Interview Nurse, 3-HI-1-2) | Overall, members of teams with low adaptive performance had a more negative outlook of crises, experienced high levels of stress and anxiety, their emotions more pessimistic.<br>Illustrative interview quotes:<br><br>"About COVID-19… I have been talking, with my team leader, a lot about my mental health during this… I'm on the verge of having my meltdown and I don't know when it will hit, and it will hit so hard because I know, personally, I'm not feeling well. I want to cry all the time." (Interview Nurse, 3-LO-2-2)<br><br>There's that uncertainty regarding each case scenario they face during the work, which is a big factor of stress for them. Even for me if I'm working in a place, and I don't know what's the exact way that it's supposed to be done, that creates, in my head, a stress." (Interview Nurse Leader, 4-LO-1) |
| How did the team act to cope collectively? | Overall, members of teams with high adaptive performance cultivated an encouraging team atmosphere where teamwork, transparency, cooperation and initiative from teammates were | Overall, members of teams with low adaptive performance cultivated a discouraging team atmosphere where teamwork, transparency, cooperation and initiative from teammates were not widespread. |

| | | |
|---|---|---|
| | widespread.<br>Illustrative interview quotes:<br><br>"I'm just so proud that I am assigned in this clinic. I think we are more of a happy people, the positive atmosphere within the team. Even though we are very busy sometimes, but they still manage to smile, to joke. And cooperation of everybody. Really, we are blessed." (Interview Nurse, 3-HI-2-5)<br><br>"For me, for teams to function, the key is transparency… if you're not transparent, when people realize the gaps that we haven't told them, you've shot yourself in the foot already…let people look at this change and review it and turn it upside down and play with it, that creates buy-in…without allowing people to accept the change… it doesn't work. If people are going to grieve, let them grieve, at least they know it's there to stay. So let them make their decisions." (Interview Nurse Leader, 3-HI-2) | Illustrative interview quotes:<br><br>"As a team I think it was quite stressful, but we managed the situation… I had suggested that we could move upstairs, but there was no blood test there so that was not possible… I think we did the best we could given the situation…in our team we need to be transparent with each other and cooperate and help each other to adapt to change". (Interview Nurse, 3-LO-1-1)<br><br>"I'd expect the same from my team as well, to do as they're told and get them through… so there were quite clear instructions on a daily basis… they still don't come up to the kind of level where they can really use their own initiative to get through some problems, so… I think a lot of the team—I really do feel a little bit drained in that—you almost have to give them all the answers and all the guidance." (Interview Nurse Leader, 1-LO-1) |
| How did members behave, engage and interact? | Overall, members of teams with high adaptive performance readily supported and helped their teammates in times of need.<br>Illustrative interview quotes:<br><br>"I would call them and they are not hesitant to help me. They will just inform me if they have patients if they cannot. So, but otherwise they're always helpful." (Interview Nurse, 3-HI-2-5)<br><br>"Even on the shift, I can tell you, if one of them was stuck with a patient, the rest will come, what do you need? Do you need help? Even without me as a leader, if I was not on the unit. They tell me, we took over the other patients in his team or her team, because he had a sick patient. This is something at the | Overall, members of teams with low adaptive performance did not readily support and help their teammates in times of need.<br>Illustrative interview quotes:<br><br>So the group knows who the strong players are and they'd say "we don't want that person because she's not going to contribute that much", it's like a natural evolvement of the strong players coming together and leaving behind the weaker links…" (Interview Nurse Leader, 1-LO-1)<br><br>"Well, a couple of times they've lost patience with each other… I think that's quite normal if you don't get a break… and you're seeing the same people day in, day out. So that I think they perhaps occasionally when they've been anxious, it makes people a little bit more snappy... |

| | | |
|---|---|---|
| | level of the team, yeah, which is very good." (Interview Nurse Leader, 4-HI-1) | Like I said, miscommunication, possessiveness over a room or space or something like that…" (Interview Nurse Leader, 3-LO-2) |
| How did high- versus low-performing teams act consistently over different events? | High levels of care and camaraderie characterized teams with high adaptive performance. Although care and camaraderie waned a little at the start of the pandemic, they were maintained and even strengthened in most teams.<br>See Table 3.6 and 3.8 for more detail and comparisons. | Low levels of care and camaraderie characterized teams with low adaptive performance. Care and camaraderie deteriorated during the pandemic.<br>See Table 3.6 and 3.8 for more detail and comparisons. |

We sifted data and theory until no new themes emerged, achieving theoretical saturation (Eisenhardt, 1989; Glaser & Strauss, 1967; Yin, 2009). Here, data analysis—with the addition of WhatsApp results explained next—had begun to yield systematic and persistent contrasts between teams of high- versus low-adaptive performance. This explains why we stopped after having conducted 45 interviews.

**Analyzing the WhatsApp data.** We were able to access the WhatsApp exchanges of two teams late in the study, during the pandemic, after our initial theoretical model revealed the emergence of team care and camaraderie. Thus, we coded WhatsApp messages in line with the coding scheme used for the interview data and the established interview procedure.

We also performed sentiment analyses of these texts. Apart from any main coding, we categorized each message for positive versus negative

sentiment manually to ensure that organizational and cultural context were truly reflected. For instance, although many of the nurses are internationals (e.g., 6 from the UK, 12 from the Philippines, 4 from Lebanon, etc.), they use affective Arabic language such as “habibti” to mean “my dear” (female) or Filipino “ate” to mean “older sister”. Such nuances would not be picked up through automated sentiment coding by software. Consequently, totaling individual sentiment scores for each text yielded the aggregate neutral, positive, and negative messaging sentiments sent daily. Examples of WhatsApp messages with positive sentiment are “You are awesome, thank you team!” or “Ladies we miss u all seriously!!!”. Examples of neutral sentiment are “I need responses from all of you please” or “If you have any questions regarding the redeployment, please let me know.” Finally, examples of negative sentiment are “No, I would be in a lot of trouble” or “I will never do it again... Sorry.” We calculated daily sentiment scores for each team, dividing the number of positive sentiments by the total number of messages. Since we are interested in team reactions to crises, we overlaid these scores with daily COVID-19 positive cases in the country. We obtained data on pandemic cases via the COVID19 package in R statistical software (Guidotti & Ardia, 2020).

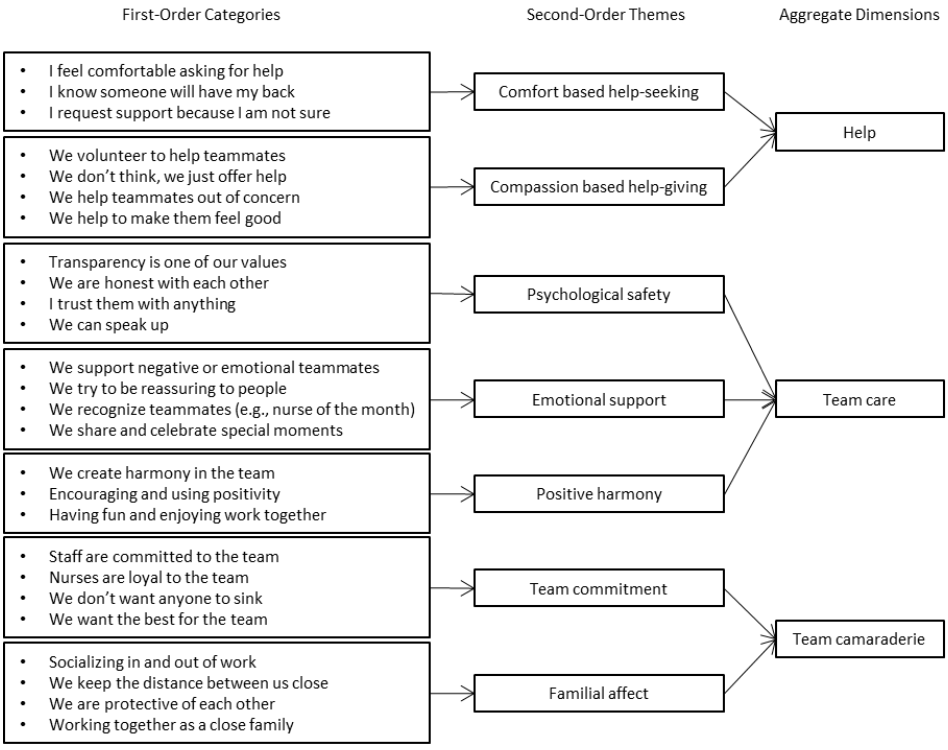
## FINDINGS

This study has aimed to comprehend the experience of crises in teams, and reflect on how emergent states impact teams adapting to subsequent events. We have found that teams with prior high adaptive performance (i.e., high-performing) were characterized by positive emotion conversion, successful cycles of help and emergent affective states[4]. Successive (individual) help-seeking and (team) help-giving actions shaped team care and camaraderie. Figure 3.4 depicts the data structure of codes and themes that arose to forge the aggregate dimensions for help, team care and team camaraderie.

Our findings are presented in three parts. Using the floods and organizational upheavals, we first review the emotional effect of crises and their impacts on help behavior and affective emergence during the adaptation process. Second, we present the COVID-19 pandemic's significant influence on teams and scrutinize their adaptation processes. Finally, we summarize our findings and integrate them into a theoretical model.

[4] Note that the scholarly realm of discrete emotions differentiates between valence (the pleasantness of a stimulus, be it positive or negative) and arousal (the intensity of the experience) (Elfenbein, 2007). Applying this definition to affective states in the remainder of the study, strong/high (low/feeble) affective states would represent strong/high (low/feeble) valence—derived from qualitative data sources.

Figure 3.4 Data structure




## Crises Disrupt and Trigger Emotions

Our interviews began by asking nurses to recount recent crises. Teams underwent many adjustments in their processes and routines, because the crises and hospital demanded that patients' needs and safety always be addressed as a priority. Participants relayed how the hospital floods, the first and most recent crisis, caused team intentions, plans or routines to be

adjusted. In this first example, a team leader described the disruption and confusion as follows:

> *Suddenly they just receive a message on the WhatsApp, "move to this other floor, we have moved there." There is confusion. The items that we used, where is the place of the crash carts? The consumables, if they want to get up anything from the store, the doors are different. The dirty utility area, the treatment room, everything, it took time.* (Interview Nurse Leader, 4-HI-1)

In the second example below, a nurse in another ward described how her team dealt with the flood-related patient registration and interaction, having to adjust workflows:

> *Then I think that's a drastic change for us … instead of the nurses staying here, helping their fellow nurses—because we have medication refills and other concerns for the appointments—the nurses will be staying up there the whole day. … Before, we were following a normal workflow, our routine… So when that happened, everything changed. You have to go there, coordinate with the porters to have a porter with you going up with the patient or sending back the patient here to do the blood test, because there's nothing there.* (Interview Nurse, 3-LO-1-2)

Clearly, a crisis is disruptive. Virtually all interviewees revealed—to varying degrees—that such events were unpleasant and emotional. The disruption of existing processes caused nurses to feel disoriented. Crises raised fears about clinical outcomes and caused anxiety subject to all the

inherent uncertainty. One manager, for instance, recounted the stress when the floods occurred:

> *We had to do two moves within a couple of weeks; it was massive. I found it really stressful because I was trying to deal with stuff that was happening on the unit like staffing, but at the same time I was with facilities, infection control, trying to find out what's the safest thing for our patients.* (Interview Nurse Manager, 4)

Aside from natural disasters, organizational changes can also be perceived as crises by staff on the receiving end. This can happen when they are taken by surprise, their routines disrupted, or their roles challenged—all of which result in an emotional upheaval. One such event was the introduction of a new Health Care Assistant role that was—according to some interviewees—poorly planned and communicated. A nurse mentioned how this new role induced ambivalent feelings about the change:

> *I think all mixed, mixed emotions. We were excited and stressed, as well, because we thought it will disrupt our flow.* (Interview Nurse, 3-HI-2-4)

A different organizational crisis affecting all study participants was a sudden, dramatic policy change that forced nurses to move from their own private accommodations into hospital housing. Many had to relocate nearly

overnight, and some were financially impacted. This crisis was highly emotional for nursing staff, and a team leader explained:

> *[The housing policy change] is the latest thing that hit us, and it was sudden … there were 10 to 12 personnel that were forced to transfer. Unfortunately, until now, there is this struggle. I'm afraid because at any point, they can change, again, the policy.* (Interview Nurse Leader, 4-LO-1)

As the interviews proceeded, it became evident that the crises endured by nursing teams caused emotional reaction. Often, such emotions move distressed individuals to seek support.

**Emotion conversion.** Clearly, crises are disruptive and emotional events for nurses. The on-the-fly adjustments to routine processes teams went through in response were significant. However, the interesting observable differences during crises, were in the team emotional dynamics and relations. Nurses explained that their jobs, laden with uncertainty and change, often made them emotional and distressed. Despite emotions running high in all teams when a crisis hit, throughout our data collection, we saw that high-performing teams generally expressed more positivity than low-performing counterparts—actively attempting to turn negative emotions into positive ones. For example, our field notes documented how nurses in the high-performing teams constantly expressed positivity and

encouragement, often first-thing at the start of the day—and this equally by the nurses and leader: “Let’s go team!”, “Good morning team! Anyone who is loving the Emergency Department raise your hand”, “Happy Thursday!”, “Thanks for your never-ending cheers and support, you never failed to make me smile despite of my nervousness. Love you all!”

The nurses in teams with high past adaptive teams recounted a deliberate team effort to instill positivity:

> *So, when they come with those [negative] stories I try to create some positivity in them, they are doing a fantastic job, we are a happy bunch of people… we try our best, we don’t talk about negative stuff all the time, we talk about positive stuff, we laugh a lot, and that helps us.* (Interview Nurse Leader, 1-HI-1)

> *We spend time having coffee, talking with each other, joking... Like that. You just laugh, even if you are busy, you laugh at the situation. It’s a daily atmosphere for us, I could say.* (Interview Nurse, 3-HI-2-5)

Conversely, we observed that in low-performing teams, members had tended to struggle with adverse negative situations, without significant emotion conversion and encouragement efforts, or expressions of positivity:

> *Now, I can observe the moods, the mood of everybody. Before, they’re just talking normal. [Now] The mood swings are very different... Suddenly, if you ask them, they’re really so grumpy... And then the others will come to you: “I’m so depressed, I’m so sad, I’m so exhausted, I don’t want to work.”* (Interview Nurse, 3-LO-2-1)

> *But still I'm afraid, because at any point, they can change, again, the policy... It's a struggle I went through last month... They [the team] started to say, "I don't want to do it anymore"... And, it's very obvious, the level of demotivation. They just come to work, take care of their patients, and they leave now.* (Interview Leader, 4-LO-1)

Prior research on team affective climate noted the benefits of positive team affect (for reviews, see Barsade & Knight, 2015; Menges & Kilduff, 2015). Yet, it has to our knowledge not been unearthed why some teams are able to convert negative emotions into a positive affective climate while others fail to do so. In later sections, we uncover that this key emotional conversion mechanism is enabled by team emergent affective states.

**Emotion, Help-Seeking and Team Care**

**Comfort-based help-seeking.** To respond to a surprise at work, nurses normally follow an established process with escalation mechanisms. The nature of the problem and its criticality—for instance, patient safety is at stake—determine from whom a nurse seeks help. A team leader explained how help-seeking follows "a clear plan for everyone: first, you ask for help from coworkers, and then escalate. They ask from anyone, except if someone has some competence or expertise that's needed" (1-LO-1).

However, in times of crises, the emotions triggered in individuals can cause them to feel vulnerable or exposed. We queried nurses how they coped with such issues. They responded they typically seek comfort and help from teammates. A nurse expressed how, in her team, a supporting norm had been set where “we do not work alone, and we need each other” (3-LO-1-1). Although such proclaimed group norms were commonplace in our participating teams, things differed in reality, as later disclosed.

In cases of problems and crises, close friends, other members, or the leader—all within the team—represented the network that nurses could rely on for clinical advice, problem-solving, and emotional support. This study’s focus being on emotions and affective states, we analyzed our interview data with the aim of detecting what elements underpin help-seeking action in our subjects’ accounts. Table 3.4 shows that help-seeking at the individual level was affectively focused; it occurred when nurses sought comfort in their teammates, as explained:

> *And I asked help from other nurses to come with me to hold the patient. They came and supported me. It didn't feel that I'm alone there.* (Interview Nurse, 3-HI-2-1)

Next, we uncover how repeated help-seeking cycles in teams lead to the emergence of team care—an affective state.

Table 3.4 Data table for help

| Exemplary Quotes | First-order Categories | Second-order Themes |
|---|---|---|
| "We always feel comfortable to approach someone (from our group) if you are feeling close, like hey, can you help me?" (Interview Nurse Leader, 4-LO-1)<br>"And I asked help from other nurses to come with me to hold the patient. They came and supported me. It didn't feel that I'm alone there." (Interview Nurse, 3-HI-2-1)<br>"If we cannot handle it by ourselves, if one of the other nurses can handle it, I would ask them first." (Interview Nurse, 3-LO-2-1)<br>"Usually if there's an issue, I deal with it… but if I can't manage it myself, I would go to her and ask her for her opinion and what she thinks." (Interview Nurse, 1-LO1-2) | • I feel comfortable asking for help<br>• I know someone will have my back<br>• I request support because I am not sure | Comfort based help-seeking |
| "They would offer help even though I'm not asking." (Interview Nurse, 4-HI-1-2)<br>"I hear them, and I see them offering to help the other person. The other members of the team, I hear them say: let me finish that." (Interview Nurse Leader, 3-LO-2)<br>"I am just new in this team. They are really helpful, and they always see to it that I am comfortable, and that I will not struggle alone. They will help me in every way." (Interview Nurse, 3-HI-2-4)<br>"If I am not well someone will help me… it will not be that hard to work." (Interview Nurse, 3-HI-1-1) | • We volunteer to help teammates<br>• We don't think, we just offer help<br>• We help teammates out of concern<br>• We help to make them feel good | Compassion based help-giving |

**Help-seeking fosters and is enabled by team care.** Nurses explained that their jobs, laden with uncertainty and change, often made them emotional and distressed. One important finding is that successive cycles of fruitful help-seeking appeared to lead to the emergence, and increase, of team

care—an affective state. This linkage peaked in teams with high past adaptive performance, those departmental managers identified at the onset of our study. We found three areas that exemplified the display of care in teams: being a psychologically safe place, having emotionally supportive teammates, and nurturing a state of harmony in the team. Next, we explicate each facet of team care. Table 3.5 presents the qualitative data structure for this affective state.

First, we saw that psychological safety emerges in caring teams. Departmental managers generally described how they wanted their nurses and teams to feel free to ask questions, express ideas, propose solutions, and challenge decisions. One manager summarized the psychological safety in the ward: “It makes for good relationships, they need to feel they can come to you, that it’s a safe place” (CNM2).

All interviewees echoed a desire for psychological safety, but this was disproportionately present across teams. Evidence revealed that members of high-performing teams perceived their teams as a safer place where nurses had a voice. Indeed, they strongly encouraged high trust and a no-blame culture where errors were genuinely viewed as learning opportunities. Conversely, in some low-performing teams, nurses confided that they did not feel very safe in making mistakes. A leader of a team high

in adaptive performance cited a positive, learning attitude toward errors. The key, it was stressed, is that:

> *Whenever they make mistakes, they have the courage to come and say it, because they feel that the environment we created here allows them to come and talk about what they did. We know that we all will learn from this.* (Interview Nurse Leader, 4-HI-1)

In contrast, a nurse revealed how her team of low adaptive performance was not always a safe space for making mistakes because of how errors were publicly exposed:

> *In our area, it's generally made known; everybody is told about it, and on a personal level, I don't necessarily agree with it. So, a mistake is usually brought to notice very quickly ... I speak up, but there's a little bit of a fear for some people who don't speak up.* (Interview Nurse, 1-LO-1-1)

As can be garnered from our interviews, teams with higher adaptive performance foster more psychological safety versus less adaptive counterparts. Nurses in high-performing teams expressed feeling good and safe with their colleagues, and that this favored being able to reach out for help when adversity hit. Table 3.6 illustartes evidence for some of these differences.

Table 3.5 Data table for team care

| Exemplary Quotes | First-order Categories | Second-order Themes |
|---|---|---|
| "If it doesn't work, we get rid of it, so as a group we fail forward. I think we get more credibility if we admit it, it was a bust, it didn't work. Then they're more willing to take a risk with you." (Interview Nurse Manager, CNM3)<br>"We don't have trust issues. I have a lot of trust with my leader and my colleagues. We cannot work without trust." (Interview Nurse, 3-LO-2-1)<br>"I think we have a level of trust within the team, and this is a safety net for speaking up." (Interview Nurse Leader, 3-LO-2) | • Transparency is one of our values<br>• We are honest with each other<br>• I trust them with anything<br>• We can speak up | Psychological safety |
| "So, you have to manage that, and facilitate and support the negative ones, to just look at it and really think about it and do it." (Interview Nurse Manager, CNM1)<br>"I know recently they have felt unstable with the way things have been, and they've been particularly emotional about it. So, I would constantly try to reassure them." (Interview Nurse Leader, 1-LO-1)<br>"If you did something really good… then you're probably nurse of the month or the week." (Interview Nurse Manager, CNM2)<br>"We regularly celebrate people's birthdays and when people leave, we make a big fuss, yeah." (Interview Nurse Leader, 3-LO-2) | • We support negative or emotional teammates<br>• We try to be reassuring<br>• We recognize teammates (e.g., nurse of the month)<br>• We share and celebrate special moments | Emotional support |
| "We start with encouragement and positive words… We share some stories, we laugh about it, to create the harmony and that happiness." (Interview Nurse Leader, 1-HI-1)<br>"Well, when I see them day to day, they play with each other, they joke with each other, they try to be happy while at work." (Interview Nurse Leader, 1-LO-1)<br>"They always see to it that I am comfortable, and that I will not struggle alone." (Interview Nurse, 3-LO-2-4) | • We create harmony in the team<br>• Encouraging and using positivity<br>• Having fun and enjoying work together | Positive harmony |

Second, we observed that emotional support emerged in caring teams. During crises, nurses must know that they can rely on fellow members to lend a hand, as shown in Table 3.5. Speaking of how they dealt with the floods of 2018, one departmental manager conveyed the general level of support shown by the nurses: “They were really good and supportive, and checking on each other. It’s good to have a disaster sometimes to pull people together” (CNM4).

Emotionally supportive behavior that nurses might display toward one another were conveyed not only in the context of work-related events, but also during crises they faced in private life. This was relayed by one leader of a high-performing team:

> *Even if we cry, this will not change, it is what it is … they were so supportive looking after each other, taking turns to visit; it was the most beautiful thing I’ve seen.* (Interview Nurse Leader, 3-HI-2)

Overall, we found teams with high adaptive performance to be more helpful and supportive to their members, as evidenced in Table 3.6. Those nurses expressed how helping gestures were plentiful and rooted in their team’s general, emotionally supportive culture. Meanwhile, low-performing counterparts revealed more limited supportive behavior.

Table 3.6. Exemplary quotes for care and camaraderie in teams of high/low adaptive performance

| Emergent Affective State | Teams with High Past Adaptive Performance | Teams with Low Past Adaptive Performance |
|---|---|---|
| Team care (Psychological safety) | "Here nurses have a voice, that's what I like, they are open." (Interview Nurse, 3-HI-2-1) | "In our area it's generally made known, everybody is told about it, and on a personal level I don't necessarily agree with it. So, a mistake is usually brought to notice very quickly... I speak up, but there's a little bit of a fear for some people who don't speak up." (Interview Nurse, 1-LO-1-1) |
| Team care (Emotional support) | "We emphasize this on every pod. If you see a colleague not looking right, it's your duty to be checking in on them to say: are you ok? And generally, they work together like that." (Interview Nurse Leader, 3-HI-2) | Everyone has their own things. I think that this ups the stress, that no one has the willpower to ask about someone else." (Interview Nurse, 3-LO-2-2) |
| Team care (Positive harmony) | "In the morning we share stories and laugh, to create harmony and happiness." (Interview Nurse Leader, 1-HI-1) | "We feel that [subgroups in the team] are close, but for an outsider or another person who is not part of it, they wouldn't be that welcoming." (Interview Nurse Leader, 4-LO-1) |
| Team camaraderie (Team commitment) | "We are here as a team. If one nurse didn't do something, someone else is going to do it. This is what I like about this team, it's not like if you are assigned to this and you can't do it, it won't get done." (Interview Nurse, 3-HI-2-2) | "It [COVID-19] has affected teamwork. They are focusing mostly on their own tasks and go directly to the supervisor [me] for issues." (Interview Nurse Leader, 3-LO-1) |
| Team camaraderie (Familial affect) | "I had to work hard to combine the two teams and make them one. You would hear them talk about how "we are this staff; they are that staff". I'm so proud because I can see where we are now. When I reflect back, it was difficult. Now everything is so smooth, I have one big team." (Interview Nurse Leader, 1-HI-1) | "We tried to do a team outing, or something. Some groups would come, some wouldn't come. Even if they go out together, or we do dinners here, you see the groups sticking together. You don't see them merge." (Interview Nurse Leader, 4-LO-1) |

Third, we also observed an emerging sense and state of positive harmony in caring teams. Here, harmony meant having congenial relations between members, a positive outlook, and joyous interactions. One nurse leader from a team with high adaptive performance described what harmony looked like in her team. She cited a devotion to positivity and sense of joy: “In the morning, we share stories and laugh to create harmony and happiness” (1-LO-1).

Our interviews also revealed that feedback loops existed between the state of care and help-seeking: team members who feel cared for are more likely to be comfortable seeking help from teammates in times of need. For instance, this was relayed by a leader and a nurse from different teams:

> *We always feel comfortable to approach someone if we are feeling close, like hey, can you help me?* (Interview Nurse Leader, 4-LO-1)

> *As the new person, I felt a lot of support here. I feel comfortable being here with the nurses, with the leader. I feel supported a lot … especially if I have any issues.* (Interview Nurse, 3-HI-2-2)

In summary, our data suggest that high-performing teams’ help-seeking nurtures care. Caring teams cultivate psychological safety, display emotionally supportive behavior toward members, and forge a state of harmony. Crises are emotionally loaded events. When they occur, for a

distressed individual to feel comfortable enough to reach out for help, nurses emphasized the importance of feeling cared for. Next, we uncover how individual help-seeking is met with help-giving at the *team* level and its resultant unfolding of affective states.

**Team Help-Giving and Camaraderie**

**Compassion-based helping.** Help-giving involves continuous cognitive and emotional engagement between the help-seeker and the help-giver(s) (Grodal, Nelson, & Siino, 2015). In our study, some related their positive experiences in providing help to distressed teammates, as well as receiving support themselves. This was especially noticeable in teams with high adaptive performance, as the next case shows. This nurse disclosed her relief in knowing that teammates were always helpful in times of need, alleviating some of her negative emotions:

> *If changes happen like that, of course you will feel a little bit nervous at first because you don't know what to do. But knowing that everybody's willing to help you, yes, it's okay.* (Interview Nurse, 3-HI-2-3)

Nurses in high-performing teams stated that helping by their teammates was a "reflex," pointing to the presence of group norms geared toward assisting colleagues in times of adversity—as directly stated here: "Even without asking ... It's a reflex that, hey, she needs help" (3-HI-2-5).

This readily available help was related to us by a leader of a high-performing team, describing how obvious this was in her group:

> *Already when they start their shift, no need to tell them "go and help her"… they know already, they say "come let's go do mine, then we do yours"… you can see they already have their rapport, how to make the team work, so helping each other like that… "your patient is sleeping, let's do mine first"… I can see it, and can sense, they care for each other… they are helping each other the way they can, and I don't see any problem with helping and getting it…* (Interview Nurse Leader, 4-HI-1)

As we did with help-seeking, we processed our interview data on help-giving with the aim of uncovering its underlying affective elements. Table 3.4 shows that help-giving at the team level was compassionate, as this nurse in a high-performing team clearly described:

> *I am just new in this team. They are really helpful, and they always see to it that I am comfortable, and that I will not struggle alone. They will help me in every way.* (Interview Nurse, 3-HI-2-4)

**Help-giving fosters and is enabled by camaraderie.** Helping is commonly associated with, and expected of, the nursing profession. Remarks from interviewed nurses have largely confirmed this. Help-giving, however, is not deterministic. It is a social interaction among members that reflects their dynamic interrelationships, and involves deliberate devotion of time and effort aiding others. Specifically, our study detected

camaraderie to be the affective state emerging in high performing nursing teams after recurrent help-giving by members. We found camaraderie to be characterized by the display of team commitment, alongside close and familial relationships among teammates. Table 3.7 maps the qualitative data structure and supporting interview extracts for team camaraderie. Next, we showcase two facets of this affective state.

First, we noted a deep commitment among members to arise in teams with camaraderie. We found camaraderie to be associated with a sense of loyalty and wanting the best for the team, teammates, and the leader. A departmental manager recalling the floods reported that staff were concerned about the situation and their colleagues, and many stepped up to handle the aftermath. It was summarized to us as follows: “I think there was great collegiality between them, worrying about one another and seeing what they could do to help. It’s something to be proud of, really” (CNM3).

However, this was not the case for all. In a team experiencing low levels of help-giving, the leader noted how ever-changing instructions had eroded nurses’ commitment to one another: “It has affected teamwork. They are focusing mostly on their own tasks and go directly to the supervisor [me] for issues” (3-LO-1).

Table 3.7 Data table for team camaraderie

| Exemplary Quotes | First-order Categories | Second-order Themes |
|---|---|---|
| "They are so committed to each other. They work around and swap around because they really work together as a team." (Interview Nurse Leader, 1-HI-1)<br>"I have this feeling my nurses have real loyalty to one another; they don't want anybody to sink." (Interview Nurse Manager, CNM3)<br>"We want our clinic to be one of the best clinics. We want all patients and families to be happy." (Interview Nurse, 3-HI-2-2) | • Staff are committed to the team<br>• Nurses are loyal to the team<br>• We don't want anyone to sink<br>• We want the best for the team | Team commitment |
| "They see each other socially. They go to each other's houses. We even got together last year for the JCI quiz, we put a team together." (Interview Nurse Leader, 3-HI-2)<br>"They are fantastic with each other; they are such a close team. We go out and do some parties, a lot of baby showers, birthday gifts and we make the day for that person special. The team spirit is quite strong." (Interview Nurse Leader, 1-HI-1)<br>"We also want to build family-centered care for our staff as well. Many of them are young, they've left their parents and siblings, and this is new to them. I want to create an area where you feel like family." (Interview Nurse Manager, CNM2) | • Socializing in and out of work<br>• We keep the distance between us close<br>• We are protective of each other<br>• Working together as a close family | Familial affect |

As mentioned often by interviewees, helping is part of a team culture nurtured over time. We typically found that where help-giving prevailed, nurses expressed confidence in teammates and a strong sense of team responsibility. Conversely, commitment had eroded through changing situations where help-giving was poor. Table 3.6 features example quotes.

Second, we observed that familial affect emerges in association with camaraderie. This familial aspect of team camaraderie is where teammates relate with family-like, interpersonal closeness. Nursing managers and leaders explained that since their work is demanding and eventful, it is important to consciously carve out team time and allow interpersonal relationships to flourish. One ward manager explained: “We do a monthly timeout. We go out as a team to a restaurant or hang out at someone’s place … in this way creating that bond” (CNM2).

Family-like relations and closeness were prominent as most interviewees related the importance of having social relationships and outings with their colleagues. A nurse from a team with high help-giving remarked: “We are close, of course. We celebrate birthdays every month; we are going out even after duty” (3-HI-2-3). Another common depiction of team closeness conveyed a sense of oneness, and that the team is like a family. The idea of “family-centered” care toward staff arose during the interviews (see Table 3.7).

Additionally, through the events described to us, the nurses related feedback loops between camaraderie and helping behavior, where commitment and familial affect elicit future help-giving. For instance, the

leader of a team high in camaraderie disclosed this after her team went through an emotionally challenging crisis:

> *I think the whole event they went through has brought them together. I can now see more helping each other out than before … If anyone's struggling, they jump in and help.* (Interview Nurse Leader, 3-HI-2)

Thus far, interviews have provided evidence of help behavior leading to the emergence of care and camaraderie, and vice versa. High-performing teams appeared to display greater degrees of such conduct and affective states and emotion conversion, versus teams with low adaptive performance.

**Nursing teams during the COVID-19 Pandemic**

Prior sections explained how teams differ in building affective states as they face crises. We now spotlight how nursing teams coped and responded to their most challenging event yet: the COVID-19 pandemic. Being significant and causing major upheavals for all of our teams, this crisis warrants its own section. We apply a two-step approach. We first recount our theory by observing the team process during the pandemic in line with our emergent theory. Second, we exploit the time lag between the affective states that arose in earlier crises versus those emerging from the pandemic. Having been forced to switch data collection methods (i.e., WhatsApp text

messages) due to limited physical interactions, we next complete our theoretical framework by explaining how previously built affective states impacted team adaptation and emotions.

**Disruptions caused by the COVID-19 pandemic.** It is evident from all nurses we queried that the pandemic exerted dire impacts on their processes, ability to carry out their nursing duties, emotions, and interpersonal relationships. For instance, there was initial confusion caused by uncertain and incoherent directives for the staff. Nurses further related how restrictions impacted regular team meetings and cut communication: "Because of social distancing, we don't do the daily huddle. We just communicate with each other about who will assist this doctor or patient" (3-HI-1-2). A nurse in a different team expressed how socializing, an integral part of camaraderie, was hindered—resulting in escalated feelings of isolation. She explained: "This is another challenge with COVID-19. We can't sit together and talk, really" (1-LO-1-2). Unsurprisingly, like this nurse, others admitted that closeness, socialization and friendship had suffered during the pandemic. As one team leader observed, this was likely due to managing health risks, having to wear protective equipment, and acting to minimize infection spread. Although the hospital under study initially did not treat confirmed COVID-19 patients, some nurses were later

assigned to assist other hospitals that needed reinforcements. One team leader revealed the nurses' concerns:

> *We never expected to handle COVID-19. But now there are plans to go to another hospital to assist. We get a lot of concerns from the staff: "if I get infected, what will happen to me"? You can feel, no one wants to go.* (Interview Nurse Leader, 2-HI-1)

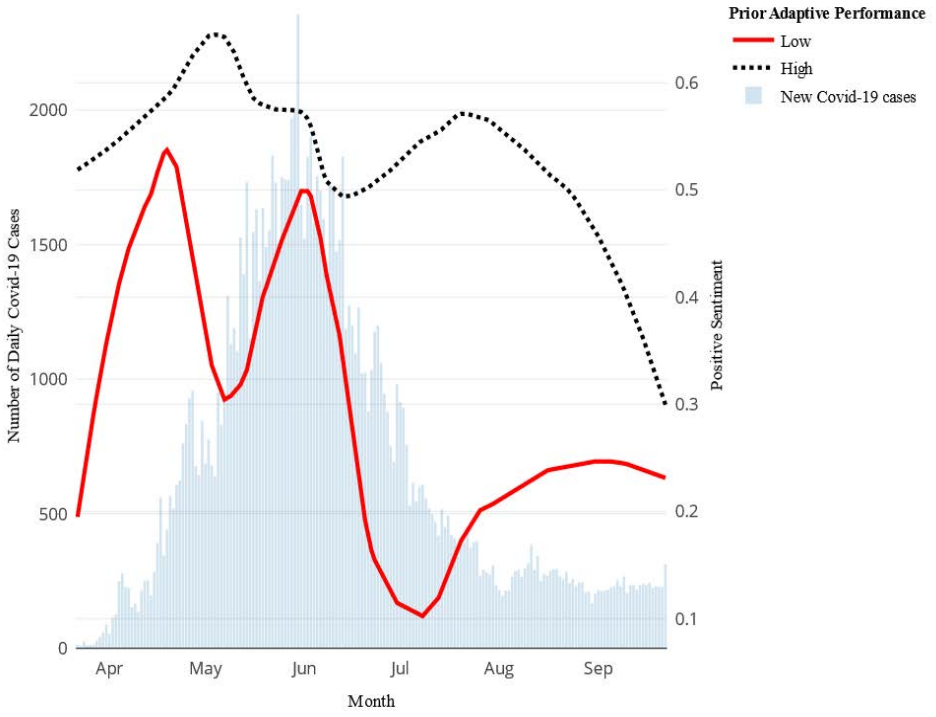
This leader's last remark was thought-provoking: care for *all* patients epitomizes what the nursing profession demands. But evidently, unlike previous crises, the deadly pandemic elicited unusual survival fears in nurses, for themselves and their loved ones. For example, many were exposed to the coronavirus at work and had to quarantine. This nurse admitted experiencing disorientation and loss of purpose after returning from home isolation: "When I came back, we started seeing urgent cases. I felt like I'm just starting all over again. I was, like, in a blank space. I didn't know what to do" (1-LO-1-1).

Manifestly, the pandemic was terribly emotional for nurses and presented operational challenges impacting the teams' work. Next, we explore whether teams' affective states—established through prior events—shaped their adaptation and emotions relating to the challenges that ensued.

A final analytical effort to contrast teams with high versus low adaptive performance is through a sentiment analysis of the WhatsApp

communications of two teams during the pandemic (3-HI-2 and 3-LO-2). The bars in Figure 3.5 represent the country's number of new daily COVID-19 cases (on left axis) as lines track message sentiment (on right axis).

Figure 3.5 Sentiment analyses of WhatsApp messages of two teams, overlaid with daily COVID-19 cases



This offers a key insight: the high-performing team displayed remarkably more overall positive sentiment than the low-performing team throughout the pandemic. In fact, compared to the low-performing team, the high-performing one expressed less negative sentiment—5% versus 11%—and more positive sentiment—58% versus 35%. Such a finding is in line with our observation of emotions in the field and at team meetings we attended. In Figure 3.5, we note this trend briefly reversing at the peak of COVID-19 cases (late May 2020): the team with low adaptive performance dealt with an emotion-laden coronavirus case while the high-performing team exchanged prolonged neutral texting about a mandatory training.

**The reinforcing role of help and affective states during the pandemic.** When the COVID-19 crisis arrived, it took nurses by surprise. Many examples of adaptation in practice ranged from the shifting of assignments to assisting the hospital's new COVID-19 testing center. All interviewed nurses were boldly committed to the safety of their patients. In contrast, our data revealed that non-patient adaptive responses differed. We later explain how nurses' interpersonal relationships were affected by pandemic-inflicted challenges and hardships. Meanwhile, there were remarkable differences between teams primed by their prior relational experiences. First, we provide further evidence of the link between affective relationships and

help behavior in this excerpt from the high-performing team's WhatsApp exchange (March 23, 2020) at the pandemic's start:

| | |
|---|---|
| Leader | *Good day team. I need volunteers to cover ED [Emergency Dept]. If you have any questions regarding the redeployment, please let me know.* |
| Nurse1 | *I'm happy to help mother, just let me know when.* |
| Nurse2 | *Thanks mother I will participate.* |
| Nurse4 | *We will, we will!!!!!* |
| Nurse7 | *I volunteer myself mother.* |
| Nurse6 | *Count me in, Mother.* |
| Nurse9 | *Most of us volunteered to cover ED, so I volunteer myself to stay in the clinic for emergency. However, if they still need more staff in ED u can count on me mother…thanks.* |
| Leader | *I am so proud to be part of this team. Thank you all and on behalf of the hospital, you are life savers.* |

This exchange is interesting for two reasons. First, the leader's request for volunteers (help-seeking) is met with an immediate response by her nurses (help-giving). Second, the nurses display positive affect and show deep commitment (care and camaraderie). Generally, we seldom observed such intensely positive dynamics in low-performing teams, whether through interviews, observations of team huddles, or WhatsApp exchanges.

Now, we show how teams compared their help, care and camaraderie, before and after the pandemic. High-performing teams described help, care and camaraderie being maintained or enhanced, while

in low-performing teams these eroded. A few contrasting examples are shown below, starting with teams with high adaptive performance:

> *Now I can see from them like "this one will be there and I can help her", not like before… they are pitching in and helping… I see them pitching in like "I'll take care of that" or "I'll do the prep" … and I keep telling them if they want help, to ask each other, don't just wait… but now I see them voluntarily asking if someone needs help, I can see that.* (Interview Nurse Leader, 3-HI-1)

> *There's still care, supporting each other. Number one, supporting each other, and there's still respect, helping each other… The friendship now became more developed, I don't know, what is the term. Like there's more attachment for us.* (Interview Nurse, 3-HI-2-1)

> *We used to have this care, but in crisis, I think it got more. You touch it, you notice it more… We didn't reach this level easy, as I told you. At the beginning no, there were some misunderstandings, there were conflicts. Then, they get back, they bind to each other, they feel with each other. And here, I see it among the team... Before even the crisis, they love, they like each other. They like to be with each other… So… Closer, yeah, at the end, after the phase [COVID] that passed.* (Interview Nurse Leader, 4-HI-1)

The WhatsApp exchanges of the high-performing team provided further evidence of heightened help and affective states during the pandemic. A nurse messaged "If I can be of help in the Emergency Department, I'm so ready! I know you've got my back" (3-HI-2-6). The leader of that same team later made a very powerful emotional statement to

her nurses, signaling intense care and camaraderie—and "love"—within the team:

> *Thank you so much, guys. The love, respect, and camaraderie I witnessed today reminded me of all the values you live and apply every day... You give me reason to get up every day.* (Interview Nurse Leader, 3-HI-2)

These positive team relational dynamics can be contrasted with those experienced by members in teams suffering low help and affective states (and past low adaptive performance):

> *I think definitely yes… There is conflict, yes. With the COVID situation generally, the strong relationships have become less, generally. Why? Because now the stress factor has become more individual… The teamwork, they support it. But they don't support it like the regular days.* (Interview Nurse Leader, 3-LO-1)

> *Because for me, initially, we always had a family like relationship here, or we act like a family. So, we have each other's back. We cover for each other. If someone is absent on the other team, we make sure to fill in the gap of his or her absence… [Now] With everyone who is depressed, everyone, no one cares... No one cares. You stay, you go, no one gives a hoot. Everyone has something on their mind… Everyone has their own things. I think that this ups the stress, that no one has the willpower to ask about someone else.* (Interview Nurse, 3-LO-2-2)

> *Now, I can observe the moods, the mood of everybody. Before, we're just talking normal... [Now] The mood swings are very different. Before the people they're so, so happy. Just share if they're coming to work. [Now] Suddenly, if you ask them, they're really so grumpy. They're not their normal selves. And then they will come to you, "I'm so depressed, I'm so sad. I'm so exhausted. I don't want to work."* (Interview Nurse, 3-LO-2-1)

These stories and many others, describe the interconnection and relation between affective states (care, camaraderie) and help behaviors. Clearly, nurses' past experiences shape their present ones, (Grodal et al., 2015; Lawler, 2001) and in line with this, we reframe teams' past help and affective states as "coping buffers" for future crises. Meaning, teams that accumulated affective and help reservoirs in the past are more likely to use these to successfully cope and adapt when a crisis hits.

**Affective states facilitate emotion conversion.** Despite emotions running high in all teams when a crisis hits, throughout our data collection and interactions with nurses we saw that highly affective teams generally expressed more positivity than less affective counterparts. We observed this firsthand during team huddles, early in our study through the interview quotes provided earlier in our findings, and as seen in the sentiment analysis in Figure 3.5. We also noticed strong evidence of this in the WhatsApp messaging exchanges during the pandemic—our last studied crisis. The team high in emergent affective states tended to individual members' negative emotions by expressing a lot of positive, encouraging, proud and loving feelings—to result in more positive collective sentiment in the team. We provide some further evidence of this. Consider the following short WhatsApp exchange on May 12$^{th}$, 2020, and the flurry of

positive emotion conversion that occurred in the team with high care and camaraderie:

| | |
|---|---|
| Nurse 6 | *U are in our thoughts...OK? Don't worry* |
| Leader | *The love, respect and camaraderie I witnessed today reminded me of all the values that you live and apply every day (…) You give me reason to get up every day.* |
| Nurse 3 | *Love you team from the bottom of my heart!* |
| Nurse 8 | *I'm having teary eyes now. Go Team!* |
| Nurse 9 | *Best team! Be completely humble and gentle; be patient, bearing with one another in love. Above all, love each other deeply…* |

Such displays of intense affective states and positive emotion conversion clearly make team members feel more connected, better about the situation, more positive, ultimately boosting morale. In contrast, as seen from the WhatsApp sentiment analysis, the team with poor affective states generally expressed more negative (and less positive) sentiment than its counterpart. Below, we illustrate an exchange on January 9$^{th}$, 2020 about a doctor the nurses work with, who tested positive to the coronavirus. Notwithstanding the normalcy of negative and worry-filled emotions for their colleague in this context, it is interesting that no positive emotion conversion is attempted by the team, and instead the exchange ends in a rather fatalistic manner. Furthermore, we note this was the last text

exchange on this from the team whose next message appeared four days later on an unrelated subject.

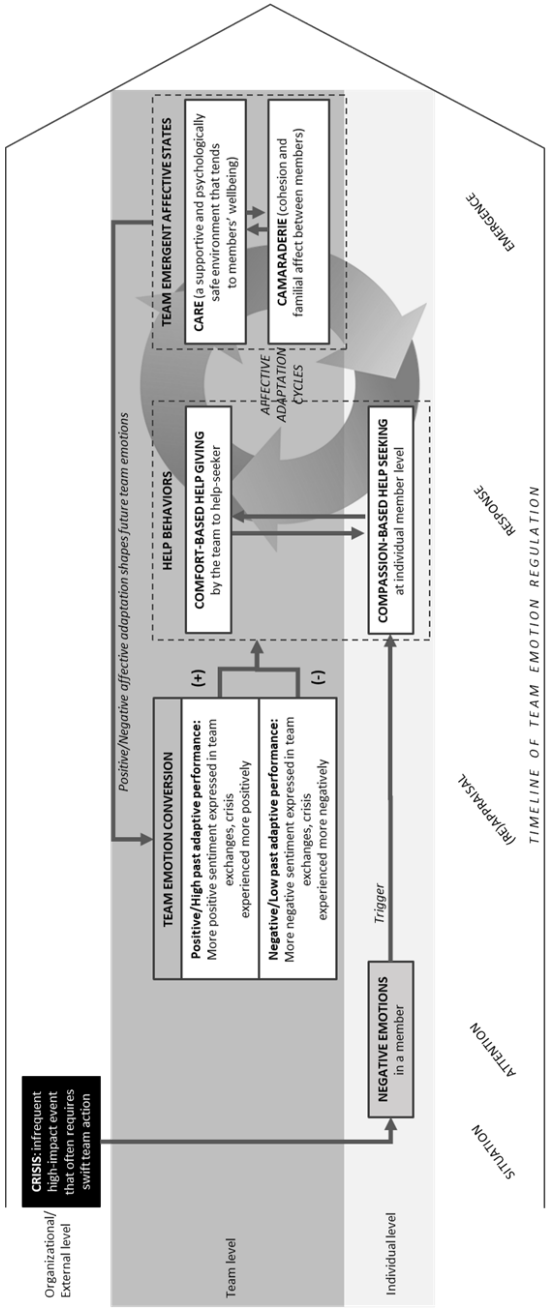
| | |
|---|---|
| Leader | *Is he positive?* |
| Nurse 1 | *yes. OH [Occupational Health] called* |
| Nurse 2 | *OMG [Oh my God]!!!!* |
| Nurse 2 | *I was sitting next to him the whole afternoon the other day* |
| Leader | *Better ring OH and tell them* |
| Nurse 1 | *or wait for their call... you know confidential thing* |
| Nurse 2 | *In the team room… he was using the computer next to me* |
| Nurse 5 | *Oh my God* |
| Nurse 1 | *I think the Dr gave my name because last week I was working with him face to face* |
| Nurse 1 | *OMG* |
| Nurse 5 | *God are we so unlucky* |

Emotion conversion is evidently a mechanism that highly affective teams employ to lift their members' spirits during adversity, so it is an ever-vital tool during crises because of the ensuing strong emotions and breakdown of team relational and adaptation dynamics. Our data throughout this manuscript evidenced that teams with care and camaraderie intensely helped their members during times of trouble, and built affective states. As time passes and more crises occur, teams which successfully built these relational coping buffers were able to convert their members' negative emotions into more positive and beneficial team-level sentiment.

## A GROUNDED MODEL OF COEVOLUTION BETWEEN HELP AND AFFECTIVE STATES

Our theoretical model, grounded in field data and analyses, appears in Figure 3.6. It maps how crises are emotional events for members and that teams adapt through relational and affective mechanisms. Importantly, we observed striking differences between teams. When contrasting the adaptation teams went through during consecutive crises, teams with high past adaptive performance respond to crises through more help behaviors and affective states such as care and camaraderie. The subsequent cycles of help and affective states in those teams reinforce and constitute what we coin ‘affective adaptation’, which shapes future team affect and relations. Teams who built positive affective buffers are able to turn negative member emotions into positive team sentiment though emotion conversion, which subsequently reinforces help behaviors. We now unpack and explain our model in more detail.

Figure 3.6 An affect-based, multilevel model of team adaptation



Given our study's affect-based view, we draw on theories of emotion regulation to guide the temporal sensemaking of our results and emergent concepts. Interpersonal emotion regulation is defined as regulating and altering a person's emotional state (Niven, 2017; Zaki & Williams, 2013). At the team level, emotion regulation originates from members' emotions during events over which they do not have control (Smith & Mackie, 2015). And when members' emotional experiences are relevant to the team (Goldenberg, Halperin, van Zomeren, & Gross, 2016), the events give rise to team-level emotions (Druskat & Wolff, 2001; Zaki, 2020) as affective responses to the team's collective social experience. According to extant theory (Gross, 1998; Gross & John, 2003), interpersonal emotion regulation can be simplified as involving four basic steps: an emotion-provoking *situation* catches a person's *attention* (i.e., it emotionally affects them) which then results in them *appraising* what happened (for instance thinking about the situation as a negative event) and taking action in *response*. We use these four steps—with our own addition of a fifth (*emergence*)—to temporally steer our conceptual model in the team context.[5] As depicted, our model explains that a crisis ("situation")

[5] Emotional contagion theory explains that an individual's emotions can transfer to others in the team through mostly unconscious interpersonal contact, which influences the

triggers emotions in individual members, typically manifested as distress, upset, and anxiety ("attention"). These emotions are expressed by the affected individuals who interpret the crisis overall as a (more or less) negative event ("appraisal"). Following team-level emotion conversin, members' views and attitudes come across in team exchanges (e.g., text messages) as having a (more or less) negative sentiment, and the situation being collectively experienced as (more or less) negative.

A crisis causes a distressed team member to seek aid from teammates, but the team's past affective experiences either enable or impede relational helping behaviors within the team (with help corresponding to the "response" phase). Ultimately, the strong or weak help-seeking and help-giving cycles lead to the emergence of team affective states (namely care and camaraderie) that will also strengthen or weaken through time. To reflect emergent affective states following help responses, we added the fifth stage of "emergence". Our model illustrates that in teams with highly crystalized and intense[6] (Barsade & O'Neill, 2014) help, care and camaraderie, these reinforce through time and constitute what we called

behaviors of others and ensuing team dynamics (Barsade, 2002; Pugh, 2001). Given our goal of unearthing the affective dynamics of team adaptation, it is not the purpose nor interest of this study to deep-dive into emotion regulation and contagion theories, nor explore the detailed interactions between emotion regulators and observers/perceivers (e.g., timing, facial expressions, authentic/inauthentic, prosocial/self-serving, up/down regulation and so forth) (Côté, Van Kleef, & Sy, 2013).

positive affective adaptation. In contrast, low-performing teams appeared significantly deficient in the elements of this model, experiencing low crystallization and intensity in help, care and camaraderie. We provide examples from interviews to illustrate these high versus low levels of help and affective states, in Table 3.8.

Table 3.8 Level of Help, Care and Camaraderie in Teams

| Emergent Team Mechanism | Teams with High Past Adaptive Performance (High Crystallization & Intensity[6]) | Teams with Low Past Adaptive Performance (Low Crystallization & Intensity[6]) |
|---|---|---|
| Help | They always ask me if I am adjusting well in the environment and also here in our unit. They always ask me if I can adapt, something like that. And my wellbeing. So, they're supporting me. They are giving me help if I'm not feeling well." (Interview Nurse, 4-HI-1-2)<br><br>"I didn't really find it difficult. It's easy for me to adapt here. And the people here are very helpful because I am just new in this team. They are really helpful, and they always see to it that I am comfortable, and that I will not struggle alone. They will help me in every way." (Interview Nurse, 3-HI-2-4) | "I am a very bossy person, so I force someone to help. This is how I do it. I was like "this is my situation, you have to step up and help" … Then they feel pity. (Interview Nurse, 3-LO-2-2)<br><br>"It [COVID] has not affected the patient care at that minute for her, as a task, but it affected how much she's helping the others. Honestly, yeah… If something, for example, needs more thinking or needs more support, before they at least tried to think, tried to sort it out... But now, no. They just want to go direct to the leader to deal with that. (Interview Nurse Leader, 3-LO-1) |

[6] We used the dimensions of "intensity" and "crystallization" (Barsade & O'Neill, 2014) to qualitatively gauge the high or low quality of our affective states. Crystallization represents teammates' consensus in enacting the culture (a measure of pervasiveness) whereas intensity characterizes the displayed level of compassion and affection between teammates. These dimensions are found in the feelings people share with each other or shared thoughts about such feelings (Barsade & O'Neill, 2014)—and so they are well adapted to our care and camaraderie states.

| | | |
|---|---|---|
| Care | "Supportive and caring. They're caring. Because they always ask you, how are you? Even they saw you yesterday. But I think they're just like that. They're concerned for each other." (Interview Nurse, 4-HI-1-2)<br><br>"I think we are very good team because the moment we will notice that one nurse is like, "Okay, she's not in the mood. Something happened with her." You are going to feel it in the team, you are going to feel like something is wrong with her so it will affect all of us. We are going to go, "What happened? Why you are not in the mood today? Are you happy? Something happened?" It's like because we feel each other." (Interview Nurse, 3-HI-2-2) | "I didn't have anyone to check on me, which was very hard. The isolation is not fun. I hated that no one checked on me. It hit me so hard, on all levels. I was like... I work with those people for nine hours a day, I eat with them, I laugh with them, we giggle together. Once I go home, no one cares enough to ask about you. I had only received, midway through my quarantine, one call from a colleague… No one else checked on me." (Interview Nurse, 3-LO-2-2)<br><br>"I do have experience once when I spoke up, and if… I said some things to you, you should protect me… but what happened you told to someone else, so the transparency and confidentiality is not there anymore… that's why I am afraid sometimes if I say something it may come out again… (Interview Nurse, 3-LO-1-1) |
| Camaraderie | "I've seen them they are a strong group, and they are really willing to move forward irrespective of that is happening around their lives… you can still tell they are very committed… right now we are amazingly short staffed but you see them sometimes not going for lunch or extending work without break, and they are so committed, you don't see them walking around with long faces… what I mean is that I am not worried, they are quite strong and willing to do their job…" (Interview Nurse Leader, 1-HI-1)<br><br>"We are here as a team, so I felt like we are all connected. So if one nurse is assigned to do something and she didn't do it, she will not be blamed. No, someone will go to do it. So this is what I like about this team, it's not like you are assigned to this, you have to do it otherwise it's like it will not be done." (Interview Nurse, 3-HI-2-2) | "I think definitely yes… There is conflict, yes. With the COVID situation generally, the strong relationships have become less, generally. Why? Because now the stress factor has become more individual… The teamwork, they support it. But they don't support it like the regular days." (Interview Nurse Leader, 3-LO-1)<br><br>"I don't think that there's commitment within all the staff. I think they are committed to some on a personal level. (Interview Nurse Leader, 4-LO-1) |

To complete the model's sequence through time, we note that teams high in affective adaptation are capable of positive emotion conversion (shown by the return loop). Meaning, being able to convert members' negative emotions into positive sentiment expressed in team exchanges—ultimately leading to a less negative feeling about the crisis at hand. Indeed, such collective reappraisal is an attempt to change a member's emotional experience and emotional response about a situation (Gross, 2013). What sets high-performing teams apart is their ability for positive emotion conversion, meaning turning individuals' negative emotions into—and expressing—overall positive sentiment at the team level.

Positive (negative) team affect fosters (hurts) help-seeking and -giving subsequently. We follow the definition of team help as an "interpersonal, cooperative and affiliative behavior directed toward members of one's team" (Liang, Shih, & Chiang, 2015, p. 49). Specifically, and within the team context, we further view help-seeking as "activities that occur when an individual who either recognizes or is assigned a problematic situation actively seeks the assistance of others" and help-giving as the "willing devotion of time and attention to assist with the work of others" (Grodal et al., 2015, p. 141; Hargadon & Bechky, 2006, p. 489). In our model, help-seeking is initiated by members who look for

comforting aid from colleagues because of emotional distress, and so we named it compassion-based help-seeking.

We propose that repeated help-seeking behaviors by members give rise to the emergence of the affective state of team care. Care fosters a supportive, considerate, and psychologically safe team environment that favors the help-seeker reaching out for support. Care is evidenced through teams nurturing three types of setting. First, a psychologically safe team climate permits questioning, seeking advice, taking risks, and making mistakes without the threat of reprisal or mockery. Second, in emotionally supportive contexts where help-seeking is encouraged, teammates are reassured when acknowledging and celebrating are commonplace. Third, a team environment that nurtures harmony among members is one where encouragement, positivity and joy are widespread. This positive link between individual help-seeking and team care sets the foundation for a positive collective response.

At the team level, the help-seeker's compassion-based cry for help is met by a collective, comfort-based help-giving response as team members make sense of matters. Members of high-performing teams help teammates more generously. Indeed, help-giving by colleagues is gratuitous and compassionate toward the distressed teammate. This is realized during

and outside of team meetings through intense communication and a respectful exchange of views. Once a common course of action has been determined, the affected individual receives the help sought that restores a sense of stability, and this tames emotionality within the team (and the initially affected individual). As our findings suggest, however, the extent to which helping occurs depends on the affective state of camaraderie that itself emerges in teams after successive rounds of help-giving. First, here camaraderie denotes a deep sense of commitment, loyalty and shared responsibility toward team goals, outcomes, and members. Second, camaraderie is exemplified by a familial affect represented by closeness, socialization, and a sense of family. Teams that exhibit high help-seeking and -giving rank high in care and camaraderie—and the converse is true.

We posit that repeated help behaviors and affective states reinforce through time to form affective adaptation cycles. This is implied by our model's circular loop, depicting that help behaviors give rise to team care and camaraderie, and that these further amplify future help. The increased care by members eases future help-seeking. Likewise, enhanced camaraderie contributes to subsequent help-giving. For instance, Edmondson (1999) argues that psychological safety creates an environment where team members boost each other's confidence and find it easy to ask

others for help. Similarly, in addition to being associated with providing help, emotional support and harmony entail being recognized by teammates (emotional support) and creating a joyful environment that facilitates help seeking (positive harmony). Thus, the experience of positive affective adaptation is represented by successful help interactions and amplified affective states between teammates. Conversely, the lack of intrateam help and insufficient building of relational reserves constitutes negative affective adaptation.

These results are vital to team adaptation theory in the context of crises: supportive behaviors, and a caring and cohesive familial team state, are relational and affective dynamics that require positivity to flourish. Indeed, positive affective adaptation cycles aid teams in enhancing their emotional experiences. A team blessed with supportive and caring members, and having successfully navigated a previous crisis together as a cohesive unit, further enables positive emotion conversion when the next event hits. This means that, notwithstanding crises being felt as negative events by individuals, such emotions are converted to positive team affect through encouragement and positive displays of familial affection for instance. Consequently, members express more positive sentiment in their—verbal and written—team exchanges which cause fading of the

negative emotions, and give way to a more positive collective team experience. Conversely, low-performing teams which experience negative affective adaptation are more likely to undergo negative emotion conversion in future events, because team members may likely still remember the lack of help, emotional support or cohesion they experienced the last time round. Clearly, a team's past affective experiences shape their future ones: those who accumulated positive help and affective cycles build coping and relational buffers that help them convert negativity into positivity, and eventually weather future crises successfully.

Building the temporal theoretical model from our qualitative analyses proved challenging and was iterated on multiple times. In addition to regularly conducting checks of our interpretations and analyses with nurses throughout the study, upon completion we arranged a presentation of our study's findings. This was to a group of 30 nurses and managers in the hospital (about half of whom did not participate in the study). Their feedback was overwhelmingly positive, and they recognized our model's accuracy in capturing typical emotions, struggles, and relational coping under crises. Notwithstanding the limited value of such member checks with regards to study validity and credibility (Cho & Trent, 2006;

Kornbluh, 2015), they still lend confidence that our interpretations fairly matched the realities of nurses' adaptive experiences.

## DISCUSSION

Our field study has heeded recent calls to reassess the role of emotions and affect in team adaptation, especially in the context of crises (Hällgren et al., 2018; Netz et al., 2019; Rothman & Melwani, 2017). We trailed nine nursing teams over 24 months through diverse events: floods, organizational upheavals, and the COVID-19 pandemic. Our findings change the way we see and understand team adaptation, revealing teams as emotion-laden collectives whose affective states (care, camaraderie) comprise a vital adaptation mechanism. We here posit a multilevel theory of how teams' emotions plus ensuing help cycles and affective states differentially emerge in crises.

### Theoretical Implications

**Team adaptation.** Our first contribution is toward research on team adaptation: unveiling how affective states emerge and shape a team's response to crises. To date, research on team adaptation has focused mostly on structural and cognitive mechanisms (e.g., Baard et al., 2014; Christian et al., 2017; Maynard et al., 2015; Rosen et al., 2011). Studies of adaptation

have traditionally viewed team adaptation from a structural (e.g., Giddens, 1979; Pennings, 1975) or cognitive (e.g., Hinsz, Tindale, & Vollrath, 1997; Tallman, Leik, Gray, & Stafford, 1993; Weick, Sutcliffe, & Obstfeld, 2005) perspective. For instance, studies of trauma teams (Klein et al., 2006), SWAT and film crews (Bechky & Okhuysen, 2011), disaster relief groups (Ann Majchrzak et al., 2007) or command-and-control simulations (Ellis, 2006) have all noted the importance of adaptation in team structure, mental models or transactive memory in response to disruptive events.

Despite studies recognizing such events as intensely emotional for teams, none to our knowledge have considered emotion-affect as an adaptation mechanism. Organizational scholars have stressed that teams' affective experiences often suffer neglect since emotions are poorly understood (DeCelles & Anteby, 2020; Hällgren et al., 2018; O'Neill & Rothbard, 2017). This has persisted as a crucial limitation in our understanding of team adaptation as crises unquestionably invoke strong emotions (Hällgren et al., 2018; Kaplan et al., 2013). Indeed, when a crisis catches people by surprise, it causes confusion, disorientation, stress, and anxiety (Maitlis & Sonenshein, 2010). And we know that one member's emotions can influence the judgment and behavior of colleagues, including subsequent team dynamics (Barsade, 2002; Barsade & Knight, 2015;

George, 1990; Menges & Kilduff, 2015; Weiss & Cropanzano, 1996). However, individual and team-level affective mechanisms that underpin team adaptation have remained largely unexplored.

To illustrate how our affective lens complements the aforementioned cognitive and behavioral processes of team adaptation, consider a seminal model of team adaptation (Burke et al., 2006). The authors propose four cognitive steps: situation assessment, plan formulation, plan execution, and team learning. Importantly, the theory does not contemplate felt emotions or emergent affective states—the core contribution of our study. We should note that crises often do not leave sufficient room for a thorough assessment or formulation, and trigger an array of affective responses at individual and team levels as our study shows. Although psychological safety is included in the phase of plan formulation, it is not as an affective dimension but "as an enabler of individual team members speaking up and offering contributions during plan development" (Burke et al., 2006, p. 1194). In another seminal work, Bechy and Okhuysen (2011) provide a theory of adaptation in the face of surprises where teams make do by creating shared knowledge and expectations, and adjust roles and routines. Yet, Bechy and Okhuysen (2011) largely overlook the affective dynamics of team adaptation.

Consider the fact that all of our sampled nursing teams had to keep on caring for patients through crises, followed similar team routines: they conduct daily huddles for assessment and formulation, share same leaders and communication means for execution, and engage in performance dialogues and post-mortems for team learning. Despite these overlaps, the adaptation process of the teams in our sample differed. Our affective lens toward team adaptation provides an explanation for this difference.

Our insights on affective dynamics of team adaptation under crises make an important parallel contribution by directly evidencing the relational and social mechanisms that embody team affective adaptation, specifically, emergent affective states. First, team care is characterized by an emotionally supportive, psychologically safe, harmonious team environment. Care enables members affected by crises to request support confidently and quickly from teammates. This is because high-care teams experience psychological safety and a sense of positive harmony. Several group studies of psychological safety imply this directly and indirectly leads to information-sharing, quality decisions, and performance Edmondson, 1999; Edmondson & Lei, 2014). As for positivity and joviality, a study of firefighters found that these lead to shorter response times (O'Neill & Rothbard, 2017).

Next, team camaraderie—characterized by members experiencing deep commitment and familial affect—facilitates members gathering quickly after a crisis, sharing information more willingly, and collectively engaging in response formulation. For example, promotion of helping others—which we find leads to camaraderie—enables more proactive behavior in uncertain and ambiguous settings (Grant & Rothbard, 2013). Based on our findings, we propose that a shared sense of duty and team commitment motivate and inspire flexible options and solutions to issues. So, care and camaraderie surface as major affective states that underpin team adaptation to crises. Thereby, our paper attempts to shift theoretical consensus of team adaptation by directly airing the emergence—and criticality—of affective coping mechanisms and their interplay.

Next, we must also highlight that our emergent affective-based adaptation theory contributes to research streams adjacent to team adaptation. First research on relational coordination investigates how teams integrate tasks through a reinforcing interaction between communication and relationships. Relational coordination, therefore, speaks to the quality of member relations (Carmeli & Gittell, 2009; Gittell et al., 2006). Such relational coordination is associated with member wellbeing and engagement for instance (Bolton et al., 2021; Gittell et al., 2020), and

positive intrateam relationships (i.e., relational reserves) during crises are known to predict performance (Gittell et al., 2006). Yet, during crises and the chaos that ensues, as seen team tasks can become fuzzy and ill-defined. In fact, team tasks can be rendered obsolete and are overtaken by the impending urgent need to respond to the developing adverse situation. We propose a fresh theoretical perspective: the positive coevolution between emotion conversion, help and affective states, is the adaptation mechanism that aids to reestablish relationships.

Finally, while team adaptation is about adjusting to emerging problems by changing course (Burke et al., 2006; Manser et al., 2008; Maynard et al., 2015), research on team resilience can also favor persistence through staying the course (Stoverink et al., 2020). Many recent comprehensive reviews of team resilience have conceptualized it as a second-order emergent state or outcome that is the result of team-level factors (e.g., composition, processes, emotions) and that enables the team to achieve performance under adversity (Bowers et al., 2017; Hartmann et al., 2021, 2020; Hartwig et al., 2020; Stoverink et al., 2020). Yet, this literature has often overlooked the underlying finer processes that lead to resilience. Our theory of affective adaptation—namely emotion conversion, help, care and camaraderie—poses as a viable possible antecedent of team resilience

and thus helps extend existing theory. This is an important contribution to the conceptual development of team resilience research, which has been described to be its infancy (Bowers et al., 2017; Hartmann et al., 2020; Morgan, Fletcher, & Sarkar, 2017). We also respond to the calls in team resilience studies for a process-based and multilevel conceptualization where individuals and teams influence one another over time (Hartmann et al. 2020).

**Emotions and emergent affective states.** Our second contribution expands the literature on emotion-based emergence and affective states. Prior research has suggested that surprise and uncertainty lead to emotions of fear and worry, cueing a person's emotional ties with colleagues (Liu & Perrewé, 2005). Scholars have also uncovered that shared emotions can create bonds that facilitate future interactions (Hargadon & Bechky, 2006; Metiu & Rothbard, 2013). Our findings not only provide detailed evidence of such emotional effects through successive events and at the team-level, but they also reveal how types of team affect emerge during group interactions toward crises.

Evidently, when crises occur, teams experience an array of emotions. Prior research has implied that when a crisis requires urgent response, teams often engage in negative emotional dynamics that

ultimately drive the group apart and hinder performance (Elfenbein, 2007; Liu & Maitlis, 2014). For instance, a study of choirs has shown negative emotions triggered by a stimulus to drive fragmentation of team performance, with positive emotions favoring a course correction through an experience of team wholeness (Stephens, 2021). We echo that, under pressure, teams engage in either negative or positive dynamics. New, in our theory, is evidence of the temporal interplay of individual member emotions, team emotional experience and team-level affective states. We unearth a process of emotion conversion, during which individuals' emotions get converted, expressed and interpreted at the team-level. In contrast to contagion, negative crisis-induced emotions in a member can be converted into positive sentiment expressed in team relational exchanges—creating a positive outlook in relation to teammates and the crisis, boosting morale, and setting the team up for subsequent adaptation.

And unlike choirs that need to adjust to perform during a one-time concert (Stephens, 2021), teams' affective attitudes through successive crises can *accumulate*. Although negative emotions at the *individual* level are what move a distressed member to seek teammate support, it is rather the *team's* heightened positive emotional experience through emotion conversion that demarcate its ensuing dynamics that lead to the emergence

and buildup of affective states. Here is how this process transpires: emergent group phenomena have been known to arise from member behavior as conceptualized team-level behavioral patterns and states (Humphrey & Aime, 2014; Waller et al., 2016). Consistent with this lens used in our data analysis, we explain: an emotion-laden crisis triggers comfort based help-seeking in individual members (a behavioral pattern), which successively leads to the buildup of team care (an affective state). In turn, this care facilitates help-seeking behavior as depicted by feedback loops in our model. Likewise, subsequent team compassion based help-giving (a behavioral pattern) instigates the emergence of team camaraderie (an affective state) that, in turn, encourages more future helping. However, how successful and lasting help exchanges, care and camaraderie are, depends on whether the team was able to capitalize on its accumulated affective states to convert negative individuals' emotions into positive team-level sentiment and experience.

We further note that our study evidences care and camaraderie as (relational and affective) emergent states and not processes. Emergent states are dynamic properties of the team, that are context-dependent and vary according to processes (Marks et al., 2001; Waller et al., 2016). Care is found to be a team experiencing (states of) commitment and familial

affect—which increased or waned over successive crises. Similarly, camaraderie is a team experiencing (states of) psychological safety, emotional support and positive harmony.

Our theory from the study of successive crises illustrates the reinforcing patterns between help behavior and emergent affective states through time. This prior positive coevolution is what allows teams with high care and camaraderie to adapt and respond to crises—such as facility flooding or a pandemic. In fact, not only can care and camaraderie survive, they can even thrive in high-performing teams despite hardships. In contrast, average or feeble affective states of low-performing teams weaken further during crises. The positive help cycles and affective states that highly adaptable teams experience may help explain why their members feel more positive sentiments than do their counterparts amid an emotionally draining crisis (Elfenbein, 2007). Although we began the study by viewing team affective states as enduring (Jasper, 1998; Thoits, 1989), our results help conceptualize these states as dynamic over team lifetime: affective states gradually accumulate or deplete over significant successive crises (such as our study's floods, organizational upheavals, and the COVID-19 pandemic) but transfer from crisis to crisis. This temporal transferability of affective states (care, camaraderie) is what allows teams'

collective emotional experiences to build, giving rise to reliable conversion of individuals' negative emotions to be converted to positive ones.

Our study extends prior work citing the relation between positive affect and group social processes (e.g., Barsade, Ward, Jean, & Sonnenfeld, 2000). We here elucidate the help and affective mechanisms that convert member emotions into team-level states. The temporal interactions and feedback we observed between affective states and help behavior, and the interconnected emotion regulation between individual and team levels, are original and at a level of granularity that has been undocumented, to our knowledge, thus extending previous research in care and compassion (Dutton, Workman, & Hardin, 2014; George, 1990; Isen & Levin, 1972; Kahn, 1990; Lilius et al., 2008; Rynes, Bartunek, Dutton, & Margolis, 2012; Toegel et al., 2007, 2013; Turner, 2009). Beyond such interactions, the coevolution we see between care and camaraderie further develops and extends compassion literature (Dutton et al., 2014; Kanov et al., 2004; Madden, Duchon, Madden, & Plowman, 2012).

**Help.** Our third contribution is to the literature on help by unearthing its multilevel and affect-laden development in teams. In work environments characterized by close teamwork, helping behavior is widespread (Grant & Patil, 2012). And we know that team members seek help within their teams

(Cleavenger & Munyon, 2015; Kozlowski & Ilgen, 2006) since helping is a social and interdependent process (Grant & Patil, 2012; Grodal et al., 2015). However, help can also be costly to the seeker who likely experiences feelings of incompetence or low self-esteem, obligation to reciprocate or being in debt to the giver (Hofmann et al., 2009; Lundqvist, Fogelberg Eriksson, & Ekberg, 2018). Although we do not research help-seekers' perceptions, our findings allow us to theorize as to the differences we observed in help behaviors between high- and low-performing teams. First, we spotlight help behavior as intimately linked to emotions: comfort based help-seeking is an emotionally induced action of a distressed individual who seeks comfort in teammates, and that precedes team-level compassionate help-giving. This presents a departure from most studies of help and social support which focus on task-related help. Second, we saw how components of team affective states (e.g., psychological safety, familial affect) reinforce helping behaviors that allowed them to emerge in the first place. We posit that over time, this coevolution enables distressed help-seekers to perceive their teammates—and their offers of support—as non-threatening to their self-esteem. This is because affective relationships between teammates facilitate help encounters being expected, and perceived, as positive and supportive interpersonal events.

Our research also supports recent works that show help as a process not confined to dyads (Grodal et al., 2015) and occurs within multiple member interactions (Fisher, Pillemer, & Amabile, 2018). Moreover, team-level outcomes of helping remain elusive (Lim, Tai, Bamberger, & Morrison, 2020), and our study extends theory by elucidating how help unfolds, preceded by emotions and giving way to emergent affective states. We thus extend prior work that has cast dealing with group problems as a largely cognitive process (e.g., Hargadon & Bechky, 2006), scantily hinting at viable joint emotional experiences between help-seekers and -givers (e.g., Grodal et al., 2015). Rather, we find help is very much an emotional adaptation mechanism in teams, especially during crises. Finally, we find that repeated cycles of individual help-seeking followed by collective help-giving lead to the emergence of team affective states of team care and camaraderie. In turn, such states influence future help behavior in the team—directly, and indirectly through emotion conversion—establishing and reinforcing norms and culture around help.

**Managerial Implications**

These are highly turbulent times for teams. Response failure in upheavals can be costly (Teece, Peteraf, & Leih, 2016). As the COVID-19 pandemic shows, crises create a very stressful, emotionally draining and negative time

for staff. In our study, care and camaraderie emerged as affective states that underpin team adaptation. They develop through recurring behavioral and relational help patterns displayed by team leaders and members, yielding practical implications for teams and organizations.

First, help-seeking by distressed individual members leads to team care. This means that the team culture must consistently encourage struggling members to ask teammates for help and seek their comfort. This is done by nurturing a safe space through trust, openness, and frankness where mistakes are viewed as a collective learning opportunity. Another catalyst to team care is the encouragement of members to proactively support one another, as well as the recognition and celebration of positive gestures and achievements.

Second, help-giving by teammates breeds camaraderie. Most will more likely help a struggling colleague if a strong sense of team commitment, loyalty and responsibility are continuously emphasized and observed. Showing interest in teammates' work and personal lives, and nurturing a sense of family, all foster helping and camaraderie. We echo prior suggestions that help and affect are linked (Grodal et al., 2015; Humphrey & Aime, 2014; Waller et al., 2016). Third, care and camaraderie can be viewed as affective reservoirs. The fuller they are with positive team

affect, the more likely teams will be able to cope and respond to future crises. The mutually reinforcing help, care and camaraderie cycles—which we call affective adaptation—act as a buffers for future crises.

Managers should regularly take stock of their teams' affective states reflected in helping behavior and emotions. When affective reserves wane, teams could benefit from managerial interventions such as social events or team-building activities. In this context, team mindfulness training may play an important role because it helps safeguard against relationship conflict and subversion of teammates (Yu & Zellmer-Bruhn, 2018). By cultivating care and camaraderie, and by paying attention to teammates' shifting emotions and needs, teams—and managers—can increase their chances of triumph over formidable crises.

**Limitations and Future Research**

Our theory-building approach required the collection of rich, descriptive data in the field. Our hospital setting was ideal to study team adaptation where nurses experience daily surprises (Alonso et al., 2006), and our teams faced consecutive crises. Notably, during the pandemic, nurses in our sample appeared to vary in positive affect, but were indistinct as to negative affect. This is potentially limiting since emotions and affect can exert various outcomes. For instance, joyful emotions improve firefighters'

response times, but also increase accident rates (O'Neill & Rothbard, 2017). Moreover, the theory-building approach used in this paper comes with some drawbacks. For example, experimental methods lend support for causal theory-testing in a controlled environment, but may lack generalizability. Qualitative methods provide rich insight and offer an excellent opportunity for theory-building, but might be more prone to researcher involvement than experimental methods. We explained how we addressed limitations of sampling on the outcome of interest, for instance through careful case selection, extensive evidence grounded in interviews, and triangulation of data sources which included unintrusive WhatsApp exchanges. Clearly, generalizability of our findings is limited. We welcome more research with additional samples that represent both positive and negative affect (and the interplay between them) in the context of other sectors and geographies.

In addition, a diverse set of events rocked our sample teams during the study: a facility flooding, internal business restructuring, and the coronavirus pandemic. Still, we know that helping is context-dependent (Grodal et al., 2015), as are emergent states (Marks et al., 2001). Since crises vary in terms of effect, frequency, source, and locus (Christian et al., 2017), it is conceivable that different events at varied intervals may have

yielded different outcomes. For this reason, we invite further work to detect such variances.

## CHAPTER 3 - REFERENCES


Abrantes, A. C. M., Passos, A. M., Cunha, M. P. e., & Santos, C. M. (2018). Bringing team improvisation to team adaptation: The combined role of shared temporal cognitions and team learning behaviors fostering team performance. *Journal of Business Research*, *84*, 59–71.

Alonso, A., Baker, D. P., Holtzman, A., Day, R., King, H., Toomey, L., & Salas, E. (2006). Reducing medical error in the Military Health System: How can team training help? *Human Resource Management Review*, *16*, 396–415.

Baard, S. K., Rench, T. A., & Kozlowski, S. W. J. (2014). Performance Adaptation: A Theoretical Integration and Review. *Journal of Management*, *40*, 48–99.

Baloh, J., Zhu, X., & Ward, M. M. (2018). Implementing team huddles in small rural hospitals: How does the Kotter model of change apply? *Journal of Nursing Management*, *26*, 571–578.

Barsade, S. G. (2002). The Ripple Effect: Emotional Contagion and its Influence on Group Behavior. *Administrative Science Quarterly*, *47*, 644–675.

Barsade, Sigal G., & Knight, A. P. (2015). Group affect. *Annual Review of Organizational Psychology and Organizational Behavior*, *2*, 21–46.

Barsade, Sigal G., & O'Neill, O. A. (2014). What's Love Got to Do with It? A Longitudinal Study of the Culture of Companionate Love and Employee and Client Outcomes in a Long-term Care Setting. *Administrative Science Quarterly*, *59*, 551–598.

Barsade, Sigal G., Ward, A. J., Jean, D. F. T., & Sonnenfeld, J. A. (2000). To Your Heart's Content: A Model of Affective Diversity in Top Management Teams. *Administrative Science Quarterly*, *45*, 802–836.

Barton, M. A., & Sutcliffe, K. M. (2009). Overcoming dysfunctional momentum: Organizational safety as a social achievement. *Human Relations, 62*, 1327–1356.

Bechky, B. A., & Okhuysen, G. A. (2011). Expecting the unexpected? How SWAT officers and film crews handle surprises. *The Academy of Management Journal, 54*, 239–261.

Bedwell, W. L. (2019). Adaptive Team Performance: The Influence of Membership Fluidity on Shared Team Cognition. *Frontiers in Psychology, 10*. https://doi.org/10.3389/fpsyg.2019.02266

Benner, P. (1994). *Interpretive Phenomenology: Embodiment, Caring, and Ethics in Health and Illness*. SAGE Publications, Inc.

Bettiza, S. (2020). Italy's medical workers: "We became heroes but they've already forgotten us." *BBC News*. Retrieved from https://www.bbc.com/news/world-europe-52784120

Birks, M., Chapman, Y., & Francis, K. (2008). Memoing in qualitative research: Probing data and processes. *Journal of Research in Nursing, 13*, 68–75.

Bolton, R., Logan, C., & Gittell, J. H. (2021). Revisiting Relational Coordination: A Systematic Review. *The Journal of Applied Behavioral Science, 57*, 290–322.

Bowers, C., Kreutzer, C., Cannon-Bowers, J., & Lamb, J. (2017). Team Resilience as a Second-Order Emergent State: A Theoretical Model and Research Directions. *Frontiers in Psychology, 8*. https://doi.org/10.3389/fpsyg.2017.01360

Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding team adaptation: A conceptual analysis and model. *Journal of Applied Psychology, 91*, 1189–1207.

Burtscher, M. J., Manser, T., Kolbe, M., Grote, G., Grande, B., Spahn, D. R., & Wacker, J. (2011). Adaptation in anaesthesia team coordination in

response to a simulated critical event and its relationship to clinical performance. *British Journal of Anaesthesia*, *106*, 801–806.

Cangelosi, V. E., & Dill, W. R. (1965). Organizational Learning: Observations Toward a Theory. *Administrative Science Quarterly*, *10*, 175–203. JSTOR.

Carmeli, A., & Gittell, J. H. (2009). High-quality relationships, psychological safety, and learning from failures in work organizations. *Journal of Organizational Behavior*, *30*, 709–729.

Catino, M., & Patriotta, G. (2013). Learning from Errors: Cognition, Emotions and Safety Culture in the Italian Air Force. *Organization Studies*, *34*, 437–467.

Chamberlain, D., Hegney, D., Harvey, C., Knight, B., Garrahy, A., & Tsai, L. P.-S. (2019). The factors influencing the effective early career and rapid transition to a nursing specialty in differing contexts of practice: A modified Delphi consensus study. *BMJ Open*, *9*, e028541.

Chapman, M. T., Lines, R. L. J., Crane, M., Ducker, K. J., Ntoumanis, N., Peeling, P., … Gucciardi, D. F. (2020). Team resilience: A scoping review of conceptual and empirical work. *Work & Stress*, *34*, 57–81.

Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research*, *6*, 319–340.

Choi, K., & Cho, B. (2011). Competing hypotheses analyses of the associations between group task conflict and group relationship conflict. *Journal of Organizational Behavior*, *32*, 1106–1126.

Christian, J. S., Christian, M. S., Pearsall, M. J., & Long, E. C. (2017). Team adaptation in context: An integrated conceptual model and meta-analytic review. *Organizational Behavior and Human Decision Processes*, *140*, 62–89.

Cleavenger, D. J., & Munyon, T. P. (2015). Overcoming the Help-Seeker's Dilemma: How Computer-Mediated Systems Encourage Employee Help-Seeking Initiation. *Organization Studies*, *36*, 221–240.

Corbin, J., & Strauss, A. (2008). Basics of qualitative research: Techniques and procedures for developing grounded theory, 3rd ed. In *Basics of qualitative research: Techniques and procedures for developing grounded theory, 3rd ed.* (pp. xv, 379). Thousand Oaks, CA, US: Sage Publications, Inc.

Côté, S., Van Kleef, G. A., & Sy, T. (2013). The social effects of emotion regulation in organizations. In *Organization and Management. Emotional labor in the 21st century: Diverse perspectives on emotion regulation at work.* (pp. 79–100). New York, NY, US: Routledge/Taylor & Francis Group.

Coyne, E., & Needham, J. (2012). Undergraduate nursing students' placement in speciality clinical areas: Understanding the concerns of the student and registered nurse. *Contemporary Nurse*, *42*, 97–104.

Coyne, I. T. (1997). Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? *Journal of Advanced Nursing*, *26*, 623–630.

Cunha, M. P. e., Clegg, S. R., & Kamoche, K. (2006). Surprises in Management and Organization: Concept, Sources and A Typology*. *British Journal of Management*, *17*, 317–329.

DeCelles, K. A., & Anteby, M. (2020). Compassion in the Clink: When and How Human Services Workers Overcome Barriers to Care. *Organization Science*. https://doi.org/10.1287/orsc.2020.1358

Denzin, N. K., & Lincoln, Y. S. (2018). *The Sage handbook of qualitative research* (Fifth ed., pp. xx, 968 p. : ill.; 27 cm.). Los Angeles: Sage.

Druskat, V. U., & Wolff, S. B. (2001). Building the emotional intelligence of groups. *Harvard Business Review*, *79*, 80–90, 164.

Dutton, J. E., Workman, K. M., & Hardin, A. E. (2014). Compassion at work. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*, 277–304.

Dutton, J. E., Worline, M. C., Frost, P. J., & Lilius, J. (2006). Explaining Compassion Organizing. *Administrative Science Quarterly*, *51*, 59–96.

Edmondson, A. (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly*, *44*, 350–383.

Edmondson, A. C., & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*, 23–43.

Edmondson, A., & Mcmanus, S. E. (2007). Methodological fit in management field research. *The Academy of Management Review*, *32*, 1155–1179.

Eisenhardt, K. M. (1989). Making Fast Strategic Decisions in High-Velocity Environments. *The Academy of Management Journal*, *32*, 543–576.

Eisenhardt, K. M. (2021). What is the Eisenhardt Method, really? *Strategic Organization*, *19*, 147–160.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building from Cases: Opportunities and Challenges. *The Academy of Management Journal*, *50*, 25–32.

Eisenhardt, K. M., & Tabrizi, B. N. (1995). Accelerating Adaptive Processes: Product Innovation in the Global Computer Industry. *Administrative Science Quarterly*, *40*, 84–110.

Elfenbein, H. A. (2007). Emotion in organizations: A review and theoretical integration. *Academy of Management Annals*, *1*, 315–386.

Ellis, A. P. J. (2006). System Breakdown: The Role of Mental Models and Transactive Memory in the Relationship between Acute Stress and Team Performance. *The Academy of Management Journal*, *49*, 576–589. JSTOR.

Fisher, C. M., Pillemer, J., & Amabile, T. M. (2018). Deep Help in Complex Project Work: Guiding and Path-Clearing Across Difficult Terrain. *Academy of Management Journal*, *61*, 1524.

Forgues, B. (2012). Sampling on the dependent variable is not always that bad: Quantitative case-control designs for strategic organization research. *Strategic Organization*, *10*, 269–275.

Gamero, N., González-Romá, V., & Peiró, J. M. (2008). The influence of intra-team conflict on work teams' affective climate: A longitudinal study. *Journal of Occupational and Organizational Psychology*, *81*, 47–69.

George, J. M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology*, *75*, 107–116.

Gibbert, M., & Ruigrok, W. (2010). The "What" and "How" of Case Study Rigor: Three Strategies Based on Published Work. *Organizational Research Methods*, *13*, 710–737.

Giddens, A. (1979). *Central Problems in Social Theory*. Berkeley, CA: University of California Press.

Gill, M. J. (2014). The Possibilities of Phenomenology for Organizational Research. *Organizational Research Methods*, *17*, 118–137.

Gioia A, D., Corley G, K., & Hamilton L, A. (2012). Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods*, *16*, 15–31.

Gittell, J. H., Cameron, K., Lim, S., & Rivas, V. (2006). Relationships, Layoffs, and Organizational Resilience: Airline Industry Responses to September 11. *The Journal of Applied Behavioral Science*, *42*, 300–329.

Gittell, J. H., Logan, C., Cronenwett, J., Foster, T. C., Freeman, R., Godfrey, M., & Vidal, D. C. (2020). Impact of relational coordination on staff and patient outcomes in outpatient surgical clinics. *Health Care Management Review*, *45*, 12–20.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.

Goldenberg, A., Halperin, E., van Zomeren, M., & Gross, J. J. (2016). The Process Model of Group-Based Emotion: Integrating Intergroup Emotion and Emotion Regulation Perspectives. *Personality and Social Psychology Review, 20*, 118–141.

Gorman, J. C., Cooke, N. J., & Amazeen, P. G. (2010). Training Adaptive Teams. *Hum Factors, 52*, 295–307.

Grant, A. M., & Patil, S. V. (2012). Challenging the norm of self-interest: Minority influence and transitions to helping norms in work units. *The Academy of Management Review*, *37*, 547–568.

Grant, A. M., & Rothbard, N. P. (2013). When in doubt, seize the day? Security values, prosocial values, and proactivity under ambiguity. *Journal of Applied Psychology*, *98*, 810–819.

Grodal, S., Nelson, A. J., & Siino, R. M. (2015). Help-seeking and help-giving as an organizational routine: Continual engagement in innovative work. *Academy of Management Journal*, *58*, 136.

Gross, J. J. (1998). The Emerging Field of Emotion Regulation: An Integrative Review. *Review of General Psychology*, *2*, 271–299.

Gross, J. J. (2013). Emotion regulation: Taking stock and moving forward. *Emotion*, *13*, 359–365.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*, 348–362.

Guidotti, E., & Ardia, D. (2020). COVID-19 Data Hub. *Journal of Open Source Software*, *5*, 2376.

Hällgren, M., Rouleau, L., & De Rond, M. (2018). A matter of life or death: How extreme context research matters for management and organization studies. *Academy of Management Annals*, *12*, 111–153.

Hargadon, A. B., & Bechky, B. A. (2006). When collections of creatives become creative collectives: A field study of problem solving at work. *Organization Science*, *17*, 484–500.

Harrison, G. L., McKinnon, J. L., Wu, A., & Chow, C. W. (2000). Cultural influences on adaptation to fluid workgroups and teams. *Journal of International Business Studies*, *31*, 489–505.

Hartmann, S., Weiss, M., Hoegl, M., & Carmeli, A. (2021). How does an emotional culture of joy cultivate team resilience? A sociocognitive perspective. *Journal of Organizational Behavior*, *42*, 313–331.

Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. *Applied Psychology*, *69*, 913–959.

Hartwig, A., Clarke, S., Johnson, S., & Willis, S. (2020). Workplace team resilience: A systematic review and conceptual development. *Organizational Psychology Review*, *10*, 169–200.

He, H., Baruch, Y., & Lin, C. (2014). Modeling team knowledge sharing and team flexibility: The role of within-team competition. *Human Relations*, *67*, 947–978.

Hinsz, V., Tindale, S., & Vollrath, D. (1997). The Emerging Conceptualization of Groups as Information Processes. *Psychological Bulletin*, *121*, 43–64.

Hodgkinson, G. P., & Healey, M. P. (2011). Psychological foundations of dynamic capabilities: Reflexion and reflection in strategic management. *Strategic Management Journal*, *32*, 1500–1516.

Hofmann, D. A., Lei, Z., & Grant, A. M. (2009). Seeking help in the shadow of doubt: The sensemaking processes underlying how nurses decide whom to ask for advice. *Journal of Applied Psychology*, *94*, 1261.

Homburg, C., Klarmann, M., Reimann, M., & Schilke, O. (2012). What Drives Key Informant Accuracy? *Journal of Marketing Research*, *49*, 594–608.

Humphrey, S. E., & Aime, F. (2014). Team Microdynamics: Toward an Organizing Approach to Teamwork. *Academy of Management Annals*, *8*, 443–503.

Isen, A. M., & Levin, P. F. (1972). Effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social Psychology*, *21*, 384–388.

Jasper, J. M. (1998). The Emotions of Protest: Affective and Reactive Emotions in and around Social Movements. *Sociological Forum*, *13*, 397–424.

Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *The Academy of Management Journal*, *33*, 692–724.

Kahn, W. A., Barton, M. A., & Fellows, S. (2013). Organizational crises and the disturbance of relational systems. *The Academy of Management Review*, *38*, 377–396.

Kanov, J. M., Maitlis, S., Worline, M. C., Dutton, J. E., Frost, P. J., & Lilius, J. M. (2004). Compassion in Organizational Life. *American Behavioral Scientist*, *47*, 808–827.

Kaplan, S., LaPort, K., & Waller, M. J. (2013). The role of positive affectivity in team effectiveness during crises. *Journal of Organizational Behavior*, *34*, 473–491.

Klein, K. J., Ziegert, J. C., Knight, A. P., & Xiao, Y. (2006). Dynamic Delegation: Shared, Hierarchical, and Deindividualized Leadership in Extreme Action Teams. *Administrative Science Quarterly*, *51*, 590–621.

Kornbluh, M. (2015). Combatting Challenges to Establishing Trustworthiness in Qualitative Research. *Qualitative Research in Psychology*, *12*, 397–414.

Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest, Supplement*, *7*, 77–124.

Kvale, S. (2007). *Doing interviews* (p. 1 online resource (xix, 157 pages).). Los Angeles [Calif.]: SAGE.

Langley, A. (2007). Process thinking in strategic organization. *Strategic Organization*, *5*, 271–282.

Langley, A., & Tsoukas, H. (2010). Introducing "Perspectives on Process Organization Studies." In *Process, Sensemaking, and Organizing*. Oxford: Oxford University Press.

Lawler, E. J. (2001). An Affect Theory of Social Exchange. *American Journal of Sociology*, *107*, 321–352.

LePine, J. A. (2003). Team adaptation and postchange performance: Effects of team composition in terms of members' cognitive ability and personality. *Journal of Applied Psychology*, *88*, 27–39.

LePine, J. A. (2005). Adaptation of teams in response to unforeseen change: Effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology*, *90*, 1153–1167.

LePine, J. A., Piccolo, R. F., Jackson, C. L., Mathieu, J. E., & Saul, J. R. (2008). A meta-analysis of teamwork processes: Tests of a multidimensional model and relationships with team effectiveness criteria. *Personnel Psychology*, *61*, 273–307.

Levecque, K., Roose, H., Vanroelen, C., & Van Rossem, R. (2014). Affective team climate: A multi-level analysis of psychosocial working conditions and psychological distress in team workers. *Acta Sociologica*, *57*, 153–166.

Liang, H.-Y., Shih, H.-A., & Chiang, Y.-H. (2015). Team diversity and team helping behavior: The mediating roles of team cooperation and team cohesion. *European Management Journal*, *33*, 48–59.

Lilius, J. M., Worline, M. C., Maitlis, S., Kanov, J., Dutton, J. E., & Frost, P. (2008). The contours and consequences of compassion at work. *Journal of Organizational Behavior*, *29*, 193–218.

Lim, J. H., Tai, K., Bamberger, P. A., & Morrison, E. W. (2020). Soliciting Resources from Others: An Integrative Review. *Academy of Management Annals*, *14*, 122–159.

Liu, F., & Maitlis, S. (2014). Emotional Dynamics and Strategizing Processes: A Study of Strategic Conversations in Top Team Meetings. *Journal of Management Studies*, *51*, 202–234.

Liu, Y., & Perrewé, P. L. (2005). Another look at the role of emotion in the organizational change: A process model. *Human Resource Management Review*, *15*, 263–280.

Loewenstein, G., Rick, S., & Cohen, J. D. (2008). Neuroeconomics. *Annual Review of Psychology*, *59*, 647–672.

Lundqvist, D., Fogelberg Eriksson, A., & Ekberg, K. (2018). Managers' social support: Facilitators and hindrances for seeking support at work. *Work (Reading, Mass.)*, *59*, 351–365.

Madden, L. T., Duchon, D., Madden, T. M., & Plowman, D. A. (2012). Emergent Organizational Capacity for Compassion. *AMR*, *37*, 689–708.

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in Crisis and Change: Inspiration and Insights From Weick (1988). *Journal of Management Studies*, *47*, 551–580.

Majchrzak, A., Rice, R., Malhotra, A., King, N., & Ba, S. (2000). Technology Adaptation: The Case of a Computer-Supported Inter-Organizational Virtual Team. *MIS Q.*, *24*, 569–600.

Majchrzak, Ann, Jarvenpaa, S. L., & Hollingshead, A. B. (2007). Coordinating Expertise Among Emergent Groups Responding to Disasters. *Organization Science*, *18*, 147–161.

Manser, T., Howard, S. K., & Gaba, D. M. (2008). Adaptive coordination in cardiac anaesthesia: A study of situational changes in coordination patterns using a new observation system. *Ergonomics*, *51*, 1153–1178.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, *26*, 356–376.

Martin, J. A., & Eisenhardt, K. M. (2010). Rewiring: Cross-business-unit collaborations in multibusiness organizations. *Academy of Management Journal*, *53*, 265–301.

Maynard, M. T., Kennedy, D. M., Tannenbaum, S., Mathieu, J., & Levy, J. (2020). Team Adaptation and Resilience: Where the Literature Currently Stands and How It Applies to Long-Duration Isolated, Confined, and Extreme Contexts. In *Psychology and Human Performance in Space Programs* (Vols. 1–Book, Section, p. 151). Taylor & Francis Group.

Maynard, M. Travis, Kennedy, D. M., & Sommer, S. A. (2015). Team adaptation: A fifteen-year synthesis (1998–2013) and framework for how this literature needs to "adapt" going forward. *European Journal of Work and Organizational Psychology*, *24*, 652–677.

Menges, J. I., & Kilduff, M. (2015). Group Emotions: Cutting the Gordian Knots Concerning Terms, Levels of Analysis, and Processes. *Academy of Management Annals*, *9*, 845–928.

Metiu, A., & Rothbard, N. P. (2013). Task Bubbles, Artifacts, Shared Emotion, and Mutual Focus of Attention: A Comparative Study of the Microprocesses of Group Engagement. *Organization Science*, *24*, 455–475.

Morgan, P. B., Fletcher, D., & Sarkar, M. (2017). Recent developments in team resilience research in elite sport. *Sport Psychology*, *16*, 159–164.

Netz, J., Svensson, M., & Brundin, E. (2019). Business disruptions and affective reactions: A strategy-as-practice perspective on fast strategic decision making. *Long Range Planning*. https://doi.org/10.1016/j.lrp.2019.101910

Niven, K. (2017). The four key characteristics of interpersonal emotion regulation. *Current Opinion in Psychology*, *17*, 89–93.

Oliver, D., & Roos, J. (2005). Decision-making in high-velocity environments: The importance of guiding principles. *Organization Studies*, *26*, 889–913.

O'Neill, O. A., & Rothbard, N. P. (2017). Is Love All You Need? The Effects of Emotional Culture, Suppression, and Work–family Conflict on Firefighter Risk-Taking and Health. *Academy of Management Journal*, *60*, 78–108.

Pearson, C. M., & Clair, J. A. (1998). Reframing Crisis Management. *The Academy of Management Review*, *23*, 59–76.

Pennings, J. M. (1975). The Relevance of the Structural-Contingency Model for Organizational Effectiveness. *Administrative Science Quarterly*, *20*, 393–410.

Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of Counseling Psychology*, *52*, 137–145.

Pratt, M. G., Lepisto, D. A., & Dane, E. (2019). The Hidden Side of Trust: Supporting and Sustaining Leaps of Faith among Firefighters*. *Administrative Science Quarterly*, *64*, 398–434.

Pugh, S. D. (2001). Service with a Smile: Emotional Contagion in the Service Encounter. *The Academy of Management Journal*, *44*, 1018–1027. JSTOR.

Quinn, C. (2020). Coronavirus Disproportionately Affects Health Workers. Here Are the Countries Most at Risk. *Foreign Policy*. Retrieved from https://foreignpolicy.com/2020/05/04/coronavirus-disproportionately-affects-health-workers-here-are-the-countries-most-at-risk/

Remenyi, D. (1998). *Doing research in business and management: An introduction to process and method* (p. VI, 309 p. : ill.; 24 cm). London: Sage.

Rosen, M. A., Bedwell, W. L., Wildman, J. L., Fritzsche, B. A., Salas, E., & Burke, C. S. (2011). Managing adaptive performance in teams:

Guiding principles and behavioral markers for measurement. *Human Resource Management Review*, *21*, 107–122.

Rothman, N. B., & Melwani, S. (2017). Feeling mixed, ambivalent, and in flux: The social functions of emotional complexity for leaders. *Academy of Management Review*, *42*, 259–282.

Roychowdhury, D. (2020). 2019 Novel Coronavirus Disease, Crisis, and Isolation. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.01958

Rynes, S. L., Bartunek, J. M., Dutton, J. E., & Margolis, J. D. (2012). Care and compassion through an organizational lens: Opening up new possibilities. *Academy of Management Review*, *37*, 503–523.

Schmutz, J. B., Lei, Z., Eppich, W. J., & Manser, T. (2018). Reflection in the heat of the moment: The role of in-action team reflexivity in health care emergency teams. *Journal of Organizational Behavior*, *39*, 749–765.

Sheer, V. C., & Rice, R. E. (2017). Mobile instant messaging use and social capital: Direct and indirect associations with employee outcomes. *Information & Management*, *54*, 90–102.

Silverman, D. (2015). *Interpreting qualitative data.* (5 ed., p. 584 pages). London: Sage Publications.

Smith, E. R., & Mackie, D. M. (2015). Dynamics of Group-Based Emotions: Insights From Intergroup Emotions Theory. *Emotion Review*, *7*, 349–354.

Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic-A review. *Asian Journal of Psychiatry*, *51*, 102119–102119.

Stephens, J. P. (2021). How the Show Goes On: Using the Aesthetic Experience of Collective Performance to Adapt while Coordinating. *Administrative Science Quarterly*, *66*, 1–41.

Stoverink, A. C., Kirkman, B. L., Mistry, S., & Rosen, B. (2020). Bouncing back together: Toward rhetorical model of work team resilience. *The Academy of Management Review*, *45*, 395–422.

Suddaby, R. (2006). From the editors: What grounded theory is not. *Academy of Management Journal*, *49*, 633–642.

Sy, T., Côté, S., & Saavedra, R. (2005). The Contagious Leader: Impact of the Leader's Mood on the Mood of Group Members, Group Affective Tone, and Group Processes. *Journal of Applied Psychology*, *90*, 295–305.

Tallman, I., Leik, R. K., Gray, L. N., & Stafford, M. C. (1993). A Theory of Problem-Solving Behavior. *Social Psychology Quarterly*, *56*, 157–177.

Tan, B. Y. Q., Chew, N. W. S., Lee, G. K. H., Jing, M., Goh, Y., Yeo, L. L. L., … Sharma, V. K. (2020). Psychological Impact of the COVID-19 Pandemic on Health Care Workers in Singapore. *Annals of Internal Medicine*, *173*. https://doi.org/10.7326/M20-1083

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, *58*, 13–35.

Thoits, P. A. (1989). The Sociology of Emotions. *Annual Review of Sociology*, *15*, 317–342.

Toegel, G., Anand, N., & Kilduff, M. (2007). Emotion helpers: The role of high positive affectivity and high self-monitoring managers. *Personnel Psychology*, *60*, 337–365.

Toegel, G., Kilduff, M., & Anand, N. (2013). Emotion helping by managers: An emergent understanding of discrepant role expectations and outcomes. *Academy of Management Journal*, *56*, 334–357.

Turner, J. H. (2009). The Sociology of Emotions: Basic Theoretical Arguments. *Emotion Review*, *1*, 340–354.

Uitdewilligen, S., & Waller, M. J. (2018). Information sharing and decision-making in multidisciplinary crisis management teams. *Journal of Organizational Behavior*, *39*, 731–748.

Van Maanen, J. (1979). The Fact of Fiction in Organizational Ethnography. *Administrative Science Quarterly*, *24*, 539–550.

Waller, M. J., Okhuysen, G. A., & Saghafian, M. (2016). Conceptualizing Emergent States: A Strategy to Advance the Study of Group Dynamics. *Academy of Management Annals*, *10*, 561–598.

Weick, K. E. (2010). Reflections on Enacted Sensemaking in the Bhopal Disaster. *Journal of Management Studies*, *47*, 537–550.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the Process of Sensemaking. *Organization Science*, *16*, 409–421.

Weiss, H. M., & Cropanzano, R. (1996). Affective Events Theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. In *Research in organizational behavior: An annual series of analytical essays and critical reviews, Vol. 18.* (pp. 1–74). US: Elsevier Science/JAI Press.

West, B. J., Patera, J. L., & Carsten, M. K. (2009). Team level positivity: Investigating positive psychological capacities and team level outcomes. *Journal of Organizational Behavior*, *30*, 249–267.

WHO, G. (2020). *Coronavirus disease (COVID-19) outbreak: Rights, roles and responsibilities of health workers, including key considerations for occupational safety and health*. World Health Organization.

Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams. *ANNALS*, *11*, 733–769.

Wright, A. L., Meyer, A. D., Reay, T., & Staggs, J. (2020). Maintaining Places of Social Inclusion: Ebola and the Emergency Department. *Administrative Science Quarterly*. https://doi.org/10.1177/0001839220916401

Yin, R. (2009). *Case Study Research Design and Methods* (4th ed.). SAGE Publications.

Yu, L., & Zellmer-Bruhn, M. (2018). Introducing team mindfulness and considering its safeguard role against conflict transformation and social undermining. *Academy of Management Journal*, *61*, 324–347.

Zajac, S., Gregory, M. E., Bedwell, W. L., Kramer, W. S., & Salas, E. (2014). The cognitive underpinnings of adaptive team performance in ill-defined task situations: A closer look at team cognition. *Organizational Psychology Review*, *4*, 49–73.

Zaki, J. (2020). Integrating Empathy and Interpersonal Emotion Regulation. *Annual Review of Psychology*, *71*, 517–540.

Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion*, *13*, 803–810.

Zuzul, T., & Tripsas, M. (2020). Start-up Inertia versus Flexibility: The Role of Founder Identity in a Nascent Industry. *Administrative Science Quarterly*, *65*, 395–433.

**APPENDIX A**
**Interview Questions**

(Initial introductory narrative prompt)

1. Think of a recent crisis that your team had to deal with at work. Tell me how it affected the team and you, what challenges were, and how you dealt with it as a team. Go into as much detail as you can. Take your time, I will not interrupt.

(Examples of follow-on questions)

2. How do you personally feel about change?
3. How do you deal with it? How does your team get involved?
4. Please give me examples of how flexible and responsive the team has been to respond to this change.
5. Tell me about your relationships with your teammates? What about during a crisis?
6. What level of support do you get at work when you ask for help? Tell me more.
7. How well, how happy, do you feel in this team? How come?
8. How has the COVID-19 pandemic affected you? Your work? Your relationships with teammates?
9. How do you feel your team is dealing with the COVID-19 pandemic? How does this compare to before the pandemic?
10. Tell me what is better or worse in the team now with the COVID-19 pandemic.

# CHAPTER 4 – ALL FOR ONE AND ONE FOR ALL: EMOTIONS AND AFFECTIVE LEADERS IN AGILE TEAMS

*We need to acknowledge the process of grieving when change happens. It will affect people differently, and we need to support each other regardless of how they're affected.*
*— Nurse Leader, interview extract from present study, 2020*

Agile management offers popular tools and processes for teams to handle shifting episodes. We remind scholars and practitioners of Agile management that its founding tenet of valuing individuals and interactions implies understanding emotions. In fact, change is emotional. Our case examines nursing teams' agility during the COVID-19 pandemic and other crises leading up to it. We unveil a new breed of leaders that we call "affective leaders" who construct positive emotional experiences for their teams to avoid cliques and successfully respond to adversity. We provide several guidelines on how managers can become affective leaders and manage emotions in their teams.

## INTRODUCTION

Organizations cannot escape change. They must face it and adapt (Birkinshaw & Ridderstråle, 2017) both external (e.g., floods, epidemics, technological disruption) and internal (e.g., mergers, leadership turmoil). In

a world constantly in motion, Agile management is often seen as the panacea toward team agility, i.e., responding to quickly shifting circumstances effectively (Prange, 2020). Owing to its promise of rapid, flexible adaptive response to change (Girod & Králik, 2021), Agile has spread like wildfire (Birkinshaw, 2018) from its original setting of product and software development (Dingsøyr et al., 2012) to all sorts of teams in banking (Barton et al., 2018), hospitals (Harrison, 2018), heavy equipment manufacturing and entertainment (Biron et al., 2021). Agile management has promoted the embracing of change to unleash people from functional and rigid hierarchical silos, placing them into responsive customer-centered, self-managed teams (Rigby et al., 2016).

Progress in the Agile management literature has primarily focused on leveraging and adjusting various team structures, processes and tools where team leaders either are removed or their roles are reduced (Brhel et al., 2015; Diegmann et al., 2018; Dingsøyr et al., 2012) in the arenas of face-to-face communications, stand-up and pit-stop meetings, Kanban boards, iterative working, customer feedback, and self-organization. A plethora of Agile methodologies has been developed in step with Agile's rapid adoption, such as Extreme Programming, Adaptive Software Development, Scrum, and many others (Rigby et al., 2020; Vallon et al.,

2018; Wang et al., 2012). Despite much progress, studies have also exposed these structural and procedural approaches as insufficient in explaining Agile team performance (Annosi et al., 2020; Dhir et al., 2019; Suryaatmaja et al., 2020). This should not be surprising since the Agile Manifesto that sparked its movement emphasizes "valuing individuals and interactions over processes and tools" as a core tenet (Beck et al., 2001). Today's fixation on structures and processes has left affective mechanisms—a key factor in team processes (LePine et al., 2008)—largely untended.

The scant acknowledgement—let alone study—of emotions in Agile management is rather startling. Stating the obvious may be necessary here: individuals feel and care, and emotions embody adaptive responses to environmental demands (Elfenbein, 2007). Indeed, sudden change—to which Agile teams should respond—seize teams by surprise and can induce intense emotions such as confusion, anxiety, fear or conflict (Catino & Patriotta, 2013; Hällgren et al., 2018; Kaplan et al., 2013; Maitlis & Sonenshein, 2010). Well known, too, is that team actions and responses are principally driven by behavior and interpersonal relationships, all being emotionally motivated (Ashkanasy et al., 2017; Barsade & Gibson, 2007; Dolan, 2002; George, 1990). Clearly, intense and high-impact changes,

such as crises, can erode team rapport and relationships (Hällgren et al., 2018; Kahn et al., 2013).

Alarmingly little is known about the underlying emotional processes within Agile teams under such conditions. This is evidenced by Agile literature reviews and advisories that have seldom featured any of the human dynamics and behavior that drive team members (Diegmann et al., 2018; Dingsøyr et al., 2012; Drury-Grogan, 2021). Agile's core tenet of focusing on teams' individuals and interactions thus beckons scrutiny of members' emotions and how these evolve through interactions with teammates. The main motivation for this study arises from the juxtaposition of the critical role of team emotions and its corresponding absence plaguing Agile literature. Thus, we ask: how do Agile teams' emotional experiences impact their agility?

We probe this question through a two-year comparative case study of nursing teams who suffered floods, organizational restructuring, and the COVID-19 pandemic in sequence. We unveil the critical role of a new breed of leader: *affective leadership*. Affective leaders navigate members away from negative emotions toward constructing a positive, team-level shared emotional experience. Thanks to affective team leaders' emotion regulation, high-agility teams avoid cliques as member emotional needs are

met, and the team collectively unites to respond to crises. These insights translate into practical recommendations for agility-seeking organizations and managers.

Our study urges Agile management research and practice to place team emotions and affective mechanisms frontstage, thus reminding Agile scholars and practitioners of their oft-forgotten roots in "valuing individuals and interactions over processes and tools."[13]

Regarding organizations and managers, the lesson is potent: a team's emotions and affective ties must be regulated and nurtured for the benefit of the whole. We echo the famed "one for all, and all for one" motto of The Three Musketeers novel by Alexandre Dumas in the context of our study: one [leader] for all [members], and all [members] for one [team]. The following sections of this study showcase how this is possible.

## METHODOLOGY

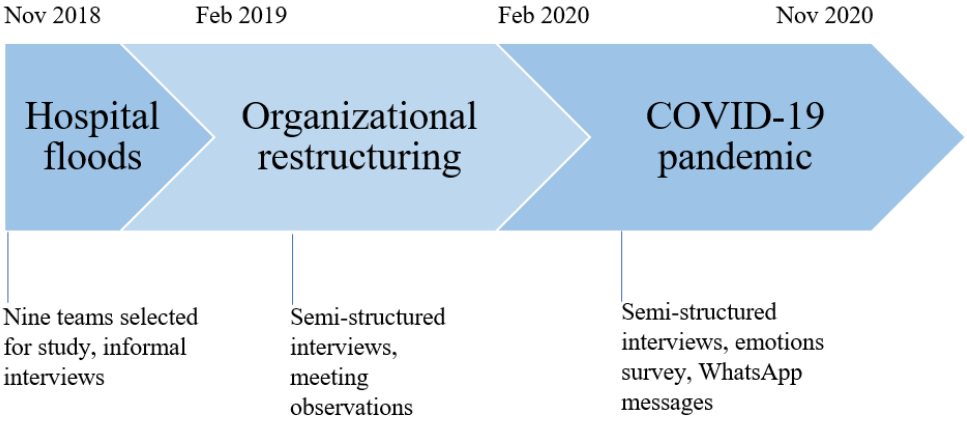
We pursue our main inquiry via a two-year-long qualitative case study. We examined nine clinical nursing teams that experienced consecutive crises in a recently opened specialist pediatric hospital in the Middle East. Figure 1 describes how data collection overlapped with the crises for our teams.

We enlisted a theoretical sampling approach of polar cases (Eisenhardt, 2021; Eisenhardt & Graebner, 2007). We thus selected teams with high versus low agility (the outcome) in order to detect contrasting team mechanisms leading to different results. At study launch, we asked departmental nursing heads overseeing multiple clinics to assess the agility (i.e., speed, responsiveness, flexibility) of several teams. We selected five high- and four low-agility teams from that sample. At the end of the study—and during the pandemic—we asked these heads to reassess the selected teams' agility levels: without reminder of rankings two years prior, the heads assessed teams in the same order. Their evaluations comprised our own two-year-long field observations. By comparing these opposing cases, our goal was to uncover the reasons behind the teams' agility differentials.

The successive crises the nursing teams suffered consisted of sudden flooding, organizational upheavals, and the COVID-19 pandemic. The floods (late 2018) were the first in the hospital's history and the result of unexpected heavy rains in the country. The facility was inundated by rainwater, rendering offices and patient rooms unusable in parts of the site. Next, organizational upheavals spawned sudden restructuring changes that affected nurses' roles and living conditions throughout most of 2019.

Finally, the COVID-19 pandemic struck the hospital early 2020, severely disrupting work and infection-prevention measures. Figure 4.1 summarizes how data collection overlapped with the three crises.

Figure 4.1 Timeline of events and data collection




We conducted 45 semi-structured interviews with 29 nursing staff that included departmental nursing heads, team leaders and their nurses, who volunteered for the study. In relation to each crisis, we asked interviewees to describe their emotions and how their teams coped and adapted, also probing interpersonal relationships and dynamics. To triangulate findings using multiple data sources, we also attended 19 daily team meetings (known as “huddles”) where we observed and made notes of

team processes, emotions, interactions and dynamics. During the pandemic, we also surveyed nurses' emotions and monitored the messages of two teams' WhatsApp messaging groups: 1236 text messages over 226 days.

We analyzed interview data using a grounded-theory approach that allowed novel insights to emerge organically while iterating among data collection, coding and analysis (Glaser & Strauss, 1967). We first manually coded the data starting with open coding (first-order terms in the language of interviewees). Next, we reduced initial data coding to second-order categories and finally aggregated them into theoretical concepts. To gain additional perspectives on our findings, we also manually coded two teams' WhatsApp mobile text messages for: (1) team affective tone (positive/negative) and (2) leadership commendation and appreciation toward members. We contrasted all coded data within and across our nine teams (Eisenhardt & Graebner, 2007) to understand how teams coped and adapted differently with constant referral back to extant literature. We continued this arc until no new themes emerged, reaching theoretical saturation (Glaser & Strauss, 1967) after 45 interviews.

## AGILE MANAGEMENT IN NURSING TEAMS

The hospital venue aptly served our in-depth study of Agile teams for several reasons. First, nurses see complex, non-routine cases, and their challenges differ daily and by patient. Indeed, nurses face relentless change and unpredictability and must respond rapidly due to patient safety implications (Alonso et al., 2006). This was exemplified through our interviews being repeatedly interrupted as nurses were summoned by their wearable Vocera communication devices to respond to urgent patient issues. Second, based on field interviews and observations, nursing features cross-functional, diverse teams that apply Agile management principles and routines. For instance, they are self-organized, conduct daily briefs (huddles), use team wallcharts, and are intensely focused on patient outcomes. Table 4.1 maps observed hospital practices to their common corresponding Agile principles. Patients and emergencies can be viewed as "projects" that nursing teams execute in alignment with the traditional setting of new product development under Agile Management.

Table 4.1 Mapping nursing team processes to Agile principles

| Example Agile Management Principles/ Approaches | Observed Nursing Team Routines | Exemplary Evidence e.g., From Interview Quotes or Observation |
|---|---|---|
| Self-organizing teams | Although teams have a team leader, they work as a self-organizing group that leaders do not micromanage. Members are entrusted to make day-to-day decisions with little supervision. | Nurse Leader 3-4: "*As I said, they've allocated, already talked amongst themselves and discussed and agreed on who's looking after [which patient]*". |
| Daily standup meetings for task allocation and planning | Nursing teams typically conduct a 5-to-10-minute daily meeting ("huddle") where they go through the patients and planned work for the day ahead, and try to anticipate possible challenges. | Nurse 3-3-2: "*So usually when we start our day, we have our morning huddle and then that's the time we will know who the assigned doctor is, how many patients you will have for the day... I can say that we have a heads up... So, you will know what to expec*t". |
| Sprint retrospective meeting | Nursing teams do a lot of routinized reflection on their day's work, processes, safety issues, and strive for continuous improvement. | Nurse Leader 1-4: "*So we use that on daily basis… let's look at what happened yesterday, and we talk together usually after huddles… we talk about what happened yesterday, how do you feel that went, reflect on events and how we move forward from that… and encourage people*". |
| Use of visual burn down chart (e.g., Kanban board) | Nursing teams use wall charts ("huddle board") for task planning and improvement initiatives, as well as celebrating team member performance or collective successes. | See Figure 2 as example of a participating nursing team's huddle board. |
| Pair programming (i.e., partnering, buddying) for minimizing coding mistakes, better problem solving and sharing knowledge | Nursing teams work in a "buddy" system, for instance for a junior nurse to shadow a more experienced one, or partnering nurses together so they can more easily cover for one another. | Nurse 3-2-2: "*Every time I was with a nurse, there was someone to just help me and support me. It's like someone is watching me so if I did something wrong, she will tell me. Or sometimes she will do it in front of me and then I will perform it*". |

| Example Agile Management Principles/ Approaches | Observed Nursing Team Routines | Exemplary Evidence e.g., From Interview Quotes or Observation |
|---|---|---|
| Customer-focused development with the customer embedded in the project | Nursing teams place the patient central to everything they do, with the patient's safety being at the forefront of every work activity. | Nurse 3-2-5: "*We need to do this. Not because this is the order of the organization, but this is for the safety of the patient.*" |
| Accepting changing and emerging customer requirements at any time | Nursing teams respond relentlessly to the patient's needs and changing medical condition (e.g., vital signs and so forth). | Nurse 3-3-2: "*How we can adjust and adapt to this, because there will be always things happening, every day, different things. How we react is the most important thing*". |

Figure 4.2 A nursing team's Wall Chart ("Huddle Board")

## TEAM EMOTIONS AND LEADERS DURING CRISES

Crises engender unpredictable change, and this challenges both individuals and teams. In our study, crises-inherent surprise and uncertainty triggered strong sentiments in nurses. For example, our interviewees related that the sudden hospital floods were intensely stressful:

> *[The floods]—that was probably the biggest stressful change that we had to do … we were closing beds, found out we had mold everywhere … so it was difficult … and it was stressful for everyone. As much as you try to protect someone, they're all feeling the stress of it.* (Nurse Departmental Head 4)

Through the interviews conducted during the two-year study, we distinctly identified that, in general, members of high-agility teams tended to feel more positively about crises versus low-agility counterparts. For example, two nurses in low-agility teams discussed how the COVID-19 pandemic made them feel:

> *Well, it's actually been quite stressful to be honest … Oh God, I have to go to the frontline now. It's quite scary and daunting because I have a child of my own.* (Nurse 1-4-2, low-agility team)

> *For me, it's getting me depressed … And then the patients – you don't know if they're lying when you're asking them about COVID. So, it's pretty scary. I'm scared.* (Nurse 3-4-1, low-agility team)

We contrast the above very negative emotions and experiences to those of nurses in high-agility teams who were milder, more positive in their accounts of the pandemic.

> *It's fine – the change. It makes me discover new things. I've become more flexible in COVID-19. It's a new experience, and it's fulfilling for me as a nurse.* (Nurse 3-2-1, high-agility team)

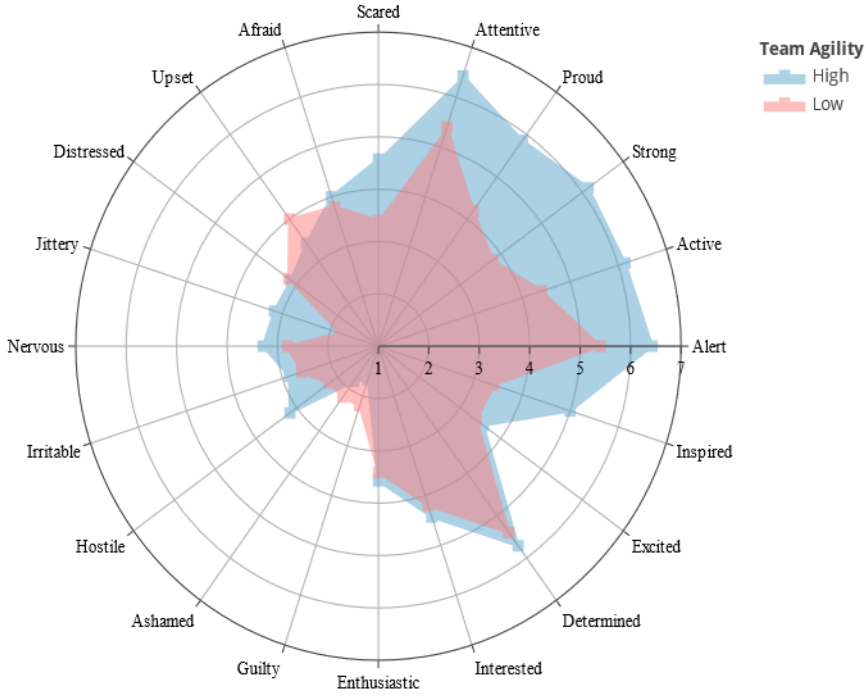
> *I just came from quarantine because I was exposed to a [+ tested] mom of a patient … I had the fear that I would be positive as well. But later, I was fine. I got used to it. Personally, I am able to cope with the pandemic.* (Nurse 3-1-1, high-agility team)

To further illustrate and better sense the extent of interviewees' differing experiences, we surveyed members' emotions using a standardized questionnaire (Watson et al., 1988) a few months into the pandemic. We specifically asked how the pandemic made the nurses feel[7]. Results are shown in Figure 4.3. Respondents all consistently reported that it made them feel distressed, upset, nervous, afraid, and scared. Notably, neither low- nor high-agility teams overly reported heightened negative emotions (left-hand side of the graph). What differentiates the teams, however, is that high-agility units reported superior levels of positive

[7] We asked respondents to answer "At work, to what extent did the COVID-19 pandemic make you feel: Scared / Afraid / Upset / Distressed / Jittery / Nervous / Irritable / Hostile / Ashamed / Guilty / Enthusiastic / Interested / Determined / Excited / Inspired / Alert / Active / Strong / Proud / Attentive (with a scale of 1-Not at all to 7-Extremely).

emotions (right-hand side of the graph)—especially feeling proud, strong, active, and inspired.

Figure 4.3 Emotions felt by nurses during the COVID-19 pandemic (number of respondents is 12: five from low-agility, seven from high-agility teams)




Additional evidence for this difference emerges when transitioning to the team level. Defining team affective tone as the shared emotional experience of members (Ashkanasy, 2003; George, 1990), we further measured team affective tone during the pandemic via WhatsApp text messages of a high-agility and a low-agility team. We coded all texts

according to positive versus negative tone. For instance, “amazing, thank you team” was coded as positive, whereas “I will never do it again, sorry” was coded as negative. Overall, we counted and compared the incidence of affective tone in each team’s exchanges. We found that 58% (389 out of 672) of the high-agility team’s messages exuded positive tone versus only 35% (200 out of 564) for the low-agility team. We thus observe that the differences in individual-level emotions translated into team-level affective tone.

In summary, crises trigger emotions across team members. Under the same crisis, however, high-agility teams experience more positive emotions and affective tone versus their low-agility counterparts. Why? What allows high-agility teams to cultivate positive emotional experiences? We explain in the next subsection: the leader plays a critical role.

**The Role of the ‘Affective’ Leader**

Our study contrasting field data between high- and low-agility teams evidences the criticality of a certain kind of team leader. This leader grasps how team members feel during crises and helps them cultivate a positive, shared emotional experience. We dub these leaders as ‘affective.’ Affective leaders understand that each nurse will experience distinct emotions while

having different underlying concerns, needs, and motivations. The following affective leader explains her approach as follows:

> *We need to acknowledge the process of grieving when change happens. It will affect people differently, and we need to support each other regardless of how they're affected*. (Nurse Leader 3-2, high-agility team)

Leaders of high-agility teams appear to understand that, first and foremost, their staffs' wellbeing must be secured. Wellbeing means looking after one's emotional needs and psychological welfare. High-agility leaders consider such members' needs *central* to their role and deeply believe that they are responsible for meeting those needs:

> *My duty is to ensure they are happy and lift their standards ... it all goes with a lot of counselling, a lot of reassurance, a lot of fun*. (Nurse Leader 1-2, high-agility team)

Teams where leaders held members' wellbeing in high regard reflected this duty through the entire team. As a result, nurses themselves had a caring and supportive attitude toward their teammates, looking after their wellbeing:

> *I think care is constantly looking out for other people, not only yourself, but looking out for others. If you know that your co-worker is struggling, and you're not busy, you should help them. And you should be concerned if you think that there is something going on.* (Nurse 3-2-4, high-agility team)

It was also evident from our observation of team meetings that high-agility team leaders created a very positive atmosphere for their members. This was not the case in teams with low agility. One leader described how she ran her daily morning huddles, which we also observed firsthand:

> *In the morning, we share some stories. We laugh about it to create the harmony and that happiness*. (Nurse Leader 1-2, high-agility team)

In highly agile teams, the leader typically excelled and was deeply appreciated. During interviews, and without us even prompting members about their leader, nurses recognized their leader's critical role in looking after them:

> *I think, for me, that [leadership] is the bottom line of where everything comes from: that's from the attitude of our leader. Leading us, guiding us every day, coaching us maybe one or two minutes: Hey, are you okay? Do you have any problems? ... Catching up is very important for us*. (Nurse 3-2-5, high-agility team)

Through our meeting observations and interviews, we noted that leaders of high-agility teams tended to thank and praise their members more versus low-agility counterparts. To verify this, we took advantage of our WhatsApp dataset and coded the messages from team leaders to their members—those showing appreciation, thanking and praising the team. We

counted these instances and, overall, the high-agility team leader displayed such behavior *three times more often* than the low-agility one: 35% (27 out of 77 messages) versus 10.4% (28 out of 268 messages).

The vital role of the affective leader was also acknowledged by nurses in regard to keeping the group together and united. This was particularly prominent in high-agility teams, despite the challenges:

> *It all comes down to the leader because she keeps on holding us together, even though we [as team members] have a lot of differences. She keeps the team intact, so I really commend her*. (Nurse 3-2-4, high-agility team)

We now proceed to explain the downstream effects of negative emotions and how affective leadership efforts to create positive, shared emotional experiences for their teams translate to agility.

**Cliques Form around Unmanaged Emotions**

The prior section revealed that positive emotions drive positive team affective tone, and affective leaders act as vital regulators of team emotions during crises. One downstream result of negative team emotional experience is that members' emotional needs go untended. We here show that members tend to withdraw and seek comfort within smaller cliques where members coalesce into subgroups (or silos) (Cronin et al., 2011). Agile management advocates forming diverse cross-functional teams under

the premise that these teams can pool a breadth of expertise and know-how to respond to crises. Yet, the diverse nature in such teams could also yield cliques. As nurses explained, supportive gestures and closeness could rank higher within a subgroup. And cliques treat non-clique members as outsiders, further contributing to the disintegration of team unity as illustrated by the following nurse leader:

> *You can observe that there are [sub]groups who really are there for each other … They are close, but for an outsider or another person who is not part of the [sub]group, they wouldn't be that much welcoming*. (Nurse Leader 4-3, low-agility team)

The lack of unity was apparent in low-agility teams during social events, for instance, where cliques tended to either stick together or not attend at all:

> *We tried to do a team outing. You would see some [sub]groups would come, some [sub]groups wouldn't come. Even if they go out together, or we do dinners, you see the [sub]groups sticking together. You don't see them merge*. (Nurse Leader 4-3, low-agility team)

In contrast, highly Agile teams did not appear to suffer from cliques. For example, a leader described her team as a big family:

> *They are responsible, committed to each other. It's not like this everywhere from my experience. It's about being a team member, part of the team, part of this big family.* (Nurse Leader 4-1, high-agility team)

During the pandemic, high-agility teams continued to cultivate closeness, unity and commitment, thus preventing cliques from forming or developing:

> *Now we are more attached to each other; the friendship developed more for us.* (Nurse 3-2-1, high-agility team)

This is in stark contrast to low-agility teams where interpersonal relations appeared to crumble under the stress of the pandemic:

> *There is conflict. With COVID-19, relationships became weaker*. (Nurse Leader 3-3, low-agility team)

As clearly stated to us, subgroups "are a barrier to personal relationships" (Nurse 4-1-2, high-agility team), and are "affecting how much they are helping one another" (Nurse Leader 3-3, low-agility team). As seen above, an affective leader is vital for uniting the team by fulfilling members' basic human needs and by thwarting cliques. This allows the team to weather a crisis together as an engaged, committed whole.

**Cliques Stifle Team Agility**

Negative team emotional experiences and the resulting cliques—in absence of an affective leader—not only lead to the disintegration of a team's unity and commitment. Importantly, they also impede a team's rapid and flexible

response when it matters most. Through the various crises and upheavals experienced by our nursing teams, we detected evidence of contrasting agility. The link between a team's emotional experience and response to a crisis was initially suggested a few months into our study by this leader:

> *Since last time we spoke … when we talked about the flood and how people came together to get on with that … if you asked the question now, this year, if there was a flood … and thinking of the wellbeing and morale, I don't know that my people would perform as well.* (Nurse Leader 1-4, low-agility team)

The leader of another low-agility team confirmed this link, and described that during COVID-19, the team's rapid response had deteriorated:

> *Now I feel instructions are more challenged … Our speed of action is less, for sure.* (Nurse Leader 3-3, low-agility team)

This contrasts with a high-agility team whose members described the strong performance they observed daily from their teammates:

> *We are more flexible now. One nurse was called to another unit; she went right away. We are flexible, stretching ourselves as much as we can*. (Nurse 3-2-3, high-agility team)

This ability of a highly agile team to unite during challenges and to prompt its members to perform often featured acts of supportive behavior. In high-agility teams, support for one another was a norm, like a reflex that

unfolded progressively. Low-agility teams were characterized by lower support when members were in need.

> *I think, for me, it's the little things that we do that help the team work effectively or achieve little goals, baby steps. Even without asking, we immediately do that.* (Nurse 3-2-5, high-agility team)

> *There was a time when things weren't quite so busy, and we worked more as a team helping each other*. (Nurse Leader 1-4, low-agility team)

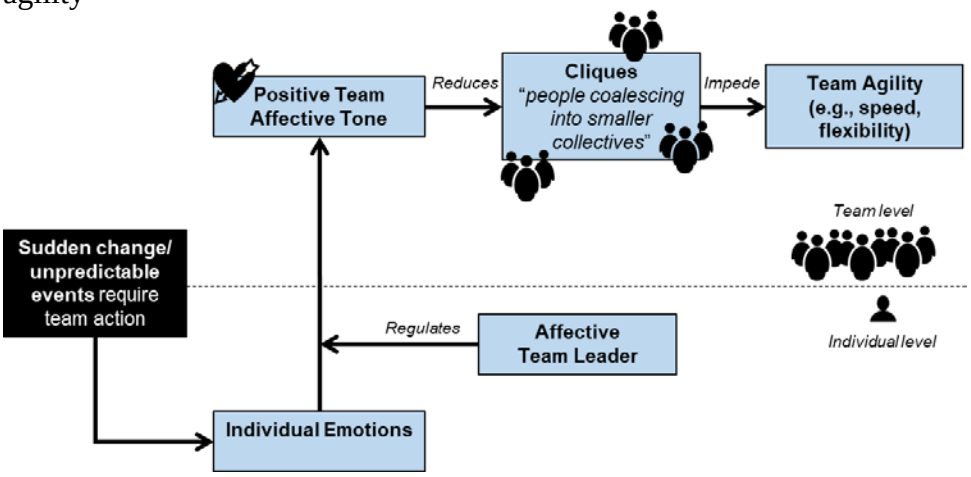
Our study has confirmed that a high-agility team exudes positive emotions during crises owing to its affective leader. This dispels cliques as distressed members' emotional needs are met with a team thus able to collectively respond to crises quickly and flexibly.

## CONTRIBUTIONS AND IMPLICATIONS

How do Agile teams cope with and experience emotions that can either hamper or boost rapid, flexible responses to crises? Based on our qualitative case study of nursing teams that faced events such as floods and the pandemic, we observe that high-agility teams benefit from more positive emotions and affective tone. We unveil the critical role of affective leaders in cultivating team members' emotions toward a positive, team-level affective tone. Positive shared emotional experiences, in turn, help avoid cliques as members' emotional needs are met. Finally, a team free of

cliques can collectively unite to handle crises. Figure 4 summarizes our observations having important implications for Agile theory and practice.

Figure 4.4 Theoretical model of emotions and the leader driving team agility




**Agile Teams Feel Crises**

Our characterization of high-performing Agile teams as experiencing more positive individual-level emotions and team-level affective tone is important, especially for Agile research where emotions have largely been neglected. First, agility is about responding to dynamic and unpredictable circumstances, and these manifestly trigger strong emotions. Thus, the study of Agile teams automatically implies that units inevitably experience strong emotions and their subsequent impact on team processes and

interactions. This contrasts with teams working in more predictable, stable settings that are far less emotional.

Second, Agile teams differentially experience emerging crises. While the literature has often emphasized that crises are negative emotional events for people (Catino & Patriotta, 2013; Maitlis & Sonenshein, 2010), we further note how some prove positive. Moreover, much emotion research has often missed the underlying discrete emotions (Ashkanasy et al., 2017). For the same events in our study, many negative emotions were similarly felt across teams—especially upset, afraid, or nervous. What differentiated high-agility teams was an elevated ethos of positive emotions—namely proud, strong, active, or even inspired. The significance of positive shared emotions in teams cannot be overstated because negative emotions and ensuing team behavior can lead to a team's disintegration (Liu & Maitlis, 2014). Rather, positive emotions help create bonds among members (Metiu & Rothbard, 2013), and this is what subsequently enables agility.

> Managerial implication 1: A team's emotional composition is critical. Managers and organizations should consider fostering positive sentiments and regularly keeping a pulse on team members' emotions.

Our study offers immediate practical implications for Agile management and team design, especially around processes concerned with attending individual members' emotions. As seen, positive members' feelings and collective affect formed the foothold for our Agile teams' rapid and flexible responses to crises. We also found that high-agility teams feel more proud, strong, active, and even inspired. Such feelings, motivational in nature, help keep team members engaged. In crises-riddled times, managers should keep a regular pulse on mates' emotions, e.g., how they feel about an event, their work progress or teammates, and so forth. It is vital to have regular touchpoints and candid dialogues with members regarding their emotions using organizational practices and tools (e.g., one-to-one meetings, surveys, etc.). As Agile teams become more cross-functional and multi-cultural in the face of crises that are emotional, rifts will inevitably arise among teammates. Thus, managers must rein in team emotions, especially since they can enable or impede team agility when it is needed most.

**Agile Teams Need Affective Leaders**

Agile management has long advocated self-managing, self-organizing teams where the role of the leader—if one exists—is often relegated to a *technical* function of achieving team goals and increasing productivity. Too

often in the Agile body of knowledge, however, the importance of managing the complex interpersonal and motivational dynamics of a team's members—and thus their underlying emotions—has suffered neglect. This looms even more acute in times of crises.

It is fitting that a recent McKinsey article discussed how "COVID-19 strips leadership back to its most fundamental element: making a positive difference in people's lives." (D'Auria et al., 2020). Our study has unveiled the vital role of affective leaders who attend to each member's emotional needs and wellbeing, regularly thanking and praising them. Affective leaders help members individually reappraise crises more positively for their own benefit, as well as to better serve the collective needs of the team. Note that our concept of affective leadership differs from the idea of leader emotional intelligence (EI). Although both EI and affective leadership focus on the awareness of self and others' emotions (Ovans, 2015), affective leadership goes beyond mere emotional awareness: its primary aim is to *regulate* team emotions, navigating members away from negative individual-level emotions and toward positive team-level affective tone. Recently, interpersonal emotion regulation has been described in the literature as inducing, modifying or modulating emotions in others (Madrid et al., 2019; Vasquez et al., 2021).

Such research often occurs in what we consider ‘regular’ team contexts where emotions are typically elicited by team members or tasks—which are reasonably within the team’s sphere of control. Rather, our study is of teams during external and hugely emotional crises, and of how they collectively adapt and cope over successive events. During such events, prosocial behaviors and leaders’ usual arsenal of team management tools breakdown. Our study demonstrated the need for an affective leadership style in teams working in unstable and dynamic environments because of the negative team emotions that surface.

> Managerial implication 2: Affective managers are vital emotion-regulators for teams. Organizations should adopt an affective leadership style, training managers to meet members’ emotional needs and transition negative individual emotions into positive team affective experience.

The context itself of Agile management—one beset by change and unpredictability—wholly accentuates the need for team leadership: an affective manager who ultimately helps the team overcome emotional upheavals as a cohesive unit. In our study, high-agility teams were clearly differentiated by having affective leaders who kept their teams united for collective response in the midst of a crisis. The first practical implication considers how affective managers behave. They must view each member as

having individual emotions and motivations, lending an ear to their hardships. Affective leaders care about their teams and nurture member wellbeing through thanking and praising. They understand the power of close social ties and affective relationship-building with one another, during and after work. They foster a team climate that is psychologically safe where members in need can ask for support that is readily given. Affective managers work on these matters daily.

Our second practical recommendation is that the affective leader's role during a crisis is to help teammates in distress feel better, elevating the team's shared emotional experience. In practice, such leaders not only comfort members when things get tough, but importantly develop a relaxed, positive atmosphere where collective laughing and fun is widespread. They truly grasp the benefits of workplace humor; it curbs stress and boosts productivity (Heggie, 2018).

**Agile Teams Need Unity**

Our third contribution reveals that negative team affect can spawn the proliferation of cliques that inevitably trigger the collapse of teams' coping mechanisms. This novel affective understanding is crucial and informs studies that focus on education, experience, age, culture and language as major factors that move individuals to join cliques (Cronin et al., 2011;

Meyer & Glenz, 2013; Spencer-Rodgers et al., 2007; Zellmer-Bruhn et al., 2008). And in today's cross-functional, diverse teams favored by Agile management, silo formation is ever more prone. Instead, we shine a light on a largely unexplored enabler of cliques: negative emotions and shared emotional experience. Indeed, if negative emotions dominate, they can quickly create a destructive emotional spiral within a team (Barsade, 2002). Consequent cliques further exacerbate future member adaptive mechanisms to the detriment of team agility. Indeed, cliques are known to be divisive and pique staffing tensions (Hinds et al., 2014) in ways that erode the collective sense-making, decision-making, and action-taking that teams need to mobilize.

> Managerial implication 3: Cliques (subgroups, silos) disfavor an engaged, committed team response. Organizations and managers must proactively detect and dispel cliques.

> Managerial implication 4: Team relationships and affective processes, such as helping and socialization, are critical. When such wane, organizations and managers must remedy.

Cliques plague the Agile team and are likely to occur given its typically diverse and cross-functional makeup. Because of the ensuing deterioration of team collective processes, cliques undermine how well the Agile team can unify during crises to: self-organize and self-manage,

conduct productive huddles and meetings, transparently and constructively reflect during retrospectives, buddy-up teammates, and more. As a result, breakdown in these team systems violates Agile management's core tenet of valuing individuals and their interactions. Therefore, one key practical implication is that managers must be aware of cliques and listen to staff when they voice related issues. When silos are forming, managerial interventions are necessary to dissolve cliques and remind teams of the importance of cohesion and unity. Managers may focus on intentionally forging trustworthy relationships and bonds among teammates (Zak, 2017), for instance, through purposeful, well-designed team-building activities.

Another practical implication stems from the emergence of affective team processes in our study, such as socialization and helping. First, teams should build a strong team spirit through extensive socialization as prescribed by one of our high-agility team leaders: "We go out and do some parties, a lot of baby showers, birthday gifts, and we make the day for that person special." Second, teammate support—the act of assisting a member in need—must be constantly promoted and enacted. No member's cry for help should go unheeded. Indeed, one nurse from a high-agility team explained that aid was widespread and automatic in her team: "They would offer help even though I'm not asking." Leaders must instill the aid of

fellows a *team norm*, firmly embedded in the team's culture and values. In our study, these types of affective mechanisms and member dealings averted cliques and their impairment of agility.

Managerial implications and recommendations of our study are summarized in Table 4.2.

Table 4.2 Summary of managerial implications and recommendations

| Managerial Findings | Managerial Implications | Managerial Recommendations |
|---|---|---|
| 1. Agile teams' emotions and affective tone are critical. | Regularly keep a pulse on members' emotions. | •Keep a regular pulse on members' emotions e.g., in meetings, reports, online surveys and so forth, especially during crises and periods of intense change. |
| 2. Affective managers are vital emotion-regulators for Agile teams. | Select and train managers to meet members' emotional needs and turn negative individual emotions into positive team affective experience. | •Consider each member as having unique emotions and motivations. Make the time to listen to their hardships.<br>•Nurture wellbeing of members through thanking and praising.<br>•Promote building affective relationships between teammates, in and outside of work.<br>•Promote a psychologically safe team climate e.g., through giving trust.<br>•Regularly laugh and have fun with the team, build a relaxed, positive atmosphere. |
| 3. Cliques (subgroups, silos) prevent an engaged and committed response of Agile teams. | Proactively scout and break down cliques. | •Listen to staff's hardships and voiced issues/complaints, see if related to teammate relationships and social ties.<br>•Actively dispel cliques when they emerge, discuss these issues openly with the team.<br>•Intentionally foster trusting relationships and bonding between members (e.g., through planned team building). |
| 4. Relationships and affective processes are critical in Agile teams. | When team affective mechanisms such as helping and socialization wane, intervene. | •Regularly socialize, take the team out on social events (e.g., dinner, birthday party, etc.).<br>•Promote extensive and timely helping within the team.<br>•Make helping teammates a team norm and value. |

## CONCLUSION

Our research results merit salience in the Agile literature as evidence of how nursing teams work according to the principles of Agile management. Importantly, we find that during crises, negative member emotions can spiral into negative team emotional experience and the formation of cliques that impede team agility. Moreover, we shine a beacon on the overlooked role of leadership in Agile teams: affective leaders are vital to regulate emotions, avoid cliques, and steer teams to success through crises. Stakes are high, and this paper serves as a clarion call for Agile organizations to breathe new life into valuing individuals' emotions above blind adherence to packaged methodologies emphasizing mere tools and processes.

## CHAPTER 4 - REFERENCES


Alonso, A., Baker, D. P., Holtzman, A., Day, R., King, H., Toomey, L., & Salas, E. (2006). Reducing medical error in the Military Health System: How can team training help? *Human Resource Management Review, 16*(3), 396–415.

Annosi, M. C., Foss, N., & Martini, A. (2020). When Agile Harms Learning and Innovation: (And What Can Be Done About It). *California Management Review, 63*(1), 61–80.

Ashkanasy, N. M. (2003). Emotions in organizations: A multi-level perspective. In F. Dansereau & F. J. Yammarino (Eds.), *Multi-Level Issues in Organizational Behavior and Strategy* (Vol. 2, pp. 9–54). Emerald Group Publishing Limited.

Ashkanasy, N. M., Humphrey, R. H., & Huy, Q. N. (2017). Integrating emotions and affect in theories of management. *Academy of Management Review*, *42*(2), 175–189.

Barsade, S. G. (2002). The Ripple Effect: Emotional Contagion and its Influence on Group Behavior. *Administrative Science Quarterly*, *47*(4), 644–675.

Barsade, S. G., & Gibson, D. E. (2007). Why does affect matter in organizations? *Academy of Management Perspectives*, *21*(1), 36–59.

Barton, D., Carey, D., & Charan, R. (2018). One Bank's Agile Experiment. *Harvard Business Review, Mar-Apr 2018*.

Beck, K., Schwaber, K., Beedle, M., & Highsmith, J. (2001). *Manifesto for Agile Software Development*. http://agilemanifesto.org/

Birkinshaw, J. (2018). What to Expect From Agile. *MIT Sloan Management Review, 59*(2), 39–42. ProQuest One Business.

Birkinshaw, J., & Ridderstråle, J. (2017). *Fast/Forward: Make Your Company Fit for the Future* (1st edition (April 4, 2017)). Stanford Business Books.

Biron, M., De Cieri, H., Fulmer, I., Lin, C.-H. (Veronica), Mayrhofer, W., Nyfoudi, M., Sanders, K., Shipton, H., & Sun, J. M. (James). (2021). Structuring for innovative responses to human resource challenges: A skunk works approach. *Human Resource Management Review*, *31*(2), 100768.

Brhel, M., Meth, H., Maedche, A., & Werder, K. (2015). Exploring principles of user-centered agile software development: A literature review. *Information and Software Technology*, *61*, 163–181.

Catino, M., & Patriotta, G. (2013). Learning from Errors: Cognition, Emotions and Safety Culture in the Italian Air Force. *Organization Studies*, *34*(4), 437–467.

Cronin, M. A., Bezrukova, K., Weingart, L. R., & Tinsley, C. H. (2011). Subgroups within a team: The role of cognitive and affective integration. *Journal of Organizational Behavior*, *32*(6), 831–849.

D'Auria, G., Chen Nielsen, N., & Zolley, S. (2020, May). Tuning in, turning outward: Cultivating compassionate leadership in a crisis. *McKinsey, Organization Practice* (May 2020). https://www.mckinsey.com/business-functions/organization/our-insights/tuning-in-turning-outward-cultivating-compassionate-leadership-in-a-crisis

Dhir, S., Kumar, D., & Singh, V. B. (2019). Success and Failure Factors that Impact on Project Implementation Using Agile Software Development Methodology. In M. N. Hoda, N. Chauhan, S. M. K. Quadri, & P. R. Srivastava (Eds.), *Software Engineering* (pp. 647–654). Springer Singapore.

Diegmann, P., Dreesen, T., Binzer, B., & Rosenkranz, C. (2018). Journey Towards Agility: Three Decades of Research on Agile Information Systems Development. *ICIS*.

Dingsøyr, T., Nerur, S., Balijepally, V., & Moe, N. B. (2012). A decade of agile methodologies: Towards explaining agile software development. *Special Issue: Agile Development*, *85*(6), 1213–1221.

Dolan, R. J. (2002). Neuroscience and psychology: Emotion, cognition, and behavior. *Science*, *298*(5596), 1191–1194.

Drury-Grogan, M. L. (2021). The Changes in Team Cognition and Cognitive Artifact Use During Agile Software Development Project Management. *Project Management Journal*, *52*(2), 127–145.

Eisenhardt, K. M. (2021). What is the Eisenhardt Method, really? *Strategic Organization*, *19*(1), 147–160.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building from Cases: Opportunities and Challenges. *The Academy of Management Journal*, *50*(1), 25–32.

Elfenbein, H. A. (2007). Emotion in organizations: A review and theoretical integration. *Academy of Management Annals*, *1*(1), 315–386.

George, J. M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology*, *75*(2), 107–116.

Girod, S., & Králik, M. (2021). *Resetting Management: Thriving with Agility in the Age of Uncertainty* (1st edition (June 29, 2021)). Kogan Page.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine.

Hällgren, M., Rouleau, L., & De Rond, M. (2018). A matter of life or death: How extreme context research matters for management and organization studies. *Academy of Management Annals*, *12*(1), 111–153.

Harrison, M. (2018). How a U.S. Health Care System Uses 15-Minute Huddles to Keep 23 Hospitals Aligned. *Harvard Business Review*.

Heggie, B.-A. (2018). The Benefits of Laughing in the Office. *Harvard Business Review*.

Hinds, P. J., Neeley, T. B., & Cramton, C. D. (2014). Language as a lightning rod: Power contests, emotion regulation, and subgroup dynamics in global teams. *Journal of International Business Studies*, *45*(5), 536–561.

Kahn, W. A., Barton, M. A., & Fellows, S. (2013). Organizational crises and the disturbance of relational systems. *The Academy of Management Review*, *38*(3), 377–396.

Kaplan, S., LaPort, K., & Waller, M. J. (2013). The role of positive affectivity in team effectiveness during crises. *Journal of Organizational Behavior*, *34*(4), 473–491.

LePine, J. A., Piccolo, R. F., Jackson, C. L., Mathieu, J. E., & Saul, J. R. (2008). A meta-analysis of teamwork processes: Tests of a multidimensional model and relationships with team effectiveness criteria. *Personnel Psychology*, *61*(2), 273–307.

Liu, F., & Maitlis, S. (2014). Emotional Dynamics and Strategizing Processes: A Study of Strategic Conversations in Top Team Meetings. *Journal of Management Studies*, *51*(2), 202–234.

Madrid, H. P., Niven, K., & Vasquez, C. A. (2019). Leader interpersonal emotion regulation and innovation in teams. *Journal of Occupational and Organizational Psychology*, *92*(4), 787–805.

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in Crisis and Change: Inspiration and Insights From Weick (1988). *Journal of Management Studies*, *47*(3), 551–580.

Metiu, A., & Rothbard, N. P. (2013). Task Bubbles, Artifacts, Shared Emotion, and Mutual Focus of Attention: A Comparative Study of the Microprocesses of Group Engagement. *Organization Science*, *24*(2), 455–475.

Meyer, B., & Glenz, A. (2013). Team Faultline Measures: A Computational Comparison and a New Approach to Multiple Subgroups. *Organizational Research Methods*, *16*(3), 393–424.

Ovans, A. (2015). How emotional intelligence became a key leadership skill. *Harvard Business Review*, *28*, 3–6.

Prange, C. I. (2020). Strategic Agility – Decision-Making Beyond Speed. *Academy of Management Proceedings*, *2020*(1), 12499.

Rigby, D., Berez, S., & Elk, S. (2020). *Doing agile right: Transformation without chaos*. Harvard Business Review Press.

Rigby, D., Sutherland, J., & Takeuchi, H. (2016). Embracing agile. *Harvard Business Review*, *2016*(May).

Spencer-Rodgers, J., Hamilton, D. L., & Sherman, S. J. (2007). The central role of entitativity in stereotypes of social categories and task groups. *Journal of Personality and Social Psychology*, *92*(3), 369–388.

Suryaatmaja, K., Wibisono, D., Ghazali, A., & Fitriati, R. (2020). Uncovering the failure of Agile framework implementation using SSM-based action research. *Palgrave Communications*, *6*(1), 8.

Vallon, R., da Silva Estácio, B. J., Prikladnicki, R., & Grechenig, T. (2018). Systematic literature review on agile practices in global software development. *Information and Software Technology*, *96*, 161–180.

Vasquez, C. A., Madrid, H. P., & Niven, K. (2021). Leader interpersonal emotion regulation motives, group leader–member exchange, and leader effectiveness in work groups. *Journal of Organizational Behavior*, *42*(9), 1168–1185.

Wang, X., Conboy, K., & Pikkarainen, M. (2012). Assimilation of agile practices in use. *Information Systems Journal*, *22*(6), 435–455.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070.

Zak, P. J. (2017). The neuroscience of trust. *Harvard Business Review*, *95*(1), 84–90.

Zellmer-Bruhn, M. E., Maloney, M. M., Bhappu, A. D., & Salvador, R. (Bombie). (2008). When and how do differences matter? An exploration of perceived similarity in teams. *Organizational Behavior and Human Decision Processes, 107*(1), 41–59.

# CHAPTER 5: CONCLUSION

*In every crisis, doubt or confusion, take the higher path - the path of compassion, courage, understanding and love.*
*— Dr Amit Ray*

These are challenging and crisis-riddled times for organizations. In a constantly shifting world, businesses must carefully compose and manage teams, craft improvement programs as well as interventions to safeguard—and increase—performance. There is one universal certainty, however: employees, their work motivation and engagement, are central to such endeavors. For instance, during the recent COVID-19 pandemic most companies report that what they fear most is the drop in staff productivity (EY, 2020). Thus, such a crisis has only accelerated the need to better understand the underlying mechanisms that allow teams to respond to emergent challenges whilst remaining engaged.

This thesis began wanting to understand how agile teams—designed to successfully adapt together to changing situations (Beck, Schwaber, Beedle, & Highsmith, 2001)—experience, collectively cope and adapt to unexpected change and crises. This chapter begins by summarizing each study's findings and contributions (see Table 5.1). I then reflect on the

findings and how chapters integrate with one another, and finally reflect on my own PhD journey.

Table 5.1 Overview of dissertation findings and implications

| | Chapter 2 | Chapter 3 | Chapter 4 |
|---|---|---|---|
| **Main findings and contributions** | Team agility is integrated in IMOI model (inputs, mediators, outcomes). Team affective mechanisms surface as poorly understood. | Individual crisis-triggered emotions give rise to affective help cycles between teammates, which through successive events co-evolve with emergent care and camaraderie. We coin this 'affective adaptation', and affective states enable positive emotion conversion. | Following Agile management principles is insufficient to adapt to crises. Thanks to 'affective leaders' regulating team emotions, successful teams avoid cliques and collectively unite to respond to emergent surprises. |
| **Main implications** | Crises like COVID-19 underscore the lack of understanding of affective states as a team adaptive mechanism. The study of team emotions—especially in turbulent settings—may unlock important insights for team performance. | Teams high in help/affect cope and adapt better. Crises are emotional and a team's prior relational experiences serve as 'buffers' for future crises. Emotion-based help, care and camaraderie are vital affective social mechanisms of team adaptation, and must be nurtured. For adaptive performance, negative member emotions can be converted to positive team experience. | Emotions matter: team speed and flexibility are enabled by untapped positive emotional team mechanisms. Crises need 'affective leaders' to assess and regulate team members' unique emotions and experiences. Cliques should be dismantled before they lead to team division. |

## SUMMARY OF CHAPTER 2

### Findings of Chapter 2

This integrative review allowed to clarify the concept of team agility and compare it to similar ones, and define it as the adaptive capability of a team to rapidly and flexibly respond to fluid situations. To characterize team agility, I mapped existing findings into structural and cultural elements of a team, which are turned into speed, flexibility and responsiveness by intermediary mediators: teamwork processes and emergent states (cognitive, affective). The integration of all such factors is presented in the form of a practical inputs-mediators-outputs (IMOI) framework for team agility, which helps better grasp its complexity. In so doing, it becomes apparent that emergent affective states in the context of team agility and adaptation are underrepresented, inviting further research.

### Implications of Chapter 2

Beyond the theoretical relevance and importance of having a clearer and common understanding of the team agility concept, it is interesting to consider agility and the promise of affective states in the context of COVID-19.

With the seemingly never-ending cycles of lockdowns and working-from-home measures, organizations and their teams have undergone major

adaptations during the pandemic. For instance, enhancing collaboration internally and externally, changing customer communication and interaction channels, negotiating virtually, reskilling employees, and so forth (Enders et al., 2020; Movius, 2020; Narayandas et al., 2020; Slotkin et al., 2020). Beyond these procedural and structural types of adaptation which are predicted by the IMOI framework, COVID-19 has arguably had its biggest impact on employee emotions, morale and wellbeing (DiGangi, 2020; Spoorthy et al., 2020; Tan et al., 2020). Team members are anxious and scared due to the risk of infection, but managers can become overly controlling and untrusting because of remote working for instance (Joly, 2020). Emotional connections are easily lost as teammates miss personal and physical relationships. And it is in such situations that our lack of understanding of team affective states may be most crucial for teams to be able to respond and adapt to ongoing and future surprises. Indeed, change can trigger negative emotions in individuals (Liu & Perrewé, 2005) and the way they respond varies depending on their cognitive and emotional appraisals of the event (Perrewé & Zellars, 1999). Because affect is recognized as the driving force behind the behavior of team members (Ashkanasy et al., 2017), the study of emotions in teams—especially in

turbulent environments—may unlock vital insights for organizational performance.

## SUMMARY OF CHAPTER 3

### Findings of Chapter 3

This grounded theory-building comparative case study of nursing teams probed affective adaptation mechanisms in response to successive crises. We closely followed nine teams over 24 months through diverse events: floods, organizational upheavals, and the COVID-19 pandemic. An extensive and diverse dataset was collected through: interviews at different hierarchical levels, meeting observation, and text message communications.

The study contributes the fresh understanding of 'affective adaptation': teams' affective behaviors and interactions are a vital adaptation mechanism during crises. We unearthed that crises are emotional, and in highly adaptable teams these emotions give way to successful helping which co-evolves with team affective states. Our theory explains how, through time, successful cycles of compassion based help-seeking and comfort based help-giving in teams give rise to care and camaraderie. Together, these help and affective interactions enable positive emotion conversion within the team, and represent teams' successful

adaptation to crises—showing how adaptation is impacted by emotions over time.

**Implications of Chapter 3**

Our novel findings change the way we view the processes by which teams adapt, revealing teams as emotional social collectives whose affective behaviors and interactions constitute a vital adaptation mechanism. The study complements the cognitive and structural underpinnings of team adaptation (for recent reviews, see Baard et al., 2014; Christian et al., 2017; Maynard et al., 2015; Rosen et al., 2011) with an affective understanding. Despite a general view that affect is important in organizations (Barsade, 2002; Barsade & Gibson, 2007; Edmondson & Lei, 2014), individual and team-level affective mechanisms of team adaptation have remained largely underexplored. Our theory explains some of the interpersonal and social mechanisms that embody team affective adaptation, specifically, emergent affective states like care and camaraderie. The second contribution of our study is that crises are emotional for team members, which although intuitive it has not been thoroughly documented to date. Over time, adverse member emotions lead to negative team behaviors and affective states—and the opposite is true. A team's heightened positive emotions is what demarcates its ensuing behaviors and dynamics that lead to the buildup of

affective states. Our results help reframe a team's prior relational experiences as 'buffers' for future crises. Finally, we spotlight help behavior as intimately linked to emotions: help-seeking is an emotionally induced action of a distressed individual who seeks comfort in teammates, and that precedes team-level compassionate help-giving. Over time, this coevolution between help and affective states enables distressed help-seekers to perceive their teammates' offers of support as non-threatening. A team's build-up of affective states allows members to convert negative emotions into positive team-level emotions as time passes, enabling the subsequent help cycles and affective states. Help, like affective states, emerges as an important emotional adaptation mechanism in teams.

Implications for managerial practice point to the importance of nurturing care and camaraderie in teams, and encouraging help between teammates. For instance, fostering a safe space through trust and openness for making mistakes, or recognizing and celebrating positive gestures and achievements, or promoting a sense of family. Care and camaraderie can be viewed as affective reservoirs: the fuller they are with positive team affect, the more they can convert negativity into positivity and the more likely teams will be able to weather future crises.

## SUMMARY OF CHAPTER 4

### Findings of Chapter 4

This study uses the same qualitative dataset over the same crises as in Chapter 3 (with the addition of a survey), though it conducts different analyses to surface more managerial antecedents of agile performance. To this end, the study is written with a stronger practitioner focus and less on methodological description.

The chapter surfaces a fresh understanding of the impact of team emotions on team unity and leadership. First, we first evidence how nursing teams follow principles of Agile management—similar to software development teams. Yet, this is insufficient to lead to successful adaptation to crises. We find that during such events, negative member emotions can spiral and coalesce into negative team-level emotional experience and the formation of cliques. Together, these impede the team's agility. We showcase the overlooked role of leadership in Agile teams and propose a new element type: affective leadership. Affective leaders are critical to navigating their members away from negative emotions toward constructing a positive, team-level shared emotional ethos. This regulation of team emotions helps avoid cliques and leads the team to success in crises.

**Implications of Chapter 4**

Our study offers important insights into how a team's emotional experiences impact its agility, and how critical leaders are. First, in the area of processes and practices that yield adaptive performance, we offer a deeper understanding of how agility outcomes like speed and flexibility are a result of largely untapped emotional team mechanisms. This implies that emotions of team members, and associated affective relationships, matter and should be regularly assessed. Second, in leadership, we debut a critical, yet new, breed of affective managers who positively regulate their teams' emotions for an effective response to crises. This implies organizations in unstable and dynamic settings can select and train managers to be affective leaders, through understanding of members' unique emotions and motivations, nurturing team wellbeing, building a relaxed and positive atmosphere, and so forth. Then, because of their divisive impact, particular attention ought to be dedicated to cliques by proactively scouting and dispelling cliques. For instance, through the intentional fostering of trusting relationships and bonding between members. Finally, we offer an important (and new) theoretical insight into cliques, by linking their inception to negative member emotions and team-

level affective tone. This allows theorizing of the vital role that member emotion regulation by the leader plays, toward enabling agility.

**DOING AGILE VERSUS BEING AGILE**

In the integrative review paper (Chapter 2), I made the conscious choice of excluding studies of Agile (with a capital 'A') because Agile management focuses on the application of practitioner-targeted and popular approaches, methods and tools (e.g., Scrum, Kanban, Pair Programming and so forth). Rather, I focused on studies which attempted to define agility and sought agile team performance in the form of processes or mediators that turn team input conditions into outcomes (e.g., speed, flexibility, responsiveness). The premise was that teams which simply employ Agile tools and methodologies (e.g., doing daily stand-up meetings, working in pairs and in small iterative cycles, using Kanban-style boards, self-managing and so forth) do not necessarily adapt successfully to surprises. In other words, "doing Agile" is not the same as "being agile". Chapter 4 provided evidence of this through the study of nursing teams who were shown to employ Agile principles structurally and procedurally. Yet, not all nursing teams in the sample were successful in responding fast and flexibly to crises. Some collectively adapted by uniting and nurturing positivity, whilst others crumbled and disintegrated in the face of emergent adversity. Indeed,

Agile management principles have principally focused on Agile structure and cognitive processes. This dissertation reminds Agile scholars and practitioners of their oft-forgotten roots in valuing individuals and interactions over prescribed processes and tools (Beck, Schwaber, Beedle, & Highsmith, 2001). The gaps identified in Chapter 2, particularly around team emergent affective mechanisms, are addressed by the empirical findings of Chapters 3 and 4.

## A RALLYING CALL TO EMBRACE EMOTIONS IN TEAMS

Beyond Agile management's structural and procedural approaches to managing change in teams, scholars of team adaptation processes have uncovered a rich and valuable body of knowledge in the cognitive mechanisms that teams draw on to enable adjusting to surprises and crises (for recent reviews, see Baard, Rench, & Kozlowski, 2014; Christian, Christian, Pearsall, & Long, 2017; Maynard, Kennedy, & Sommer, 2015; Rosen et al., 2011). Yet, time and again studies of crises or disasters show that some teams are more successful than others when adapting (e.g., Majchrzak, Jarvenpaa, & Hollingshead, 2007; Marsch et al., 2005; Schakel, van Fenema, & Faraj, 2016; Stachowski, Kaplan, & Waller, 2009). Even those who proactively plan for crises, or are trained in anticipation, can easily fail (Quarantelli, 1988; Stachowski et al., 2009). This is because

surprises and crises contain distinctive and unexpected components (Kaplan, LaPort, & Waller, 2013), and when they unfold they are disorientating and emotional for people involved (Hällgren, Rouleau, & De Rond, 2018; Maitlis & Sonenshein, 2010; Weiss & Cropanzano, 1996). These rather chaotic conditions can have a profound and enduring damaging effect on team performance and the relationships between members (Kahn, Barton, & Fellows, 2013). As exposed in this dissertation, the affective mechanisms—a key factor in general team processes (LePine et al., 2008)—of team adaptation have remained understudied. Chapters 3 and 4 offer important insights into how teams differentially experience and cope with crises through affective mechanisms. Overall, teams that are able to experience adversity more positively, and build help and affective reserves, are more likely to successfully adapt.

**Affective Adaptation**

An underlying realization stemming from Chapter 3 is that emotions are not only elicited by a crisis, but they are importantly an ongoing adaptive response mechanism of individuals and teams. For instance, during COVID-19, people are not only emotional due to the pandemic itself also due to the ensuing adaptations that governments (e.g., lockdowns, home schooling) or organizations (e.g., only virtual meetings, work from home)

implement. Emotions elicited by such disruptions and adjustments in structures and processes give way to affective adaptations. Chapter 3 exposed that a team's collective sentiment is continually impacted by the team's prior affective and relational experiences. As a team deals with a crisis, the extent to which teammates emotionally helped, and related to, one another will aid in instilling more positivity and self-efficacy toward future crises (i.e., converting emotions). In other words, past affective experiences shape future ones, and although this seems intuitive, it is not well documented in the literature. And so, in contrast to the dominant structural and organizational bricolage that teams engage in during surprises (e.g., Bechky & Okhuysen, 2011), my study of crises has surfaced a parallel—but equally vital—form of affective bricolage (or adaptation). Although it is natural—and easiest perhaps—for teams to engage in structural and procedural changes, the underlying and subsequent emotional component must not be overlooked.

This was exemplified by a scholar and practitioner who recently attended a presentation of Chapter 3, who gave an example of work crisis experienced firsthand. He described how in a manufacturing facility, a team leader received a 03:00 AM phone call by a (usually) virile factory worker who was crying on the line. He was clearly distressed by a production

crisis. At that moment, the leader recognized the worker's anguish and his need for comfort. His first words to the distressed member were "Don't worry, no one is getting blamed for this. Stay put, I'm coming right away."

**Affective Leadership**

Chapter 4 surfaced the criticality of team leaders for managing and regulating team emotions, and helps explain how the affective adaptation that emerged from Chapter 3 is moderated by the leader. What I called affective leadership goes beyond being aware of team members' emotions, and aims to regulate and convert team emotions, navigating members away from negativity and toward positive team-level affective experience. The concept of interpersonal emotion regulation is not new, and has been extensively studied in teams dealing with emotions triggered by regular team activities that are largely within the team's control (Madrid et al., 2019; Vasquez et al., 2021). And most such studies focus on cognitive mediation processes (such as information sharing) between leader emotion regulation and team performance, or leaders' affective traits or motives (Madrid et al., 2018; Vasquez et al., 2021). What the dissertation contributes to this body of knowledge is the emergence of emotion regulation during the context of crises as external uncontrollable events that rock the team to its core. During crises, most established teamwork

processes and relations between members and leaders tend to break down. I have shown that under such pressures, cliques form or reinforce as an emotional coping mechanism of certain team members. The study demonstrated the need for an affective leadership style in teams working in unstable and dynamic environments as a means of managing the impact of negative emotions and subsequent breakdown of team relational mechanisms.

People and their emotions, aided by their human managers, are the ultimate adaptation mechanism: they determine success or failure. Chapters 3 and 4 complement one another and offer emergent antecedents to teams' agile performance outcomes identified in Chapter 2. The dissertation's findings aid teams and organizations better understand the impact of crises on people and human relational processes, and expose possible warning signs and managerial interventions. Clearly, my studies only scratched the surface of the role of emotions in team adaptation and performance during crises. Consequently, findings, contributions and managerial recommendations must be taken 'with a grain of salt', consistent with the generalizability warnings that come with qualitative case studies. Much work remains to be done, to investigate the surfaced team affective mechanisms in larger samples and in different settings. For instance, where

help and compassion are not as commonplace as in nursing. Or, in professions where teams are not predominantly female. Or, in organizational contexts where surprises and crises are not as ordinary for teams.

In a thesis on change and crises, this final chapter would not be complete without also reflecting on the adaptation my research forced upon me.

## CONCLUDING REMARKS AND PERSONAL REFLECTION

When compiling the dissertation documents, and reflecting on my scholarly journey, I was struck by how the end result in no way resembled my PhD proposal five years prior. I share three insights, which surface the amount of change and adaptation that I, and my research, have gone through.

### How little I know!

First, I began in 2016 with limited knowledge of the team agility literature, wanting to narrow down the processes that allow teams to respond to constant change. Specifically, I was interested in New Product Development teams. Moreover, I had the intention to conduct a theory-testing research program. Hundreds of papers later, I was struck by how much research had been done on structural and procedural aspects of team adaptation and agility—and how little I knew, and the (naïve) assumptions I

started with. The integrative review I conducted unexpectedly (at least to me) revealed team affective mechanisms as understudied, which transformed the remainder of my research.

**A 180-degree turn!**

Emotions, as a field of study, had largely escaped me—any many other scholars it appears—especially in team adaptation studies. Hundreds of more papers later, it became evident that the limited knowledge of team emotions and related processes in the context of crises, would be better addressed through a theory-building rather than a hypothesis-testing approach. Consequently, armed with revised research questions, I switched to conducting a grounded-theory, comparative case study of nursing teams in a hospital. As a result, I additionally had to undergo a rigorous and lengthy ethical approval process for human subject research at the hospital. Indeed, organizational staff are considered vulnerable participants in social research, and must be adequately protected—no different than clinical studies. I had not anticipated any of this at the start of my work, and the challenges were many.

**Need data? Adapt!**

The COVID-19 pandemic struck the hospital about midway through my nursing research, causing severe disruptions and forcing a change of

methods to exploit the real-time unfolding of the crisis. Like nurses dealing with potentially infected patients, I too was emotionally anxious and fearful of the risks posed by the virus—especially going into clinics to observe and interview nurses. The hospital established strict new protocols and minimized interactions. For instance, in-person meetings were discouraged and often cancelled. Despite my emotional reservations, this clearly was devastating for my data collection efforts. Through brainstorming with my co-promotor, we decided to pursue obtaining WhatsApp text messages of teams. This led to me chasing nursing managers to allow access into their texting groups, and export their exchanges. Two agreed, and then began the arduous journey of obtaining re-approval from the ethics board to allow this new data collection approach. Luckily, after relentless work, these messages were an invaluable complement to other datasets.

My short research journey has been full of ups and downs, exhilarating at times and emotionally draining at others, and has transformed my thinking as a scholar and practitioner. The role of emotions was a revelation, and it is unmistakable how they are discarded and brushed under the carpet in organizations. Dealing with coworkers' emotions is hard and can be intense. I experienced this firsthand during an interview, when a nurse revealed to me during COVID-19:

> *I'm on the verge of having my meltdown and I don't know when it will hit, and it will hit so hard because I know, I'm not feeling well. I want to cry all the time. If I don't want to murder myself, I want to murder everyone I work with. With COVID... I come to work with this feeling that I want to slap the shit out of everyone I encounter.*

Notwithstanding her profound emotional suffering, how can this individual and her teammates unite and adapt to crises as a team? I can only hope that my work further motivates others to join the recent movement calling for organizations and managers to embrace the significance and positive value of emotions in the workplace, and use them to their advantage to combat relentless surprises and crises.

## CHAPTER 5 - REFERENCES


Ashkanasy, N. M., Humphrey, R. H., & Huy, Q. N. (2017). Integrating emotions and affect in theories of management. *Academy of Management Review*, *42*(2), 175–189.

Baard, S. K., Rench, T. A., & Kozlowski, S. W. J. (2014). Performance Adaptation: A Theoretical Integration and Review. *Journal of Management*, *40*(1), 48–99.

Barsade, S. G. (2002). The Ripple Effect: Emotional Contagion and its Influence on Group Behavior. *Administrative Science Quarterly*, *47*(4), 644–675.

Barsade, S. G., & Gibson, D. E. (2007). Why does affect matter in organizations? *Academy of Management Perspectives*, *21*(1), 36–59.

Christian, J. S., Christian, M. S., Pearsall, M. J., & Long, E. C. (2017). Team adaptation in context: An integrated conceptual model and meta-analytic review. *Organizational Behavior and Human Decision Processes*, *140*(Journal Article), 62–89.

DiGangi, J. (2020). Feeling Uncomfortable with Reentry? You're on the Right Track. *Harvard Business Review Digital Articles*, *Journal Article*.

Edmondson, A. C., & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*(1), 23–43.

Enders, A., Haggstrom, L., & Lalive, R. (2020). How Reskilling Can Soften the Economic Blow of Covid-19. *Harvard Business Review Digital Articles*, *Journal Article*.

EY, I. (2020). *72% of the organisations stated that the covid-19 impact will be felt much beyond six months – EY survey: Vol. Press Release 10 Apr 2020*. Ernst & Young India. https://www.ey.com/en_in/news/2020/04/72-percent-of-the-

organisations-stated-that-the-covid-19-impact-will-be-felt-much-beyond-six-months

Joly, H. (2020). Lead Your Team Into a Post-Pandemic World. *Harvard Business Review Digital Articles*, *Journal Article*.

LePine, J. A., Piccolo, R. F., Jackson, C. L., Mathieu, J. E., & Saul, J. R. (2008). A meta-analysis of teamwork processes: Tests of a multidimensional model and relationships with team effectiveness criteria. *Personnel Psychology*, *61*(2), 273–307.

Liu, Y., & Perrewé, P. L. (2005). Another look at the role of emotion in the organizational change: A process model. *Human Resource Management Review*, *15*(4), 263–280.

Madrid, H. P., Niven, K., & Vasquez, C. A. (2019). Leader interpersonal emotion regulation and innovation in teams. *Journal of Occupational and Organizational Psychology*, *92*(4), 787–805.

Madrid, H. P., Totterdell, P., Niven, K., & Vasquez, C. A. (2018). Investigating a process model for leader affective presence, interpersonal emotion regulation, and interpersonal behaviour in teams. *European Journal of Work and Organizational Psychology*, *27*(5), 642–656.

Maynard, M. T., Kennedy, D. M., & Sommer, S. A. (2015). Team adaptation: A fifteen-year synthesis (1998–2013) and framework for how this literature needs to "adapt" going forward. *European Journal of Work and Organizational Psychology*, *24*(5), 652–677.

Movius, H. (2020). How to Negotiate—Virtually. *Harvard Business Review Digital Articles*, *Journal Article*.

Narayandas, D., Hebbar, V., & Li, L. (2020). Lessons from Chinese Companies' Response to Covid-19. *Harvard Business Review Digital Articles*, *Journal Article*.

Perrewé, P. L., & Zellars, K. L. (1999). An examination of attributions and emotions in the transactional approach to the organizational stress process. *Journal of Organizational Behavior*, *20*(5), 739–752.

Rosen, M. A., Bedwell, W. L., Wildman, J. L., Fritzsche, B. A., Salas, E., & Burke, C. S. (2011). Managing adaptive performance in teams: Guiding principles and behavioral markers for measurement. *Human Resource Management Review*, *21*(2), 107–122.

Slotkin, J., Murphy, K., & Ryu, J. (2020). How One Health System Is Transforming in Response to Covid-19. *Harvard Business Review Digital Articles, Journal Article*.

Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic-A review. *Asian Journal of Psychiatry*, *51*(Journal Article), 102119–102119.

Tan, B. Y. Q., Chew, N. W. S., Lee, G. K. H., Jing, M., Goh, Y., Yeo, L. L. L., Zhang, K., Chin, H.-K., Ahmad, A., Khan, F. A., Shanmugam, G. N., Chan, B. P. L., Sunny, S., Chandra, B., Ong, J. J. Y., Paliwal, P. R., Wong, L. Y. H., Sagayanathan, R., Chen, J. T., … Sharma, V. K. (2020). Psychological Impact of the COVID-19 Pandemic on Health Care Workers in Singapore. *Annals of Internal Medicine*, *173*(4).

Vasquez, C. A., Madrid, H. P., & Niven, K. (2021). Leader interpersonal emotion regulation motives, group leader–member exchange, and leader effectiveness in work groups. *Journal of Organizational Behavior*, *42*(9), 1168–1185.

Baard, S. K., Rench, T. A., & Kozlowski, S. W. J. (2014). Performance adaptation: A theoretical integration and review. *Journal of Management*, *40*(1), 48-99.

Bechky, B. A., & Okhuysen, G. A. (2011). Expecting the unexpected? how SWAT officers and film crews handle surprises. *The Academy of Management Journal*, *54*(2), 239-261.

Beck, K., Schwaber, K., Beedle, M. & Highsmith, J. (2001). Manifesto for agile software development. Retrieved from http://agilemanifesto.org/

Christian, J. S., Christian, M. S., Pearsall, M. J., & Long, E. C. (2017). Team adaptation in context: An integrated conceptual model and meta-analytic review. *Organizational Behavior and Human Decision Processes, 140*, 62-89.

Hällgren, M., Rouleau, L., & De Rond, M. (2018). *A matter of life or death: How extreme context research matters for management and organization studies* Routledge.

Kahn, W. A., Barton, M. A., & Fellows, S. (2013). Organizational crises and the disturbance of relational systems. *The Academy of Management Review, 38*(3), 377-396.

Kaplan, S., LaPort, K., & Waller, M. J. (2013). The role of positive affectivity in team effectiveness during crises. *Journal of Organizational Behavior, 34*(4), 473-491.

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights from weick (1988). *Journal of Management Studies, 47*(3), 551-580.

Majchrzak, A., Jarvenpaa, S. L., & Hollingshead, A. B. (2007). Coordinating expertise among emergent groups responding to disasters. *Organization Science, 18*(1), 147-161.

Marsch, S. C. U., Tschan, F., Semmer, N., Spychiger, M., Breuer, M., & Hunziker, P. R. (2005). Performance of first responders in simulated cardiac arrests*. *Critical Care Medicine, 33*(5)

Maynard, M. T., Kennedy, D. M., & Sommer, S. A. (2015). Team adaptation: A fifteen-year synthesis (1998-2013) and framework for how this literature needs to "adapt" going forward. *European Journal of Work and Organizational Psychology, 24*(5), 652-677.

Quarantelli, E. L. (1988). Disaster crisis management: A summary of research findings. *Journal of Management Studies, 25*(4), 373-385.

Rosen, M. A., Bedwell, W. L., Wildman, J. L., Fritzsche, B. A., Salas, E., & Burke, C. S. (2011). Managing adaptive performance in teams: Guiding principles and behavioral markers for measurement. *Human Resource Management Review, 21*(2), 107-122.

Schakel, J. -., van Fenema, P. C., & Faraj, S. (2016). Shots fired! switching between practices in police work. *Organization Science, 27*(2), 391-410.

Stachowski, A. A., Kaplan, S. A., & Waller, M. J. (2009). The benefits of flexible team interaction during crises. *Journal of Applied Psychology, 94*(6), 1536-1543.

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. (pp. 1-74). US: Elsevier Science/JAI Press.

## SUMMARY

### All for One and One for All: How Teams Adapt to Crises

Surprises and crises can occur anytime, anywhere, and can impart acute challenges on organizational teams. Prior work on team adaptation has unveiled many cognitive and structural adaptive mechanisms. Similarly, management practice (e.g., Agile) has translated these mechanisms into popular tools and processes for teams to handle changing situations. Yet, these approaches confined to structural and cognitive mechanisms are incomplete in explaining the adaptive performance of teams as they overlook affect and emotions. Emotions are fundamental to human nature and teamwork, and crises can be intensely emotional events. This dissertation aims to complete the jigsaw puzzle: it uncovers the poorly understood affective mechanisms of team adaptation. I explain how emotions triggered by crises can activate emergent cycles of help, care and camaraderie between teammates. Teams that build such relational and affective reserves through successive crises, more successfully cope and respond to future events. Though, this is easier said than done: negative emotions can expedite the fragmentation of a team. Fortunately, this can be averted through affective leaders who positively regulate members' emotions. Such positivity helps avoid cliques as members' emotional needs

are met, and the team collectively unites to respond to crises. This dissertation offers a fresh perspective on team adaptation. Adaptation to crises, it seems, cannot be achieved without nurturing members' relational and affective ties for the benefit of the whole. This serves as a call for organizations to value emotions above blind adherence to packaged methodologies emphasizing mere structures, tools and processes.

**Allen voor Eén en Eén voor Allen: Hoe Teams Zich Aanpassen aan Crises**

Verrassingen en crises kunnen zich altijd en overal voordoen en kunnen organisatorische teams voor acute uitdagingen stellen. Eerder werk over teamadaptatie heeft vele cognitieve en structurele adaptatiemechanismen onthuld. Evenzo heeft de managementpraktijk (b.v. Agile) deze mechanismen vertaald in populaire hulpmiddelen en processen voor teams om met veranderende situaties om te gaan. Toch zijn deze benaderingen, die zich beperken tot structurele en cognitieve mechanismen, onvolledig in het verklaren van de adaptieve prestaties van teams, omdat ze affect en emoties over het hoofd zien. Emoties zijn fundamenteel voor de menselijke natuur en teamwerk, en crises kunnen intens emotionele gebeurtenissen zijn. Dit proefschrift onderzoektde slecht begrepen affectieve mechanismen van teamadaptatie. Ik leg uit hoe emoties veroorzaakt door crises

opkomende cycli van hulp, zorg en kameraadschap tussen teamgenoten kunnen activeren. Teams die dergelijke relationele en affectieve reserves opbouwen door opeenvolgende crises, kunnen met meer succes het hoofd bieden aan en reageren op toekomstige gebeurtenissen. Dit is echter gemakkelijker gezegd dan gedaan: negatieve emoties kunnen de fragmentatie van een team versnellen. Dit kan worden voorkomen door affectieve leiders die de emoties van de leden positief reguleren. Dergelijke positiviteit helpt kliekjes te vermijden omdat aan de emotionele behoeften van de leden wordt voldaan, en omdat het team zich dan collectief verenigt om op crises te reageren. Aanpassing aan crises, zo lijkt het, kan niet worden bereikt zonder het koesteren van de relationele en affectieve banden van de leden ten voordele van het geheel. Dit dient als een oproep aan organisaties om emoties belangrijker te vinden dan het blindelings volgen van verpakte methodologieën die louter structuren, instrumenten en processen benadrukken.

## ABOUT THE AUTHOR

Max Renault was born in Cyprus on February 22, 1980. His academic background begins with a Bachelor of Electronic Engineering (BEng) in 2003, at the University of the West of England (UWE) Bristol. Then, following his passion and curiosity, he specialized with a Master of Science (MSc) in Spacecraft Technology and Satellite Communications at the University College London (UCL).

Max's professional career began in 2004 in very different industry sectors—IT/Billing, Manufacturing, Aerospace, Formula One, Biomedical Research—and varied functions, from Project Management, R&D and Operations.

Max started his PhD in September 2016 at Erasmus University, on part-time basis whilst working full-time in the private sector. He carried out his research under the supervision of Prof. J.C.M. van den Ende and Dr. M. Tarakci.

# PORTFOLIO

## Peer-Reviewed Publications (Under Revision)

Renault, M. & Tarakci, M. (2021). An affect-based view of team adaptation during crises. *Academy of Management Journal* (first-round revision)

Renault, M. & Tarakci, M. (2021). One for all and all for one: Emotions and affective leaders in agile teams. *California Management Review* (first-round revision)

## Peer-Reviewed Conference Proceedings

Renault, M. (2020). Untangling team agility and the "need for speed": An integrative review and conceptualization. Paper presented at the *Proceedings of the British Academy of Management (BAM) 2020 Annual International Conference "Innovating for a Sustainable Future"*, United Kingdom. (PROCEEDINGS ISBN: 978-0-9956413-3-4). Link

## Conference Presentation

Renault, M. & Tarakci M. (2021, October). From crisis to crisis: Emergent affective states and adaptive performance in teams. Paper presented at the *INGRoup annual conference 2021*, Online.

Awarded **"**Best student paper" at INGRoup annual conference 2021

## Research Days

Renault, M. (2018, November). Untangling team agility: A review, conceptualization and integration model. Paper presented at the *Rotterdam School of Management 2018 Research Day,* The Netherlands.

Renault, M. & Tarakci M. (2019, November). Humanizing agility: What moves teams to respond to change. Paper presented at the *Rotterdam School of Management 2018 Research Day*, The Netherlands.

Renault, M. & Tarakci M. (2021, November). One for all and all for one: Emotions and affective leaders in agile teams. Paper presented at the *Rotterdam School of Management 2018 Research Day*, The Netherlands.

## RSM PT PHD SERIES

1. Duijm, P. On the Cyclical Nature of Finance: The role and impact of financial institutions, Promotor(s): Prof. D. Schoenmaker & Prof. W.B. Wagner, 1.

https://repub.eur.nl/pub/120767

2. Maas, S.A. In the moment of giving: Essays on contemporary forms of private and corporate philanthropy. Promotors: Prof. L.C.P.M. Meijs & Prof. J.P. Cornelissen.

https://repub.eur.nl/pub/124976

3. Langenbusch, C. A lot to lose. Organizational identity and emotions in institutional contexts. Promotors: Prof. J.P. Cornelissen & Prof. G. Jacobs.

https://repub.eur.nl/pub/125099

4. Zanten, J.A.P. van, Business in the Age of Sustainable Development, Promotor: Prof. R. van Tulder, Co-promotor: Dr. F. Wijen.

https://repub.eur.nl/pub/135674

5. Dekker, I., Academic Thriving: Optimising Student Development with Evidence-Based Higher Education. Promotor: Prof. M.C. Schippers.

https://repub.eur.nl/pub/

6. Caballero Santin, J.A. Stunted Innovation: How large incumbent Companies Fail in the Era of Digitization. Promotor: Prof. J.C.M. van den Ende, Co-promotor: Dr. M. Stevens
https://repub.eur.nl/pub/

7. Renault, M. All For One and One For All: How Teams Adapt to Crises. Promotor Prof. J.C.M. van den Ende, Co-promotor: Dr. M. Tarakci.
https://repub.eur.nl/pub/

Surprises and crises can occur anytime, anywhere, and can impart acute challenges on organizational teams. Prior work on team adaptation has unveiled many cognitive and structural adaptive mechanisms. Similarly, management practice (e.g., Agile) has translated these mechanisms into popular tools and processes for teams to handle changing situations. Yet, these approaches confined to structural and cognitive mechanisms are incomplete in explaining the adaptive performance of teams as they overlook affect and emotions. Emotions are fundamental to human nature and teamwork, and crises can be intensely emotional events. This dissertation aims to complete the jigsaw puzzle: it uncovers the poorly understood affective mechanisms of team adaptation. I explain how emotions triggered by crises can activate emergent cycles of help, care and camaraderie between teammates. Teams that build such relational and affective reserves through successive crises, more successfully cope and respond to future events. Though, this is easier said than done: negative emotions can expedite the fragmentation of a team. Fortunately, this can be averted through affective leaders who positively regulate members' emotions. Such positivity helps avoid cliques as members' emotional needs are met, and the team collectively unites to respond to crises. This dissertation offers a fresh perspective on team adaptation. Adaptation to crises, it seems, cannot be achieved without nurturing members' relational and affective ties for the benefit of the whole. This serves as a call for organizations to value emotions above blind adherence to packaged methodologies emphasizing mere structures, tools and processes.

This PhD thesis has sprung from the Part-time PhD Programme at the Rotterdam School of Management, Erasmus University (RSM). Part-time PhD candidates conduct research against the highest academic standards on topics with real-world application value, thereby contributing to the positive impact of RSM research on business and other societal stakeholders.

This programme allows candidates to develop their academic and research skills while they work. During the five-year programme, candidates are trained in research methods, use RSM's research facilities and databases, participate in international conferences, and are supervised by research-active faculty.

RSM is one of Europe's top business schools with a strong reputation for academic research. It aims to develop business leaders immersed in international careers, who can become a force for positive change by carrying a critical, creative, caring, and collaborative mindset into a sustainable future.

RSM PhD Series
**Research in Management**

**Rotterdam School of Management**
**Erasmus University**
Mandeville (T) Building
Burgemeester Oudlaan 50
3062 PA Rotterdam
The Netherlands

P.O. Box 1738
3000 DR Rotterdam
The Netherlands
+ 31 10 408 1182
info@eur.nl
www.eur.nl