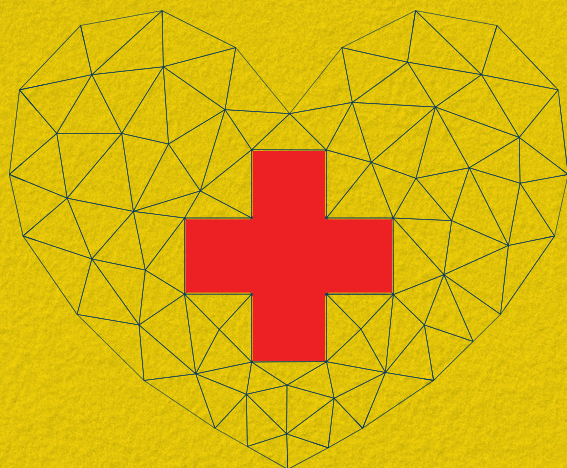


# Towards Highly Performing

*Community-Academic*

# Health Partnerships



CHOI WAI (MAGGIE) CHAK



**TOWARDS HIGHLY PERFORMING  
COMMUNITY-ACADEMIC HEALTH PARTNERSHIPS**

*Choi Wai Chak*



**TOWARDS HIGHLY PERFORMING  
COMMUNITY-ACADEMIC HEALTH PARTNERSHIPS**

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on the authority of the rector magnificus,

prof. dr. ir. A. Veldkamp,

on account of the decision of the Doctorate Board,

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by

**Choi Wai Chak**

born on the 21<sup>st</sup> of December 1992

in Hong Kong, China

This PhD dissertation has been approved by:

Supervisor:

prof. dr. C. P. M. Wilderom

Co-supervisors:

dr. L. Carminati

dr. T. Kliewe

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Chair / secretary: prof. dr. T. Bondarouk

Supervisor: prof. dr. C. P. M. Wilderom  
University of Twente, BMS, Industrial Engineering &  
Business Information Systems

Co-supervisors: dr. T. Kliewe  
FH Münster University of Applied Sciences, Germany

dr. L. Carminati  
University of Twente, BMS, Industrial Engineering &  
Business Information Systems

Committee Members: prof. dr. ir. J. Henseler  
University of Twente, ET, Product-Market Relations

prof. dr. J. E. W. C. van Gemert-Pijnen  
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prof. em. T. Baaken  
FH Münster University of Applied Sciences, Germany

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# Preface

*“The most challenging times bring us the most empowering lessons.”*

*– Karen Salmansohn*

# Preface

This dissertation was conceived before the COVID-19 pandemic, one of the greatest health crises of our times. Since this crisis began, people have often asked me: *How do you think this can be ended?* From the public health and epidemiological perspective, the answer is simple to offer, yet (highly) difficult to realise - solidarity and strong collaboration at all levels of society! After all, public health is essentially a cooperative venture. Especially for highly complex or difficult problems, it seems intuitive to solve them by forming teams or networks of teams instead of tackling them individually.

For decades, community-academic health partnerships (CAHPs) have been common approaches for researchers to address complex global health threats and improve a population's health and well-being via collaborating with diverse community stakeholders. The current pandemic is no exception. However, success is not guaranteed. Even though such collaboration becomes increasingly necessary and inevitable, it can be as complex and challenging to implement and manage as the health threats they aim to address. Today, it remains unclear how to bring diverse stakeholders together to enable effective and sustainable community health changes in CAHPs, particularly in German-speaking areas (i.e., Germany, Austria, and Switzerland). Hence, this dissertation examines pre-pandemic CAHP projects from an Organisational Behavioural perspective to further explore how the partnership process can be optimised at a micro-level to enable high CAHP project performance.

Inspired by a common participatory research methodology called River of Life, this dissertation is connected by quotes regarding a voyage as a metaphor to describe the CAHP process. If a CAHP project represents a boat set to sail into uncharted waters, then the project workers are the crew with diverse backgrounds committed to joining forces to reach the same destinations (i.e., partnership goals). By understanding the interactive dynamics in their inner workings and how these people perceive and deal with the challenges and constraints faced during the collaborative journeys, this dissertation aims to construct lighthouses based on the lessons learnt and offer a compass to help them and their peers sail through the storms and better navigate in a future CAHP project.

Welcome on board to the "CAHP-venture". I wish you a pleasant journey!

Choi Wai (Maggie) Chak

Münster, July 2022





# Summary

*“The sooner we learn to be jointly responsible, the easier the sailing will be.”*

*— Ella Maillart*

## Summary

A community-academic health partnership (CAHP) is a form of networked organisation that aims to bridge specific knowledge-practice gaps in health care through collaboration between researchers and diverse community stakeholders. Despite being extensively applied to address numerous “wicked” health problems (such as drug addiction, cardiovascular diseases, and physical inactivity), CAHPs have long been criticised for being too resource-intensive, complex to operate and manage, and lacking performance or sustainability. These challenges and constraints have made many CAHP projects fail to fully demonstrate their added value to society. Yet, little is known about how individual project workers can meet CAHPs’ inherent challenges and constraints to perform well in these increasingly diversified CAHP settings.

Hence, to improve CAHPs’ ability to enable lasting, effective health impacts and to identify practical insights to inform future CAHP practice, this thesis sets out to answer the next central question:

***How do workers perceive and respond to the inherent challenges and constraints of their CAHP environment to achieve high project performance?***

This dissertation consists of three stand-alone yet interlaced empirical chapters of quantitative and qualitative nature, based on the data of two field studies (i.e., a large-scale self-administered survey and a set of semi-structured interviews). In each empirical chapter, I examined the key enablers of highly performing partnership processes (i.e., workers’ perceptions of *project goals*, workers’ perceived sufficiency of *project resources*, and effective *project leaders(hip)*). More specifically, I investigated the effects of these enablers on various inherent project challenges and constraints as well as on workers’ perceived project performance in diverse CAHP settings. Data used in each study did not overlap except for two variables (i.e., workers’ perceived goal stress and project performance). These two variables, however, were applied differently in the first two empirical chapters to address

unique sets of research questions from entirely different angles. Different theoretical lenses from an Organisational Behaviour (OB) perspective were employed in each chapter (i.e., Goal-setting, Job Demands-Resources, and Complexity Leadership theories) to examine the underlying conditions, mechanisms, and processes that enhance CAHP projects' performance, respectively. The research focused on CAHP projects in the German-speaking European regions, as CAHPs are emerging organisational forms in these regions that demand more scrutiny, particularly given their lofty goals, the extensive resources involved, and the highly varying or uncertain performance.

The contribution of this dissertation is four-fold. Firstly, it provides deeper insights into the collective impact of the dynamics between the three different key enablers and the inherent project challenges and constraints on promoting highly performing CAHPs. Secondly, this work elucidates *how* these enablers shape high project performance in diverse CAHPs. Thirdly, it highlights the useful skills, strategies, and qualities that project workers should develop or mobilise to cope with the unique contextual challenges of implementing CAHPs effectively. Fourthly, it advances the nascent CAHP development in the German-speaking regions by providing theory-driven, evidence-based findings that ensure CAHPs function well in practice. In addition, this dissertation offers practice-relevant suggestions for CAHP workers, leaders, policymakers, and funders to enable better design, implementation, management, and resource utilisation of this emerging form of network-based, vital collaboration.

## Samenvatting (Dutch)

Een 'Community-Academic Health Partnership' (CAHP) is een netwerk-type organisatie die kennisgaten poogt te overbruggen in gezondheidszorgsystemen. Dit gebeurt d.m.v. samenwerkingen tussen onderzoekers en belanghebbenden. Ondanks dat deze organisatievorm vaker voorkomt om bekende en complexe gezondheidsproblemen aan te pakken (zoals drugverslaving, cardiovasculaire aandoeningen of fysieke inactiviteit), zijn CAHPs ook bekritiseerd. De kritiek richt zich bijvoorbeeld op haar hoge kosten, de toepassingscomplexiteit en de gebrekkige duurzame resultaten. Dit soort uitdagingen en beperkingen maken het onmogelijk voor vele CAHP-projecten om hun toegevoegde maatschappelijke waarde aan te tonen. Tevens is er nog weinig bekend over hoe individuele CAHP-medewerkers een hoge performance kunnen leveren ondanks die uitdagingen en beperkingen. Gegeven het nastrevenswaardige doel van CAHPs, om positieve en langdurige individuele gezondheidswinsten te boeken in lokale gemeenschappen, en we nog weinig weten over hoe de uitvoerende netwerkmedewerkers hun werk ervaren, stelt dit proefschrift de volgende vraag centraal:

***Hoe worden de aan CAHP inherente uitdagingen en beperkingen door medewerkers ervaren en hoe reageren ze hierop om een hoge performance te realiseren?***

De kern van het proefschrift bestaat uit drie op zich staande, en met elkaar verweven empirische hoofdstukken: van kwalitatieve en kwantitatieve aard. Ze zijn gebaseerd op de data van twee dataverzamelingen rondes: t.w. een grootschalig vragenlijst onderzoek en, met een andere steekproef, een set van semigestructureerde interviews. In ieder empirisch hoofdstuk zijn de belangrijkste faciliterende empirische factoren gerapporteerd m.b.t. het bereiken van sterke samenwerkingsprocessen, met een focus op hoe medewerkers de adequaatheid van hun doelen, andere projectmogelijkheden en het project leiderschap ervaren. Ook zijn de effecten gerapporteerd van deze zgn. 'enablers' te midden van de

verschillende inherente uitdagingen en beperkingen, alsook hoe de project performance ervaren werd door de medewerkers in de diverse CAHP-omgevingen. De data die in iedere studie zijn gebruikt overlappen elkaar niet, met uitzondering van twee variabelen (t.w. de door de medewerkers ervaren stress om het praktische resultaat te bereiken en de waargenomen project performance). Deze twee variabelen werden echter anders toegepast in de eerste twee empirische hoofdstukken om een uniek aantal research vragen te kunnen beantwoorden, vanuit totaal verschillende perspectieven. In ieder van de drie empirische hoofdstukken zijn verschillende OB-theoretische zienswijzen gebruikt (t.w. Goal-Setting, Job Demands-Resources, en Complexity Leadership theorieën); dat was om de onderliggende condities, mechanismen en processen te bestuderen die de performance van CAHP-projecten kunnen bevorderen. Het onderzoek spitste zich toe op CAHP-projecten in de Duitssprekende Europese regio's. Dit omdat de CAHPs aldaar een opkomende organisatievorm zijn die toetsing vereisen. Immers, zij hebben zeer veeleisende doelstellingen en benodigen veel middelen en moeite met een nogal onzekere en ook sterk uiteenlopende gepercipieerde performance.

De bijdrage van dit proefschrift is viervoudig. Ten eerste, geeft het diepe inzichten in de collectieve gevolgen van de dynamiek tussen de drie verschillende 'key enablers' en de inherente CAHP-uitdagingen en -beperkingen. Ten tweede verduidelijkt dit boek *hoe* deze 'enablers' een effect hebben op de hoge performance van diverse CAHPs. Ten derde benadrukt het de zinvolle vaardigheden, strategieën en kwaliteiten die de medewerkers moeten ontwikkelen of mobiliseren om de unieke contextuele uitdagingen aan te kunnen van hun CAHP. Ten vierde, verschaft dit proefschrift zowel exploratieve als 'theory-driven, evidence-based' bevindingen die kunnen bijdragen aan het beter functioneren van CAHPs in de onderzochte Duitssprekende netwerkpraktijken. Daarbij draagt dit proefschrift praktijk-relevante suggesties aan voor CAHP-medewerkers, -leiders, -beleidsmakers en -financiers voor een beter ontwerp, implementatie en management van het gebruik van deze complexe vorm van netwerk-type partnerschap.

# Chapter 1

## *Introduction*

*“There will always be rough days and easy ones. Like a ship, we must sail through both.”*

*— Nabil N. Jamal*



# Chapter 1

## Introduction

This chapter introduces the research topic of this dissertation by outlining its background and rationale. Based on the knowledge gaps identified in this chapter, the research objectives and contributions are proposed. The chapter concludes with an overview of the dissertation's structure and the research questions of the other chapters.

### **1.1. Research Background and Rationale of this Dissertation**

Nowadays, our society is challenged by many unprecedented, complex public health issues, ranging from an ageing population, rampant infectious diseases, a rising chronically diseased population, widening urban-rural inequities in health care provision, to soaring health costs (Johnston & Finegood, 2015; Leatherwood et al., 2021). Commonly described as “wicked” problems due to their intricately root causes, large scope and scale, as well as far-reaching societal impacts (Rühli, Sachs, Schmitt, & Schneider, 2017), these issues are often intractable. As a result, they often require transdisciplinary, cross-sectoral efforts at all levels of society to effect long-lasting, positive health changes (Johnston & Finegood, 2015). The current COVID-19 pandemic is a recent example of such “wicked” health threats. At the time of writing, it has recorded over 555 million cases and caused more than 6 million deaths worldwide (Centre for Systems Science and Engineering, 2022). Its unpredictability, severity, and breadth have raised our expectations of science and accentuated the need for stronger collaboration and solidarity between scientists, healthcare practitioners, governments, businesses, and citizens to curb this global health crisis.

Nevertheless, scientific results generated under the conventional models of knowledge production have long been heavily criticised for being excessively

researcher- and theory-driven instead of problem-driven, thus not only failing to respond to the oppressed people's health needs adequately but also to sufficiently translate research findings into societally relevant, effective health interventions and innovations (Tebes, Thai, & Matlin, 2014; Sormani, Baaken, & van der Sijde, 2021). Thus, public health research in the 21<sup>st</sup> century has increasingly moved toward a more collaborative, application-oriented, and democratic research paradigm to integrate science and practice to improve health equity (Ortiz et al., 2020; Tebes & Thai, 2018). This dissertation investigates the complex inner workings of this form of emerging democratic research paradigm: **Community-Academic Health Partnership (CAHP)**<sup>1</sup>.

Falling under the umbrella of the diverse and growing field of Community-Engaged Research (CEr), CAHPs describe the equitable, collaborative relationships between researchers and diverse community representatives from public, private, and non-profit sectors (e.g., policymakers, health care organisations, businesses, and community agencies) with the specific shared goal(s) of improving community (health) outcomes (Drahota et al., 2016; Leatherwood et al., 2021). Similar to other forms of CEr such as Participatory Action Research (PAR) (Troppe, 1994)<sup>2</sup>, Participatory Health Research (PHR) (Wright & Kongats, 2018)<sup>3</sup>, and Community-Based Participatory Research (CBPR) (Israel, Schulz, Parker, & Becker, 1998)<sup>4</sup>, CAHPs share

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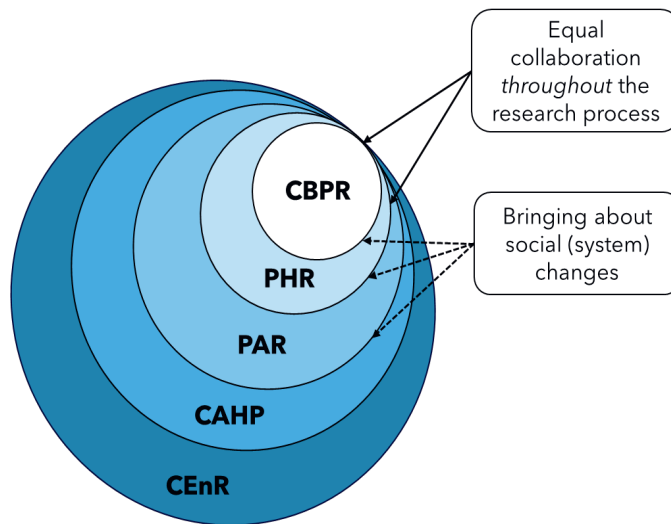
<sup>1</sup> Drahota and colleagues (2016) (pp. 192) conceptualised Community-Academic Partnerships (CAPs) as *"characterised by equitable control, a cause(s) that is primarily relevant to the community of interest, and specific aims to achieve a goal(s) and involves community members (representatives or agencies) that have knowledge of the cause, as well as academic researchers."* Whilst many CAPs examples are health-related, the term Community-Academic Health Partnership (CAHP) used in this dissertation is a refined term derived from this definition to specify CAPs for health-related causes.

<sup>2</sup> PAR is a merged concept evolved from the action research science proposed by German-American social psychologist Kurt Lewin (1946) and participatory research science proposed by Brazilian educator Paulo Freire (1970). Troppe (1994) (pp. 4) later defined it as *"research inquiry involving community participation and translating research findings into education and social change actions"*.

<sup>3</sup> PHR is a concept evolved from PAR and CBPR, which aims to *"maximise the participation of those whose life or work is the subject of the research in all stages of the research process to bring about social change, with an impact beyond the production of academic knowledge."* (Wright & Kongats, 2018, pp. 15).

<sup>4</sup> Being inspired by PAR, Israel et al. (1998) (pp. 177) developed the concept of Community-Based Participatory Research (CBPR) as *"a collaborative, partnership approach to research that equitably involves community members, organisational representatives, and researchers in all aspects of the research process."* CBPR is one of the most commonly applied and studied forms and is often seen as a gold standard for participatory health research due to its highest degree of community engagement.

the common aims of implementing more robust and rigorous research and delivering more relevant, effective, and sustainable health interventions through collaborative partnerships (Chambers & Azrin, 2013; Pellecchia et al., 2018). However, differ from CBPR and PHR, CAHPs do not assume an equal involvement of academic and community stakeholders *throughout* the research process (i.e., from the research conceptualisation to final dissemination), since some scholars have criticised this as unrealistic or unsustainable (Leatherwood et al., 2021; Tebes & Thai, 2018).



**Figure 1.1 Scope and Differences of Varied Forms of Community-academic Collaboration within the Spectrum of CEnR**

At the same time, CAHPs are also less limiting than PAR, as they also cover partnerships beyond educational or social system change purposes (Drahota et al., 2016). Therefore, despite the considerable conceptual overlap of these terms, CAHPs are argued to be a more inclusive and viable approach for advancing the continued development and theorisation of the increasingly diversified forms of community-academic collaboration (Drahota et al., 2016; Leatherwood et al., 2021). Figure 1.1 visualises the scope and differences of these forms of community-academic collaboration within the spectrum of CEnR. Hence, over the past few decades, CAHPs

have been applied extensively to address a broad range of “wicked” public health concerns, such as cancer, cardiovascular diseases, physical inactivity, drug addiction, and the recent COVID-19 pandemic (Leatherwood et al., 2021; Rühli et al., 2017).

Although CAHPs are effective for integrating resources, expertise, and capacities, exchanging good practices and learning, as well as sharing costs and risks (Vangen & Huxham, 2003), they remain controversial due to challenging implementations and high risks of failure (Trotter, Laurila, Alberts, & Huenneke, 2015; Kurzhals, Uude, Sormani, Chak, & Banze, 2022). For instance, since such projects often require extra time and efforts to establish long-term, trustful relationships and to identify shared goals among the diverse partners (Bevc, Retrum, & Varda, 2015; García-Rivera et al., 2017). Meanwhile, time constraints and inadequate financial and human resources are often the key hindrances of CAHPs’ ability to sustain partners’ long-term commitment to the projects and make long-lasting systemic changes (Ahmed et al., 2016; Benoit, Jansson, Millar, & Phillips, 2005; Drahota et al., 2016). In addition, CAHP project work can be highly intense and demanding, leading to a high chance of burnout and turnover among project personnel and partnership inefficiency (Ahmed et al., 2016; Gredig et al., 2021b). They can also be challenging to manage due to the complex dynamics between individual characteristics of those involved (e.g., beliefs, motivations, and values), partnership structures (e.g., project member diversity, complexity, and resources available), and relationships (e.g., leadership) within the partnership process (Minkler, Wallerstein, Duran, & Oetzel, 2017; Vaughn, Jacquez, & Zhen-Duan, 2018; Ortiz et al., 2020), leading to challenges in accommodating diverse interests and establishing effective communication (Benoit et al., 2005; Luger, Hamilton, & True, 2020). As a result, issues like resource-intensiveness, lack of sustainability, and project management complexity often call into question the cost-effectiveness and added value of CAHP projects (Hearld, Bleser, Alexander, & Wolf, 2016). Given that CAHP projects often require years of investments and relentless efforts across multiple sectors to achieve positive, tangible health outcomes and are prone to failure (Neuhann & Barteit, 2017), ensuring their

ability to achieve their project goals successfully is crucial for CAHP practitioners, partnering organisations, policymakers, funders, and their beneficiaries. Scholars have thus called for a renewed focus on improving CAHPs' performance in goal attainment to better fulfil their triple requirements: enabling innovation, community engagement, and effectiveness (Fransman et al., 2021; Pellicchia et al., 2018). In particular, more research is needed to investigate CAHPs' inner working and performance from individual project workers' perspectives (e.g., their beliefs and motivation) (Vaughn et al., 2018; Steenkamer et al., 2020).

## **1.2. Research Gaps and Research Objectives**

The overarching aim of this dissertation is to understand how the inherent challenges and constraints of CAHPs can be met by its project workers (including leaders) to attain high performance in increasingly heterogeneous CAHP settings. The overarching research question of this dissertation is, therefore:

***How do workers perceive and respond to the inherent challenges and constraints of their CAHP environment to achieve high project performance?***

To address this question, this research explores how three enablers of highly performing partnership process (i.e., project workers' perception of *project goals*, perceived sufficiency of *project resources*, and effective *project leaders(hip)*) can contribute to high CAHP performance. Four dissertation objectives are proposed to address the specific research gaps in extant CAHP research.

Firstly, despite the effort devoted to identifying the project enablers and the challenges and constraints hindering CAHP processes in previous descriptive and narrative research (Foster-Fishman, Berkowitz, Lounsbury, Jacobson, & Allen, 2001; Gredig et al., 2021b; Stolp et al., 2017; Zakocs & Edwards, 2006), their interactions and joint influence on CAHPs' performance have been rarely studied (J. H. Corbin, Jones, & Barry, 2018). Yet, project performance and success in real-life CAHP practice can be largely determined by the sophisticated dynamics between the enablers and barriers of the partnering processes (Ortiz et al., 2020; Vaugahn et al., 2018).

Therefore, given the necessity to better understand both facilitators and barriers in such processes (Ortiz et al., 2020), this dissertation aims to offer deeper insights into effective CAHP management by unravelling the complex interplay between enabling and inhibiting (i.e., typical challenges and constraints) factors of the highly-performing partnership process and empirically testing its effects on heterogeneous CAHPs' performance.

Secondly, most extant literature has focused on evaluating project-specific outcomes rather than systematically comparing the processes leading to successful outcomes across CAHPs (Luger et al., 2020). Hence, *how* to attain high performance in different forms of CAHPs remained poorly understood and theorised (Ahmed et al., 2016; Ortiz et al., 2020). Therefore, this dissertation aims to extend the theoretical development of CAHP project management by expanding our knowledge of the underlying conditions, mechanisms, and processes that shape high project performance in diverse CAHPs.

Thirdly, CAHP literature is commonly criticised for its lack of detailed reflections on any challenges or failures in leading and implementing such projects, contributing to a vicious circle of ill-managed projects (Anderson & Valadares, 2017; Igel et al., 2018; Neuhann & Barteit, 2017). As a result, little is known about project workers' lived experiences (Ortiz et al., 2020) and how they perceive and meet those challenges to perform effectively in their CAHPs (Bowen et al., 2019; Moran, Allen, Sanderson, McDermott, & Osipovic, 2021). In accordance, the third objective of this dissertation is to advance CAHPs' implementation science by unpacking their hidden inner workings and identifying the useful skills, strategies, and qualities that enable project workers to address various project challenges and constraints and implement CAHPs more effectively.

Lastly, whilst most extant CAHP findings are generated in Anglo-Saxon regions (Ortiz et al., 2020), CAHP is a still nascent research field in German-speaking contexts that requires more scrutiny (Wright & Kongats, 2018). Considering that CAHP's

development in these regions has only revived in recent years after a long stagnation in the mid-20<sup>th</sup> century, to what extent are current CAHP findings transferable to the German-speaking world (i.e., Austria, Germany, and Switzerland) remains unclear (Gredig et al., 2021; von Unger, 2012). Therefore, the fourth objective of this dissertation is to further promote/strengthen CAHPs' development in the German-speaking regions by generating the latest, theory-driven, and evidence-based findings to inform better CAHP practices. In so doing, it aims to provide practical guidance to workers, leaders, policymakers and funders in these regions to help them better implement, organise, and utilise resources in their CAHP projects.

To achieve the above objectives, a pragmatist approach, based on a mixed-method design, is adopted to inform future CAHP practice (Saunders, Lewis, Thornhill, & Bristow, 2015). Consequently, this dissertation has followed CAHP scholars' recommendations (Ortiz et al., 2020; Luger et al., 2020) to adopt quantitative and qualitative techniques (e.g., surveys and semi-structured interviews) for data collection and analyses. Mixed methods were used to gain a comprehensive understanding of (1) the complex effects of the dynamics of different enablers and barriers (i.e., challenges and constraints) on project performance across CAHP settings; and (2) the underlying conditions, mechanisms, and processes of how these dynamics may influence the project performance. Individuals engaging in diverse ongoing or recently completed CAHP projects in German-speaking countries were investigated to unpack their views on the complex realities of CAHP project implementation and their corresponding responses to the challenges or constraints encountered.

### **1.3. Contributions**

Through addressing the above four research objectives, this dissertation contributes to the literature on CAHP, health care (project) management and implementation, and OB in four ways. Firstly, it contributes to effective CAHP management by demonstrating the complex dynamics of three key enablers of highly performing partnership processes (i.e., workers' perception of project goals, workers'

perceived sufficiency of project resources, and effective project leaders(*hip*)) in meeting various project challenges and constraints and their joint impacts on CAHPs' performance. Secondly, the research findings offer deeper insights into CAHP project management development by illuminating the underlying conditions, mechanisms, and processes by which these enablers shape high project performance in diverse CAHPs. Thirdly, it advances CAHP implementation science by unveiling project workers' real-life experiences and highlighting the beneficial skills, strategies, and qualities that helped them better cope with the challenges and implement CAHP projects more effectively. Lastly, this dissertation also contributes to the burgeoning CAHP development in German-speaking regions by offering state-of-the-art, theory-driven empirical research findings that promote CAHP functioning and the practical guidance for frontline practitioners, leaders, policymakers, and funders in the regions towards better implementation, management, and leverage of resources in their CAHP projects.

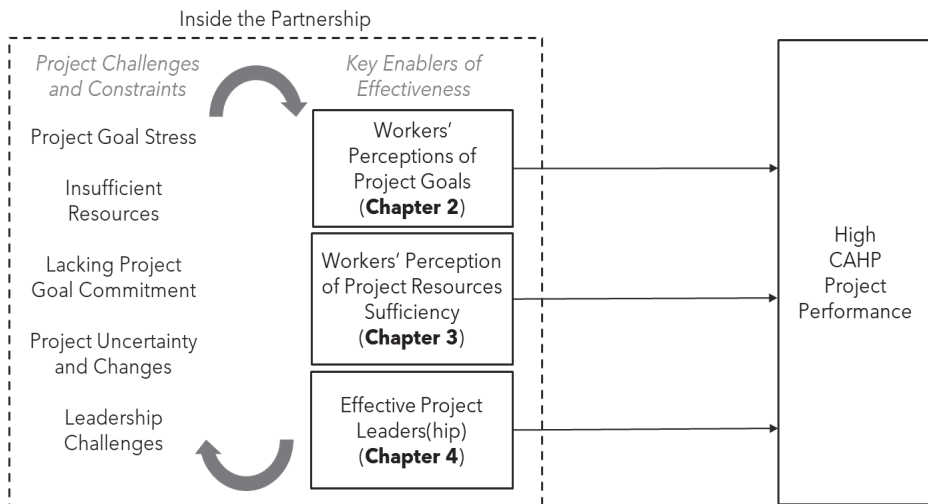
#### **1.4. Dissertation Structure and Research Questions**

This dissertation consists of 5 chapters. It introduces, reports, and discusses three stand-alone but interlaced empirical studies presented in **Chapters 2, 3 and 4**, respectively. **Chapters 2, 3 and 4** have been accepted for publication in different international, peer-reviewed journals and they are all published. The earlier versions of all three studies were accepted for presentation at the Annual Meetings of the Academy of Management in 2020, 2021, and 2022, respectively.

Although the three empirical studies are based on the data of two independent field studies, each chapter has a specific focus and addresses a unique set of research questions. Hence, each chapter examines how different key enablers of highly performing partnership (i.e., workers' perceptions of *project goals* (**Chapter 2**), workers' perceived sufficiency of *project resources* (**Chapter 3**), and effective *project leaders(hip)* (**Chapter 4**)) contributes to high project performance in diverse CAHP settings, respectively. These unique enablers are studied in tandem with various related project challenges and constraints inherent in CAHP environments,



such as workers' goal stress (due to demanding project goals) (**Chapter 2, 3**)<sup>5</sup>, resource insufficiency (**Chapter 3**), difficulty to sustain workers' project goal commitment (**Chapter 3**), project uncertainties and changes (**Chapter 4**) and leadership challenges (**Chapter 4**) to examine their dynamics and collective impact on project performance. **Chapters 2 and 3** are based on a large-scale quantitative field study that involved a self-administered survey targeting academic and community actors working in the health and social care disciplines and CAHP networks in the German-speaking regions of Europe (i.e., Germany, Austria, and Switzerland) (N = 578). **Chapters 3 and 4** are based on a qualitative field study consisting partially or totally of 32 in-depth, semi-structured interviews from an entirely independent sample of project leaders working on different ongoing or recently completed German CAHP projects. Figure 1.2 illustrates the conceptual model of high CAHP project performance investigated in this dissertation.



**Figure 1. 2 Conceptual Model of High CAHP Project Performance**

<sup>5</sup> While two main variables overlap in Chapters 2 and 3 (i.e., workers' goal stress and project performance), they are studied from entirely different angles with unique focuses. More specifically, workers' goal stress is investigated as a moderator of a boundary condition based on Goal-setting Theory in Chapter 2; and as a mediator of a mechanism based on Job Demands-Resources Theory in Chapter 3.

Together, different theoretical lenses from an Organisational Behaviour (OB) perspective were taken in each study to address the three specific research gaps and research questions identified in these chapters via extensive literature reviews.

For instance, provided that CAHP projects were essentially formed upon shared goals and their performance is often measured by the attainment of project goals, **Chapter 2** was steered by Goal-setting Theory (GST) (Locke & Latham, 2006). It presents a convergent mixed-methods study examining the *boundary conditions* of project workers' project goal perceptions on project performance in different CAHPs. It also explores how these perceptions influenced CAHP project performance under the challenge of high goal stress due to demanding project goals. The specific research questions addressed in this chapter are:

**Research Question 2.1)** To what extent are the three project-goal perceptions: goal clarity, goal stress (due to excessively demanding goals), and goal importance interrelated?

**Research Question 2.2)** How do they influence high CAHP project performance?

**Chapter 3** drew on both GST (Locke & Latham, 2006) and Job Demands-Resources Theory (JD-R) (Bakker & Demerouti, 2014) to study the dynamics concerning workers' perceived sufficiency of project resources. A sequential explanatory mixed-method study was conducted to examine the *mechanisms* of how project workers can mobilise various project resources (i.e., human, financial, and personal cognitive-motivational resources) to achieve high project performance and their effects on project workers' goal commitment and -stress. More specifically, it explored the interconnections between human (collaborative project leadership), financial (i.e., financial project resources), and personal cognitive-motivational project resources (i.e., project workers' hope) and their mediating effects on CAHP workers' project goal commitment, project goal stress, and project performance. The research questions of this chapter were:

**Research Question 3.1)** How do collaborative project leadership and financial project resources affect project workers' personal cognitive-motivational resources (i.e., hope), project goal commitment and -stress, and project performance?

**Research Question 3.2)** What challenges did CAHP project workers face?

**Research Question 3.3)** How did CAHP project workers cope with these challenges to perform well in their projects?

**Chapter 4** reports an inductive, qualitative study looking into one of the most influential enablers of a CAHP project's success and sustainability considered by CAHP researchers: its leadership. It examined the dynamic *processes* of developing effective CAHP project leaders(hip) through the lens of Complexity Leadership Theory (CLT) (Uhl-Bien, Marion, & McKelvey, 2007). It also depicts how adopting different complexity leadership logic can facilitate project leaders to develop effective CAHP leadership despite various challenges and constraints such as resource insufficiency and project uncertainties and changes. The central research question of this chapter was:

**Research Question 4)** How do project leaders perform their leadership functions and roles effectively in complex CAHP systems?

The last chapter (**Chapter 5**) illustrates the unique and shared theoretical contributions and practical implications of the research findings in Chapters 2, 3, and 4. The studies' strengths and limitations are discussed, and suggestions for future research avenues are proposed. A summary table presenting all chapters and their key details is presented in Table 1.1.

**Table 1.1 A Summary of the Relevant Details of Each Chapter in this Dissertation**

| Chapter | Title   | Research Questions  | Theories   | Research Design                           | Data Sources  | Disseminated  |
|---------|---|---|--|---|---|---|
| 1       | Introduction  |   |  |   |   |   |
| 2       | Interplay of Clear, Demanding, and Important Goals on Project Performance in Community-Academic Health Partnerships       | <p>2.1. To what extent are the three project-goal perceptions: goal clarity, goal stress (due to excessively demanding goals), and goal importance interrelated?</p> <p>2.2. How do they influence high CAHP project performance?</p>   | Goal-setting Theory (GST) (Locke & Latham, 2006)   | Convergent mixed-method study             | Self-administered online survey (N = 268) and open-ended written questions (N = 209)        | <ul style="list-style-type: none"> <li>Presented at the 80<sup>th</sup> Annual Meeting of the Academy of Management (Online-Vancouver, Canada, 2020)</li> <li>Published in Health Care Management Review (HCMR) DOI:10.1097/HMR.0000000000000320</li> </ul>                 |
| 3       | Hope, Goal-Commitment and -Stress Mediating between Collaborative Leadership, Financial Resources and Project Performance | <p>3.1. How do collaborative project leadership and financial project resources affect project workers' personal cognitive-motivational/resources (i.e., hope), project goal commitment and -stress, and project performance?</p> <p>3.2. What challenges did CAHP project workers face?</p> <p>3.3. How did CAHP project workers cope with these challenges to perform well in their projects?</p> | <p>Job Demands-resources (JD-R) Theory (Bakker &amp; Demerouti, 2014) and Goal-setting Theory (Locke &amp; Latham, 2006)</p> | Sequential explanatory mixed-method study | Self-administered online survey (N = 322) and semi-structured, in-depth interviews (N = 21) | <ul style="list-style-type: none"> <li>Presented at the 81<sup>st</sup> Annual Meeting of the Academy of Management (Online-2021)</li> <li>Published in International Journal of Productivity and Performance Management (IJPPM) DOI: 10.1108/IJPPM-05-2021-0280</li> </ul> |
| 4       | Effective Leaders(hip) in Community-Academic Health Partnership Projects: An Inductive, Qualitative Study                 | 4. How do project leaders perform their leadership functions and roles effectively in complex CAHP systems?   | Complexity Leadership Theory (CLT) (Uhl-Bien, Marion, & McKelvey, 2007)  | Inductive, qualitative study              | Semi-structured, in-depth interviews (N = 32)   | <ul style="list-style-type: none"> <li>Accepted for presentation at the 82<sup>nd</sup> Annual Meeting of the Academy of Management (Seattle, Washington, USA, 2022)</li> <li>Published in Frontiers in Public Health DOI: 10.3389/fpubh.2022.941242</li> </ul>             |
| 5       | Discussion  |   |  |   |   |   |

## 1.5. References

- Ahmed, S. M., Maurana, C., Nelson, D., Meister, T., Young, S. N., & Lucey, P. (2016). Opening the black box: Conceptualizing community engagement from 109 community-academic partnership programs. *Progress in Community Health Partnerships: Research, Education, and Action*, 10(1), 51-61.
- Anderson, E. E., & Valadares, K. J. (2017). Introduction: Community-academic partnerships in research and public health. *Narrative Inquiry in Bioethics*, 7(1), 1-4.
- Bakker, A. B., & Demerouti, E. (2014). Job demands-resources theory. In C. L. Cooper (Ed.), *Wellbeing: A complete reference guide* (pp. 1-28). Chichester: Wiley-Blackwell.
- Benoit, C., Jansson, M., Millar, A., & Phillips, R. (2005). Community-academic research on hard-to-reach populations: Benefits and challenges. *Qualitative Health Research*, 15(2), 263-282.
- Bevc, C. A., Retrum, J. H., & Varda, D. M. (2015). Patterns in PARTNERing across public health collaboratives. *International Journal of Environmental Research and Public Health*, 12(10), 12412-12425.
- Bowen, S., Botting, I., Graham, I. D., MacLeod, M., Moissac, D. de, Harlos, K., . . . Knox, J. (2019). Experience of health leadership in partnering with university-based researchers in Canada - A call to "re-imagine" research. *International Journal of Health Policy and Management*, 8(12), 684-699.
- Chambers, D. A., & Azrin, S. T. (2013). Research and services partnerships: A fundamental component of dissemination and implementation research. *Psychiatric Services*, 64(6), 509-511.
- Corbin, J. H., Jones, J., & Barry, M. M. (2018). What makes intersectoral partnerships for health promotion work? A review of the international literature. *Health Promotion International*, 33(1), 4-26.
- Centre for Systems Science and Engineering (2022). COVID-19 Dashboard. Retrieved July 09, 2022, from <https://coronavirus.jhu.edu/map.html>.
- Drahota, A., Meza, R. D., Brikho, B., Naaf, M., Estabillo, J. A., Gomez, E. D., . . . Aarons, G. A. (2016). Community-academic partnerships: A systematic review of the state of the literature and recommendations for future research. *The Milbank Quarterly*, 94(1), 163-214.
- Foster-Fishman, P. G., Berkowitz, S. L., Lounsbury, D. W., Jacobson, S., & Allen, N. A. (2001). Building collaborative capacity in community coalitions: A review and integrative framework. *American Journal of Community Psychology*, 29(2), 241-261.
- Fransman, J., Hall, B., Hayman, R., Narayanan, P., Newman, K., & Tandon, R. (2021). Beyond partnerships: Embracing complexity to understand and improve research collaboration for global development. *Canadian Journal of Development Studies*, 42(3), 326-346.
- Freire, P. (1970). *Pedagogy of the Oppressed*. New York: Continuum.

- García-Rivera, E. J., Pacheco, P., Colón, M., Mays, M. H., Rivera, M., Munet-Díaz, V., . . . Morales, A. (2017). Building bridges to address health disparities in Puerto Rico: The “Salud para Piñones” project. *Puerto Rico Health Sciences Journal*, 36(2), 92-100.
- Gredig, D., Heinsch, M., Amez-Droz, P., Hüttemann, M., Rotzetter, F., & Sommerfeld, P. (2021). Collaborative research and development: A typology of linkages between researchers and practitioners. *European Journal of Social Work*, 24(6), 1066-1082.
- Hearld, L. R., Bleser, W. K., Alexander, J. A., & Wolf, L. J. (2016). A systematic review of the literature on the sustainability of community health collaboratives. *Medical Care Research and Review*, 73(2), 127-181.
- Igel, U., Gausche, R., Lück, M., Lipek, T., Spielau, U., Garz, M., . . . Grande, G. (2018). Challenges in doing multi-disciplinary health promotion research in Germany. *Health Promotion International*, 33(6), 1082-1089.
- Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*, 19(1), 173-202.
- Janamian, T., Crossland, L., & Jackson, C. L. (2016). Embracing value co-creation in primary care services research: A framework for success. *The Medical Journal of Australia*, 204(7 Suppl), S5-11.
- Johnston, L. M., & Finegood, D. T. (2015). Cross-sector partnerships and public health: Challenges and opportunities for addressing obesity and noncommunicable diseases through engagement with the private sector. *Annual Review of Public Health*, 36(1), 255-271.
- Kurzahls, K., Uude, K., Sormani, E., Chak, C. M., & Banze, M. (2022). *Das Co-Creation Toolbook: Methoden für eine erfolgreiche Kooperation zwischen Hochschule und Gesellschaft. [The co-creation tool book: Methods for successful university-community collaboration.]* Wiesbaden: Springer Fachmedien Wiesbaden.
- Leatherwood, C., Canessa, P., Cuevas, K., Freeman, E., Feldman, C. H., & Ramsey-Goldman, R. (2021). Community-engaged research: Leveraging community-academic partnerships to reduce disparities and inequities in lupus care. *Rheumatic Diseases Clinics of North America*, 47(1), 109-118.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2(4), 34-46.
- Locke, E. A., & Latham, G. P. (2006). New directions in Goal-setting Theory. *Current Directions in Psychological Science*, 15(5), 265-268.
- Luger, T. M., Hamilton, A. B., & True, G. (2020). Measuring community-engaged research contexts, processes, and outcomes: A mapping review. *The Milbank Quarterly*, 98(2), 493-553.
- Minkler, M., Wallerstein, N., Duran, B., & Oetzel, J. G. (2017). *Community-based participatory research for health: Advancing social and health equity*. San Francisco, CA : Jossey-Bass.

- Moran, V., Allen, P., Sanderson, M., McDermott, I., & Osipovic, D. (2021). Challenges of maintaining accountability in networks of health and care organisations: A study of developing Sustainability and Transformation Partnerships in the English National Health Service. *Social Science and Medicine*, 268(1), 113512.
- Neuhann, F., & Barteit, S. (2017). Lessons learnt from the MAGNET Malawian-German Hospital Partnership: The German perspective on contributions to patient care and capacity development. *Globalization and Health*, 13(1), 1-14.
- Ortiz, K., Nash, J., Shea, L., Oetzel, J., Garoutte, J., Sanchez-Youngman, S., & Wallerstein, N. (2020). Partnerships, processes, and outcomes: A health equity-focused scoping meta-review of community-engaged scholarship. *Annual Review of Public Health*, 41(1), 177-199.
- Pellecchia, M., Mandell, D. S., Nuske, H. J., Azad, G., Benjamin Wolk, C., Maddox, B. B., . . . Beidas, R. S. (2018). Community-academic partnerships in implementation research. *Journal of Community Psychology*, 46(7), 941-952.
- Rühli, E., Sachs, S., Schmitt, R., & Schneider, T. (2017). Innovation in multistakeholder settings: The case of a wicked issue in health care. *Journal of Business Ethics*, 143(2), 289-305.
- Saunders, M. N. K., Lewis, P., Thornhill, A., & Bristow, A. (2015). Understanding research philosophy and approaches to theory development. In Saunders, M. N. K., Lewis, P., & Thornhill, A. (Eds.), *Research methods for business students* (pp.122-161). Harlow: Pearson Education.
- Sormani, E., Baaken, T., & van der Sijde, P. (2021). What sparks academic engagement with society? A comparison of incentives appealing to motives. *Industry and Higher Education*, 36(1), 19-36.
- Steenkamer, B., Drewes, H., Putters, K., van Oers, H., & Baan, C. (2020). Reorganizing and integrating public health, health care, social care and wider public services: A theory-based framework for collaborative adaptive health networks to achieve the triple aim. *Journal of Health Services Research & Policy*, 25(3), 187-201.
- Stolp, S., Bottorff, J. L., Seaton, C. L., Jones-Bricker, M., Oliffe, J. L., Johnson, S. T., . . . Lamont, S. (2017). Measurement and evaluation practices of factors that contribute to effective health promotion collaboration functioning: A scoping review. *Evaluation and Program Planning*, 61(1), 38-44.
- Tebes, J. K., & Thai, N. D. (2018). Interdisciplinary team science and the public: Steps toward a participatory team science. *American Psychologist*, 73(4), 549-562.
- Tebes, J. K., Thai, N. D., & Matlin, S. L. (2014). 21st century science as a relational process: From eureka! To team science and a place for community psychology. *American Journal of Community Psychology*, 53(1), 475-490.
- Troppe, M. (1994). *Participatory action research: Merging the community and scholarly agendas*. Providence: Campus Compact.

- Trotter, R. T., Laurila, K., Alberts, D., & Huenneke, L. F. (2015). A diagnostic evaluation model for complex research partnerships with community engagement: The partnership for Native American Cancer Prevention (NACP) model. *Evaluation and Program Planning, 48*(1), 10-20.
- Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity leadership theory: Shifting leadership from the industrial age to the knowledge era. *The Leadership Quarterly, 18*(4), 298-318.
- Vangen, S., & Huxham, C. (2003). Nurturing collaborative relations. *The Journal of Applied Behavioral Science, 39*(1), 5-31.
- Vaughn, L. M., Jacquez, F., & Zhen-Duan, J. (2018). Perspectives of community co-researchers about group dynamics and equitable partnership within a community-academic research team. *Health Education & Behavior, 45*(5), 682-689.
- Von Unger, H. (2012). Partizipative Gesundheitsforschung: Wer partizipiert woran? [Participatory health research: Who participates in what?]. *Forum: Qualitative Social Research, 13*(1), Art. 7.
- Wright, M. T., & Kongats, K. (2018). What is participatory health research? In Wright, M., Kongats, K. (Eds.), *Participatory health research* (pp. 3-15). Cham: Springer International Publishing.
- Zakocs, R. C., & Edwards, E. M. (2006). What explains community coalition effectiveness? A review of the literature. *American Journal of Preventive Medicine, 30*(4), 351-361.



# Chapter 2

## *Interplay of Clear, Demanding and Important Goals on Project Performance in Community-Academic Health Partnerships*

This chapter has been accepted for publication in the Health Care Management Review.

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*“Without goals, and plans to reach them, you are like a ship that has set sail with no destination.”*

*— Fitzhugh Dodson*

## Interplay of Clear, Demanding and Important Goals on Project Performance in Community-Academic Health Partnerships

### 2.1. Abstract

**Background:** Community-Academic Health Partnerships (CAHPs) have become increasingly common to bridge the knowledge-to-practice gap in health care. Since working in such partnerships can be excessively challenging, insights into the individual-level enablers of high performance will enable better management of CAHPs.

**Purpose:** Steered by the Goal-setting Theory, this study examined the relations between goal clarity, goal stress, goal importance, and their interactions on perceived project performance among individuals working in CAHPs' constituting projects.

**Methodology:** Using a convergent mixed-method research design, online-survey data were collected from 268 participants working in various CAHP projects in three German-speaking countries. We tested the hypotheses using structural equation modelling, after which thematic analysis was carried out on the 209 open-ended responses.

**Results:** CAHP project performance was positively associated with goal clarity and negatively associated with goal stress. Three-way interaction analysis showed that when goal importance was high, the relationship between goal clarity and project performance remained positive regardless of the level of goal stress. The qualitative data corroborate this finding.

**Conclusion:** In CAHP projects, high goal importance offsets the negative effect of goal stress on project performance, indicating that workers who perceive the

project goals as important can manage the stress associated with demanding goals better.

**Practice Implications:** To achieve high project performance in CAHPs, organisational and project leaders should: (1) set clear project goals; (2) facilitate project workers in dealing with stress resulting from overly demanding goals; and (3) emphasise the importance of the project goals, especially when goal stress is high.

## **2.2. Introduction**

Driven by the need to bridge the knowledge-practice gap in health care, Community-Academic Health Partnerships (CAHPs) have been increasingly used to address a range of complex health issues such as translational medicine, mental health, health disparity, cancer and substance abuse (Lindquist-Grantz & Vaughn, 2016). In CAHPs, academic researchers collaborate with diverse community representatives (e.g., schools, community agencies, policymakers, and health care organisations) who share the same goal(s) to produce relevant, valid, and feasible health research and interventions through different projects (Drahota et al., 2016). However, due to their inner complexity in implementation, such networked projects can fail or not live up to their often-lofty goals (Trotter, Laurila, Alberts, & Huenneke, 2015). To facilitate the effective management and success of these increasingly team-based, boundary-crossing health care projects, it is crucial to draw greater attention to the enablers of high performance in goal attainment (Marek, Brock, & Savla, 2015).

To date, despite the qualitative reports on thriving CAHPs, only a few studies have addressed their contextual variety (Lindquist-Grantz & Vaughn, 2016; Seaton et al., 2018) and provided theory-driven, quantitative examination of success enablers in dissimilar CAHP projects (Drahota et al., 2016). In particular, while (health care) project management research has largely focused on planning and controlling performance, the human side of management, such as motivating individual workers to strive for project goals, has been overlooked in its entirety (Gemünden, 2014; Seaton et al., 2018). Although few exploratory case studies have noted the positive influence of highly motivated individuals on CAHP project performance (Allen, Culhane-Pera, Pergament, & Call, 2011; Neuhann & Barteit,

2017), extant literature has largely neglected the impact of individual workers' motives, commitment and experiences in association with the relative success of CAHP projects (Igel et al., 2018). However, increasing evidence indicates that when individual CAHP project workers are motivated and driven by their project purpose/goals, they show continuing support, commitment and energy (Allen et al., 2011). This helps the project teams overcome the hardship of goal achievements, such as funding setbacks and turnover (Beck, Young, Wilke, & Maurana, 2000). Eventually, their perseverance and efforts may contribute to trusting, long-lasting and successful partnerships (Beck et al., 2000). Thus, to facilitate effective CAHP project management, large-scale research attention to boosting individual project workers' goal-directed motivation is indispensable. To do so, we draw on Goal-setting Theory to guide us in investigating the intrapersonal effects of goal-directed motivation on enabling high project performance among individuals working in CAHP projects.

A fundamental pillar of Goal-setting Theory (Locke & Latham, 2006) is that having clear, challenging and important goals can enhance individuals' motivation, as well as explain and predict high job performance (Latham, 2016). However, when goals are viewed as excessively challenging/demanding, the stress that arises in achieving them can have counterproductive effects on both motivation and job performance (Lee, Bobko, Earley, & Locke, 1991). To thoroughly unpack the intrapersonal processes and mechanisms explained by the micro lens of Goal-setting Theory (Locke & Latham, 2013), in this study, we specifically focus on individuals as the primary source of analysis. Ample research, however, has shown the parallelism of goal-setting on work performance between individual and team levels (Kleingeld, van Mierlo, & Arends, 2011; Locke & Latham, 2013). Thus, the effects of goal-setting on performance at the individual level can be extrapolated to the team level, especially in collaborative settings like CAHPs, where individuals pursue group-centric goals (Kleingeld et al., 2011). CAHP projects are essentially highly goal-directed network settings in which individuals representing various organisations form cross-functional teams to pursue shared, collective health goals (Johnston & Finegood, 2015). Thus, we assume that a high degree of project-goal clarity, together with high project-goal importance and low project-goal stress

(due to the lack of overly demanding project goals) perceived by workers, positively affects CAHP project performance. To test the effects of these three project-goal characteristics in motivating individual workers to reach high project performance, we answer the question: *Given CAHPs' complexity and heterogeneity, what is the interplay of the three project-goal perceptions: goal clarity, goal stress (due to excessively demanding goals) and goal importance on high-level project performance?*

Goal-setting Theory, although well established, has mostly been developed and tested in experimental and single organisational contexts and is also limited by an Anglo-Saxon bias. Given the lack of research examining the effects of goal-setting on the performance of real-life, inter-organisational, networked health *project* settings (Johnston & Finegood, 2015), this study aims to make two theoretical and one health care management relevant contributions: first, by testing the key parts of Goal-setting Theory in a networked health care project setting, we offer empirical evidence of the interacting, motivational influence of individual workers' perceived project-goal clarity, stress, and importance on project performance. Second, we address the variable 'goal stress' in CAHPs by showing how excessive hardship experienced by individual workers during project realisation can obstruct their pursuit of project goals with potential risks of burnout, turnover and project inefficiency. Third, by applying Goal-setting Theory to CAHPs within the German-speaking area of Europe, a setting in which health partnerships fail due to mismanagement, this study provides insights into properly managing people and enhancing performance in CAHP networks. Since we lack both theory-driven and empirical management knowledge to address the high chance of health network failure to date, such insights are increasingly needed to improve the success of complex health care organising.

### **2.3. Theory**

According to Locke and Latham (2006), the affective and cognitive evaluation of one's work can play an important role in driving one's motivation for goal-directed behaviours. This evaluative thinking about and dealing with the goals is called goal appraisal (Dietrich, Jokisaari, & Nurmi, 2012). Dietrich et al. (2012) suggested that when individuals perceive their work goals as important,

attainable, and progressing; they show more goal striving behaviours and experience less stress at work. The same applies to team/network levels; individual project workers who find the team/network goals clear, challenging and important tend to be more active and committed, contribute with more effort, and perform better in achieving the team/network goals (Kleingeld et al., 2011; Lemaire, 2020). Therefore, to sustain CAHP project workers' commitment and effort in achieving the project goals, we expect that they must recognise the clarity, difficulty and importance of formal project goals. Yet, they must not find the goals excessively difficult or demanding since the goal stress that arises may negatively affect performance (Lee, Bobko, Christopher Earley, & Locke., 1991). Given that CAHPs often aim to address complex and demanding health challenges, we wonder to what extent the interplay between individually perceived project-goal clarity, stress and importance predicts perceived project performance in diverse, cross-sectoral CAHP settings.

Whilst the aforementioned variables are deemed crucial in the process towards team goal performance (here: project performance), the subjective perception of project performance may also act as a feedback mechanism for individuals to decide on strategies to attain distal goals in highly dynamic settings (Latham, 2016; Locke & Latham, 2013). One's perception of the current level of performance, rather than the actual performance, can determine an individual's task persistence (Austin & Vancouver, 1996), and the achievement of proximal goals can reflect goal progress (Höchli, Brügger, & Messner, 2018). This last finding is in line with Lindquist-Grantz and Vaughn's (2016) insights on intended project goals, where CAHP workers engage in informal project-goal evaluations and use the relative effectiveness of achieving proximal goals and partnership functioning (meaning how well the partnering team or coalition is functioning) as intermediate indicators to evaluate their sense of goal progress. Thus, subjective goal progress reflections facilitate subsequent ongoing engagement and can contribute to resilience against adversities in goal-attainment effort (Allen et al., 2011).

### **2.3.1. Effect of Goal Clarity on Project Performance**

Much evidence from the last half-century validates the Goal-setting Theory (Latham, 2016). In particular, clear, specific goal tasks are powerful motivators of positive team performance (Lock & Latham, 2013). Since most of the goal-setting-directed studies have been conducted in laboratory settings, mimicking intra-organisational behaviours, we wondered if, in real-life inter-organisational project situations, individuals who work in CAHPs react as stipulated by the theory. Guided by the Goal-setting Theory and CAHP literature, we took a goal-motivational approach to investigate individual workers' appraisal of CAHP project goal achievement and assumed that clear goals promote their perceived positive project performance:

*Hypothesis 1: Goal clarity is positively related to project performance.*

### **2.3.2. Goal Stress as a Negative Moderator**

Meta-analytic findings of goal-setting on behavioural change support the positive moderating role of goal difficulty in the relationship between goal clarity and team performance (Kleingeld et al., 2011). More specifically, both clear and challenging team goals lead to much higher performance than the "doing your best" type of goals or a complete absence of goals (Kleingeld et al., 2011). However, overly difficult or demanding goals can be detrimental to goal achievement (Epton, Currie, & Armitage, 2017). Individuals might be demotivated to pursue goals that are perceived beyond their ability to be achieved (Latham, 2016; Locke & Latham, 2013). Indeed, there is some evidence that when individuals experience high stress in reaching excessively difficult or demanding goals, they tend to feel overloaded, less committed to the work goals and thereby perform worse (Locke & Latham, 2013; Bakker & Demerouti, 2017). Hence, we hypothesise that high goal stress due to excessive project goal demands can mitigate the positive effects of clear goals on project performance:

*Hypothesis 2: Goal stress negatively moderates the relationship between goal clarity and project performance, such that this relationship is weak when goal stress is high.*

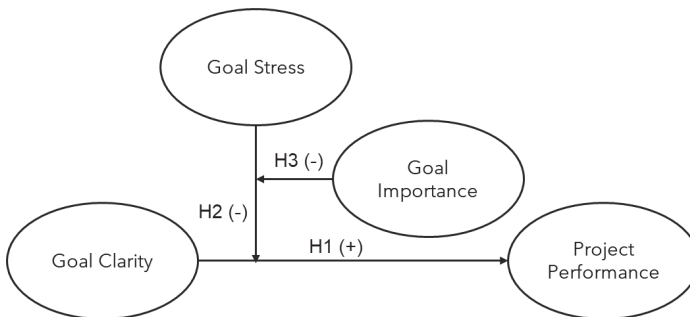


### 2.3.3. Three-way Interaction between Goal-Clarity, -Stress and -Importance

Empirical evidence has shown that individuals must find the team or organisational goals important to perform well (Cifalinò, Mascia, & Vendramini, 2020; Locke & Latham, 2013) or to show high motivation in meeting group-centric goals in collaboration (Kleingeld et al., 2011). In fact, goal importance is one of the key moderators of Goal-setting Theory (Locke & Latham, 2013). Individuals who recognise the significance of superordinate goals tend to demonstrate goal-striving behaviours with higher motivation and consistency and perform better under adversity (Höchli et al., 2018). Thus, the intrinsic motivation to achieve work goals can buffer the negative effects of high job demands (e.g., stress) on performance (Bakker & Demerouti, 2017). This means that goal importance is likely to counteract the negative effect of goal stress on the relationship between goal clarity and project performance. Therefore, we formulate:

*Hypothesis 3: Goal importance negatively moderates the negative moderation of goal stress on the relationship between goal clarity and project performance, such that this moderation of goal stress is weak when goal importance is high.*

The conceptual model that guided the testing of the three derived hypotheses is displayed in Figure 2.1.



**Figure 2.1 Hypothesised Conceptual Model**

## 2.4. Methods

### 2.4.1. Study Design and Context

This study was conducted using a convergent mixed-method design (Fetters, Curry, & Creswell, 2013). We tested the goal-setting hypotheses quantitatively with survey data obtained from individual project workers in various

CAHP projects. We also analysed the qualitative evidence from the same individuals to better interpret and illustrate the findings.

### **2.4.2. Participants and Sampling**

Our quantitative and qualitative investigations used the same sample and respondent selection procedures. After conducting a pilot test with 20 experts working in a CAHP in Germany, we administered a self-administered online survey via Qualtrics® software (Qualtrics, Provo, UT) between June and September 2019.

With a specific focus on community-academic health care projects, we adopted a random sampling method for recruiting and selecting individual respondents. We first screened the websites of all higher education institutions and CAHP networks in Germany, Austria, and German-speaking cantons in Switzerland to generate a list of academic and community members working in health and social care disciplines (e.g., medicine, nursing, psychology, allied health and social sciences). Only those whose details were publicly available on the web pages of their affiliated organisations were eligible to participate in the study.

Provided the data collection period took place during the summer vacation period, potential respondents were given four weeks to respond. A reminder was sent before the official end date of the data collection process. All respondents gave online informed consent. The study was approved by the Ethics Committee of our university.

This study is part of a larger study. A total of 578 individuals out of 8,422 potential respondents completed the survey (a response rate of 6.9%). Among these, 322 respondents reported participation in a CAHP project (55.7%). After excluding the responses with any missing data in our study variables (N = 46)<sup>6</sup> and removing extreme outliers based on Mahalanobis Distance (N = 8) (Filzmoser, 2005), the final sample fit for quantitative analysis involved 268 participants (46.4%).

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<sup>6</sup> Number of responses excluded due to missing data in items: Goal Importance (N=40), Project Performance (N=3), Goal Clarity (N=2), and Goal Stress (N=1).

## **2.5. Measures**

Unless otherwise specified, the survey answers were rated on a five-point scale ranging from 1 (almost never) to 5 (almost always).

### **2.5.1. Goal Importance**

We adopted Cifalinò and colleagues' (2018) approach to measure the belief in goal importance. When evaluating goal importance, the authors suggested the scales should be rated rather than ranked for two reasons: multiple goals can be perceived as equally important, and the magnitude between different goals is critical in goal importance research. However, as different projects often have to reach multiple, unique sets of goals in highly diverse CAHP settings, we asked the respondents to select the best description of their official project goals from a list of commonly reported CAHP goals, such as creating new products or services (Drahota et al., 2016), generating new knowledge and insights (Lindquist-Grantz & Vaughn, 2016) or implementing effective health measures/programs (Drahota et al., 2016). If the respondents could not identify any fitting project goals, they were invited to enter their specific goals as open text ( $n = 21$ ). Then we asked them to use a 5-point Likert scale to rate the relative importance of each selected goal (1 = not important at all; 5 = extremely important). Goal importance was calculated as the mean of these items' scores (Cifalinò et al., 2020) (see, Table S1).

### **2.5.2. Goal Clarity**

We then asked respondents to rate the overall project goal clarity with reference to the selected goals. We adopted the 6-item measures from the validated and translated German version of the goal-clarity scale (Lee et al., 1991; Putz & Lehner, 2002). A sample item is "I have specific, clear goals to aim for in my project tasks" ( $\alpha = .76$ ).

### **2.5.3. Goal Stress**

Goal stress (due to excessive goal demands) was measured with the validated German version of the 4 English operationalisation items (Lee et al., 1991; Putz & Lehner, 2002). A sample item is "My goals in this project are much too difficult." ( $\alpha = .74$ ).

#### **2.5.4. Perceived Project Performance**

The degree of perceived project performance was measured using the 4-item variable *Perceptions of Coalition Success* from the Collaboration Assessment Tool developed by Marek, Brock, and Savla (2015). The respondents were asked to rate different project performance dimensions of achieving the project goals and objectives (e.g., efficiency, effectiveness) on a scale from 0 to 10 (Marek et al., 2015). A sample item was "How successful is this project in implementing strategies to address project goals and objectives?" ( $\alpha = .78$ ).

#### **2.5.5. Control Variable**

We controlled for individuals' roles (managerial vs non-managerial) in the projects (Drahota et al., 2016), which may influence the perceptions of goal clarity, stress, importance, and project performance in collaborative work settings.

#### **2.5.6. Qualitative Data**

At the end of the survey, we asked the respondents to write freely about all factors they considered essential to increase the chances of their project's success; 209 respondents wrote down their views. The analysis focused on the four key variables discussed herein.

#### **2.5.7. Quantitative Data Analysis**

We computed the mean, standard deviation and reliability for each variable (see Table 2.1). All the studied variables were moderately correlated with each other, with correlations ranging from .20 to .37. Hence, there was no concern of multi-collinearity. We performed confirmatory factor analysis (CFA) to test the validity and distinctiveness of the study variables.

**Table 2.1 Means, Standard Deviations and Zero-order Correlations of the Study's Variables (N = 268)**

| Variables |                                       | 1.      | 2.      | 3.      | 4.   |
|-----------|---------------------------------------|---------|---------|---------|------|
| 1.        | <b>Project Performance</b>            |         |         |         |      |
| 2.        | <b>Goal Clarity</b>                   | .37***  |         |         |      |
| 3.        | <b>Goal Stress</b>                    | -.35*** | -.27*** |         |      |
| 4.        | <b>Goal Importance</b>                | .22***  | .34***  | -.20*** |      |
|           | <b>Cronbach's <math>\alpha</math></b> | .78     | .76     | .74     | -    |
|           | <b>Mean</b>                           | 7.26    | 4.12    | 2.31    | 4.22 |
|           | <b>SD</b>                             | 1.40    | .58     | .70     | .56  |

Note: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . *SD* = Standard Deviation.

### 2.5.8. Qualitative Data Analysis

To enrich the quantitatively derived results, we performed a thematic analysis (Braun et al., 2018) on the answers to the following open-ended question: "What else do you think is needed to increase the likelihood of this type of health project's success?" The analysis involved the following five steps: first, two bilingual team members familiarised themselves with the data by engaging in repeated reading of the written responses; second, performing open coding based on segments of the raw survey responses; third, arranging the open codes iteratively with goal-setting concepts (goal clarity, stress and importance); fourth, reviewing the open codes and related themes; and last, reporting the emergent themes (Braun et al., 2018).

## 2.6. Results

### 2.6.1. Survey Respondent Characteristics

All respondents reported working in different CAHP projects. They were between 25 and 72 years of age ( $M = 44.0$ ,  $SD = 11.63$ ) and around 49% of them ( $N = 132$ ) were males (see, Table 2.2). Most respondents were from the academic sector (77.24%). The majority of respondents were working in a CAHP project that was in the execution phase (56.72%,  $N = 152$ ), followed by those working in a final-closing phase (14.22%,  $N = 38$ ), planning phase (12.7%,  $N = 34$ ), closed phase (8.58%,  $N = 23$ ), initiation phase (6.72%,  $N = 18$ ) and monitoring phase (1.11%,  $N = 3$ ). We asked the respondents to answer the questions with reference

to the specific CAHP project in which they spent most of their time. The top three project goals in these CAHP projects are: generating new knowledge and insights (88.4 %, N = 237); facilitating knowledge and information exchange (48.9 %, N = 131); and implementing effective health measures/programs (48.5%, N = 130). Only 48 (or 17.91%) of the respondents were fully funded by their CAHP projects.

**Table 2.2 Survey Respondent Characteristics (N = 268)**

|  |               |
|--|---------------|
| <b>Age (Mean (SD))</b>   | 44.0 (11.64)  |
| <b>Gender (N (%))</b>  |               |
| Female   | 136 (50.75 %) |
| Male   | 132 (49.25 %) |
| <b>Country of residence (N (%))</b>  |               |
| Germany  | 190 (70.90 %) |
| Switzerland  | 25 (9.33 %)   |
| Austria  | 17 (6.34 %)   |
| United States/ United Kingdom  | 2 (0.75 %)    |
| Not specified  | 34 (12.69 %)  |
| <b>Organisation type (N (%))</b>   |               |
| Research/University  | 207 (77.24 %) |
| University hospital  | 28 (10.45 %)  |
| Non-governmental organisation  | 12 (4.48 %)   |
| Professional association   | 3 (1.12 %)    |
| Government authority   | 5 (1.87 %)    |
| Healthcare and social welfare facilities   | 8 (2.99 %)    |
| Business/Industry  | 3 (1.11 %)    |
| Health insurance and insurance   | 2 (0.75 %)    |
| <b>Role in project (N (%))</b>   |               |
| Managerial   | 188 (70.15 %) |
| Non-managerial   | 80 (29.85 %)  |
| <b>Project phase (N (%))</b>   |               |
| Initiation phase   | 18 (6.72 %)   |
| Planning phase   | 34 (12.69 %)  |
| Execution phase  | 152 (56.72 %) |
| Monitoring phase   | 3 (1.11 %)    |
| Final phase  | 38 (14.18 %)  |
| Closed project   | 23 (8.58 %)   |
| <b>Job position funded by the project (N (%))</b>  |               |
| Full-time  | 48 (17.91 %)  |
| Part-time  | 66 (24.63 %)  |
| Not funded   | 153 (57.09 %) |
| Not specified  | 1 (0.37 %)    |
| <b>Nature of project goals (N (%))</b>   |               |
| Generating new knowledge and insights  | 237 (88.4 %)  |
| Facilitating knowledge and information exchange (e.g., ideas, evidence, or expertise)              | 131 (48.9 %)  |
| Implementing effective health measures/programs  | 130 (48.5 %)  |
| Creating new products/services (e.g., publications, technology, equipment, health measures, etc.)  | 114 (42.5 %)  |
| Facilitating sustainable structural/systemic changes in society                                    | 100 (37.3 %)  |
| Facilitating sustainable partnership between the project partners                                  | 86 (32.1 %)   |
| Building community capacity/readiness  | 68 (25.4 %)   |
| People/professional development (e.g., empowerment, new knowledge, skills, or better work quality) | 58 (21.6 %)   |
| Increasing the uptake of existing products/services  | 56 (20.9 %)   |
| Others   | 26 (9.6 %)    |

## 2.6.2. Quantitative Findings

### 2.6.1.1. Confirmatory Factor Analysis (CFA) and Measurement Model

We conducted CFA to test the validity and distinctiveness of our study measures. Based on the suggested cut-off points from literature, i.e., ratio of  $\chi^2$  to degree of freedom ( $\chi^2/df$ ) < 2, comparative fit index (CFI)  $\geq$  .95, root mean square error of approximation (RMSEA) (95% CI) < .06 (.00-.08) and standardised root mean square residual (SRMR)  $\leq$  .08 (Schreiber, Nora, Stage, Barlow, & King, 2006), the hypothesised 4-factor model (goal clarity, stress, importance and perceived project performance) showed a good overall fit ( $\chi^2$  (85)  $_{\text{Project performance}} = 116.63$ ,  $\chi^2/df=1.37$ , CFI = .97, RMSEA = .04 (.02-.05), SRMR = .05) (see, Table 2.3). We compared this to alternative models drawn from both the theory and the correlations between the variables (e.g., 3-factor model in which goal clarity and stress are combined into one construct, where overall fit was  $\chi^2$  (88)  $_{\text{Project performance}} = 278.21$ ,  $\chi^2/df=3.16$ , CFI= .81, RMSEA=.09 (.08-.10), SRMR=.08). The evidence from the  $\chi^2$  difference test on the alternative models was that our hypothesised 4-factor model has the best fit. Hence, sufficient discriminant validity was obtained vis-a-vis the four core constructs (Schreiber et al., 2006).

**Table 2.3 Comparison of Models Using Confirmatory Factor Analysis (N = 268)**

| Model                                 | $\chi^2$ | df | CFI | RMSEA<br>(95% CI) | SRMR | Model Comparison |             |
|---------------------------------------|----------|----|-----|-------------------|------|------------------|-------------|
|                                       |          |    |     |                   |      | $\Delta \chi^2$  | $\Delta df$ |
| <b>Four factor model<sup>a</sup></b>  | 116.63   | 85 | .97 | .04 (.02-.05)     | .05  | -                | -           |
| <b>Three factor model<sup>a</sup></b> | 278.21   | 88 | .81 | .09 (.08-.10)     | .08  | 161.59**         | 3           |
| <b>Two factor model<sup>a</sup></b>   | 278.36   | 89 | .81 | .09 (.08-.10)     | .08  | 161.73**         | 4           |
| <b>One factor model<sup>a</sup></b>   | 428.48   | 90 | .65 | .12<br>(.11-.13)  | .10  | 311.85**         | 5           |

Notes: \*\* $p < .01$ .  $\chi^2$  = Chi-square;  $\Delta\chi^2$  = change in Chi-square; df = degree of freedom;  $\Delta df$  = change in degree of freedom; CFI = comparative fit index; RMSEA (95% CI) = root mean square error of approximation (95% confidence interval); SRMR = standardised root mean square residual.

<sup>a</sup> The 4-factor model depicts perceived project performance, goal clarity, goal stress and goal importance as separate latent factors. The 3-factor model depicts goal clarity and goal stress grouped as the same latent factor as goal characteristics, based on the Goal-setting Theory. The 2-factor model groups goal clarity, goal stress and goal importance together as one latent factor. The 1-factor model depicts all four variables modelled under the same latent factor.



### 2.6.2.1. Hypotheses Testing

We tested *Hypothesis 1* by examining the direct effect of goal clarity on perceived project performance, which was positive and significant (see Table 4, Model 1,  $\beta = .35$ ,  $p < .001$ ). The effect of individuals' roles (managerial vs. non-managerial) in the projects was not significant in any of the models of Table 2. 4. We tested *Hypothesis 2* by examining the interaction between perceived goal clarity and goal stress. The interaction did not significantly affect perceived project performance (see, Table 4, Model 2,  $\beta = -.04$ , *ns*). *Hypothesis 2* was not supported. Lastly, in terms of *Hypothesis 3*, the effect of the three-way interaction between perceived goal clarity, stress and importance on perceived project performance was significant (see, Table 4, Model 3,  $\beta = .10$ ,  $p < .01$ ). This last model yielded a reasonable fit ( $\chi^2(137) = 216.04$ ,  $\chi^2/df = 1.57$ , CFI = .92, RMSEA = .05 (.03-.06), SRMR = .07).

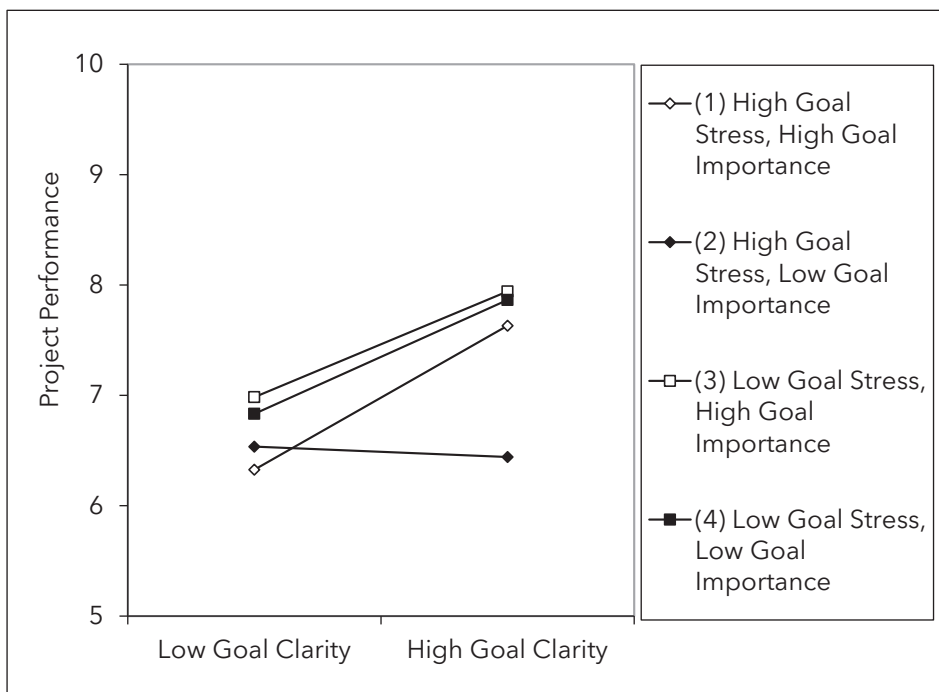
**Table 2. 4 Standardised Coefficients of Moderation Analysis (N = 268)**

| Dependent Variable                                  | Project Performance  |                      |                      |
|---|----------------------|----------------------|----------------------|
|   | Model 1 <sup>a</sup> | Model 2 <sup>a</sup> | Model 3 <sup>a</sup> |
| <b>Intercept</b>                                    | -.00                 | -.02                 | -.24                 |
| <b>Goal Clarity</b>                                 | .35***               | .36***               | .39***               |
| <b>Goal Stress</b>                                  | -.35***              | -.34***              | -.40***              |
| <b>Goal Importance</b>                              | .01                  | .03                  | .03                  |
| <b>Goal Clarity x Goal Stress</b>                   |                      | -.04                 | -.07                 |
| <b>Goal Clarity x Goal Importance</b>               |                      | .08*                 | .09*                 |
| <b>Goal Stress x Goal Importance</b>                |                      | .08                  | .07                  |
| <b>Goal Clarity x Goal Stress x Goal Importance</b> |                      |                      | .10**                |
| <b>Project role (managerial vs. non-managerial)</b> | -.01                 | -.00                 | -.00                 |

Notes: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup> Model 1 signifies the model with the independent variables only ( $\chi^2(85) = 146.83$ ,  $\chi^2/df = 1.73$ , CFI = .93, RMSEA (95% CI) = .05 (.04-.07), SRMR = .07). Model 2 consists of independent variables and their two-way interactions ( $\chi^2(124) = 195.43$ ,  $\chi^2/df = 1.58$ , CFI = .92, RMSEA (95% CI) = .05 (.03-.06), SRMR = .07). Model 3 consists of independent variables and their three-way interactions ( $\chi^2(137) = 216.04$ ,  $\chi^2/df = 1.57$ , CFI = .92, RMSEA (95% CI) = .05 (.03-.06), SRMR = .07). All models are controlled for the respondents' role (managerial vs. non-managerial) in CAHP projects.

Figure 2.2 illustrates the three-way interaction between goal clarity, stress and importance with perceived project performance. The plot shows that, when goal importance was low, the slopes depended on the level of goal stress: when goal stress was also low, the slope was steep ( $\beta = .38, p < .01$ ) and the slope became insignificant when goal stress was high ( $\beta = -.06, ns$ ). Conversely, when goal importance was high, the slopes did not depend on the level of goal stress and were similar: when goal stress was low, the slope was steep ( $\beta = .36, p < .01$ ), as well as when goal stress was high ( $\beta = .47, p < .01$ ). These results showed that when goal importance was high, regardless of the perceived goal stress, the relationship between goal clarity and perceived project performance remained positive and significant.



**Figure 2.2 Unstandardised Three-Way Interaction on the Effect of Goal Clarity, Stress and Importance on Project Performance (N = 268)**

Overall, these findings supported the hypothesised three-way interaction effect that when goal importance was high, the relationship between goal clarity and project performance remained positive regardless of the level of goal stress.

### 2.6.3. Qualitative Findings

To extend the understanding of CAHP workers' project-goal pursuits, we perused the data collected from the answers to our open-ended question. We identified two major themes.

#### 2.6.1.1. Goal Stress

A number of respondents mentioned various stressors that could hamper goal attainment, including the urge for better working conditions, leadership, resources, and organisational support, as well as a reduction in bureaucracy and other duties. One of the major themes was, however, the stress associated with achieving over-ambitious goals as a result of great competition in acquiring third-party funds. For instance, one health researcher noted: *"...the acquisition of third-party funds based on competition leads to too much being packed into the projects; to manage it in a short time and with the existing resources"*.

Similarly, another respondent who worked in the health technology field expressed the frustration and uncertainty of long-term goal pursuit due to limited running time and lack of project sustainability:

*"More funding is needed for personnel and considerably longer project durations. Example: Developing, testing and marketing a prototype in three years is more than utopian. Since these are often the requirements [of the projects], it is more than frustrating. Also, such projects are not sustainable due to their short running times, the resulting frequent personnel changes and the missing transition to the market."*

Moreover, the lack of external project support can also have negative repercussions on respondents' morale and dedication, resulting in a deviation away from goal pursuit and creating shortcomings in their performance. One clinical researcher noted:

*"The development, execution and implementation of relevant health projects requires more time for creative freedom and thoughts....nevertheless, I think that the external conditions are extremely bad in Germany for implementing attractive research. All involved and committed employees feel torn apart and have no time capacities"*.

### **2.6.1.2. Goal Importance and Clarity**

Several respondents also highlighted the cruciality of recognising the importance of project goals and being committed or motivated to achieve them. A comment by a medical researcher exemplifies how, even under serious and varied undesirable resource conditions (i.e., lack of organisational support, financial resources, and a poor working environment), a project's goal importance gives meaning to and supports an individual's commitment to project goal pursuit and help overcome the challenges experienced:

*"...Leadership qualities are also rather rare, and organisation is not our strength. Half-way, there are hardly any results, a large part of the set goals remains untouched. Moreover, I have no support because my postdoc quit for exactly these reasons before I was hired... I work 7 days per week at least 9 hours per day and get only 65% salary... Research is frustrating enough because experiments usually don't work out... Nobody here wants to die of any diseases; but there is still no money for research... That's the reason why many good people, who could be hired as professors, leave research or Germany. None of us wants to work like that anymore, and yet we do it and don't go on strike because the well-being of those we are researching is more important to us".*

Additionally, numerous respondents explicated the importance of "clear project goals" and "clear common goals" to enhance project success. One project manager wrote: "all stakeholders have a clear vision of the objectives; recognise the meaning of these objectives; and have sufficient resources at their disposal".

These findings underline that the interplay between goal clarity, stress and importance as crucial project dynamics in relation to individual effort and work achievement.

## **2.7. Discussion**

Through testing the key parts of Goal-setting Theory in a real-life network setting, we offer empirical evidence of the interplay between the motivational influence of perceived project-goal clarity, stress and importance towards project performance. The hypothesised three-way interaction is supported. The quantitative and qualitative results indicate that a key factor in positive project

performance is whether individual CAHP workers perceive their project goals as clear and important. Although goal stress shows a direct, negative relationship to project performance ( $\beta = -0.35$ ,  $p < 0.01$ ) (see, Table 2.3), our quantitative results indicate that the boundary role of goal stress is seemingly insignificant in the presence of goal importance. Our qualitative data corroborate this finding, suggesting that when the goals are clear, individuals who recognise the importance of their project can maintain high project engagement and performance despite excessively difficult tasks, a lack of resources and organisational or network support. Thus, when their sense of project-goal stress is high, enhancing the project-goal clarity and importance may motivate people to perform well (see, also, Höchli et al., 2018).

Although our quantitative evidence reveals no significant interaction between goal clarity and goal stress on perceived project performance, our qualitative evidence suggests that an overly demanding *project/job* environment can demotivate CAHP workers, reducing their commitment and involvement to pursue project goals, as well as leading to stress, frustration, burnout, and turnover intention. In particular, undesirable *project/job* conditions can make them *feel* overburdened and hinder successful *project* goal attainment. These contextual issues and struggles are, however, seldom reported or discussed in detail in the Germanic CAHP contexts, contributing to a vicious circle of ill-managed projects (see, also, Igel et al., 2018). Hence, situationally determined, high CAHP project stress can hinder project success.

To sum up, the present study has at least two theoretical implications for the goal-setting literature and one for health care management research. First, it extends Goal-setting Theory to the current CAHP literature by providing empirical evidence of the boundary role and influence of individual perceived goal importance in relation to goal clarity and stress on project performance; we strengthen the conceptual clarity of the goal assessment processes in a wide range of CAHP contexts with (often part-time) workers from diverse disciplines. This is important because, despite the recent increase in CAHP literature, our understanding of the individual-motivational determinants of project successes remains inadequate and requires more empirical scrutiny (Drahota et al., 2016).

For this reason alone, we propose to supplement the goal-setting findings reported herein with the principles of the job demands-resources theory (Bakker & Demerouti, 2017) and to engage in new multi-level field research on achieving high project performance.

Second, our qualitative findings have enabled us to unravel some of the reality behind the well-established constructs of Goal-setting Theory in CAHP settings. In particular, we showed how project goal stress relates to the level of project difficulty and, more importantly, to the concrete work environments and resources available to achieve the project goals (Austin & Vancouver, 1996). Indeed, the many diverse and real (*job-type*) hardships experienced by CAHP *project* workers can reduce their strength in pursuing *project* goals and potentially increase the risks of burnout, turnover intention and project inefficiency (Bakker & Demerouti, 2017). This study, therefore, contributes to future studies in which Organisational Behavioural theories can be tested in project-management situations, given the increase of project work in many organisations and the fact that the behavioural side of project work has hardly been systematically examined (Gemünden, 2014).

Third, building on Goal-setting Theory in real-life, networked health care project settings (Johnston & Finegood, 2015), we provide new insights into the effective management of CAHPs by investigating the effects of three goal attributes on the performance of CAHP projects. This has been done in the German-speaking area of Europe, a setting in which CAHPs are emerging, yet mismanagement contributing to project failure does occur (Neuhann & Barteit, 2017).

### **2.7.1. Practice Implications**

Although individuals engaging in CAHPs are often intrinsically motivated and committed to tackling difficult and complex health problems (Neuhann & Barteit, 2017), such partnerships can have an alarmingly high failure rate (Trotter et al., 2015). Hence, the findings have two major practical implications for CAHPs to increase their chances of success.

First, our quantitative and qualitative evidence at the project level suggests: CAHP leaders at the organisational and project levels should support CAHP workers' recognition of project significance and meaningfulness, e.g., through organising (peer-)performance feedback (Locke & Latham, 2013) and not deplete it. Our evidence at the project realisation level parallels that obtained at the individual level (Kleingeld et al., 2011); individuals perform better at work when they are highly committed to pursuing the project goals which they find clear, challenging, and important, and get performance feedback (Latham, 2016). By emphasising the significance and the goals of the project, managers/leaders can positively enhance the effect of clear project goals. Enhancing workers' perceived goal clarity and importance (in various ways) can stimulate individual commitment to continue pursuing project goals, even if it seems difficult to reach.

Second, excessive goal stress may increase the risk of frustration and unwanted job turnover, compromising project success. Thus, CAHP leaders may facilitate project workers in dealing with the daily challenges by offering adequate social support, autonomy, recognition, and regular, constructive feedback (Locke & Latham, 2013). Particularly when human and financial resources are limited, these job resources can indirectly reduce workers' stress and improve their positive work attitude, engagement, and performance (Bakker & Demerouti, 2017).

### **2.7.2. Limitations, Future Research and Conclusion**

This study's findings are subject to some limitations. Firstly, given the lack of consolidated information on CAHPs in German-speaking countries, we randomly selected potential participants from a list of academic and community actors working in the health and social care disciplines and CAHP partnerships whose contacts were publicly available on the websites. This sampling method may have led to sampling bias. In fact, our sample is over-represented by academics (77.24%), which may limit the generalisability of the results for those working in the community contexts. To reduce the risk of this bias, we further adopted snowball sampling. T-tests also showed no significant differences in any study variables between the two groups of respondents. Yet, to better understand both groups'

project/job dynamics, future studies should aim for an equal representation of academic and community workers.

Secondly, we adopted a cross-sectional design and used perceived (instead of objective) performance measures as the criterion variable. Although the findings could be subject to common method bias, we conducted CFA and compared the hypothesised model with a 1-factor model. In line with other research (Lance, Dawson, Birkelbach, & Hoffman 2010), we believe that this bias is not a big concern since we adopted a convergent mixed-method design to counterbalance the inherent limitations of a cross-sectional design. The qualitative data have not only enriched the quantitative results but have also increased confidence in their robustness. Nonetheless, we suggest that future research should conduct longitudinal, joint project-and-job level studies: to find out how CAHP workers' sense of project goal value and performance may wax and wane over time (D'Aunno, Alexander, & Jiang, 2017) and how the here studied cognitive predictors of project performance might interact with affective job predictors like emotional salience and felt relational support from others (Dietrich et al., 2012).

Thirdly, given our interest in the motivational effects of intrapersonal dynamics on project performance, we specifically focused on examining individual CAHP workers' cognitive appraisal of formal project goals. CAHP is, however, in essence, a network setting involving complex relations between partner representatives (and their intra-organisational members) (Johnston & Finegood, 2015). Thus, having established these individual-level, motivational processes, we encourage future research to explore the team- or organisational-level dynamics to depict a more bird-eye picture of the factors affecting partners' dedication in project goal pursuit. For instance, future studies should examine how the dynamics (or potential mismatches) between CAHP workers' cognitive network-, project- and job-level goals (i.e., personal or career goals) may affect project performance (Lemaire, 2020). Such studies must provide fruitful insights into how CAHPs may achieve better results.

To conclude, our quantitative results point to the meaningfulness of project goals for CAHP workers. Clear and (highly) challenging goals are not enough for CAHP project success; to achieve a high level of project performance, the project



goals must be felt as particularly important or personally meaningful to individual CAHP workers. Many qualitative comments added that several related, de-energising job issues can compromise project success. Effective leadership at network, organisational, work-unit and project levels could resolve this alarming professional disservice. Policy and research should pay more attention to the influence of requisite leader behaviours, or substitutes thereof, to attain more CAHP project achievements. One of the most important Organisational Behavioural theories led us to recommend that the CAHP projects' importance must be safeguarded to reach the intended higher levels of public health.

## 2.8. References

- Allen, M. L., Culhane-Pera, K. A., Pergament, S., & Call, K. T. (2011). A capacity building program to promote CBPR partnerships between academic researchers and community members. *Clinical and Translational Science, 4*(6), 428-433.
- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*(3), 338-375.
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285.
- Beck, B., Young, S., Wilke, T., & Maurana, C. A. (2000). Funding setbacks: Partnership strategies for success. *Metropolitan Universities, 11*(2), 11-19.
- Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2018). Thematic analysis. In P. Liamputtong (Ed.), *Handbook of research methods in health social sciences* (pp. 843-860). New York, NY: Springer.
- Cifalinò, A., Mascia, D., & Vendramini, E. A. (2020). Goal importance, use of performance measures, and knowledge exchange: An empirical study on general practitioners' performance. *Health Care Management Review, 45*(2), 117-129.
- D'Aunno, T., Alexander, J. A., & Jiang, L. (2017). Creating value for participants in multistakeholder alliances: The shifting importance of leadership and collaborative decision-making over time. *Health Care Management Review, 42*(2), 100-111.
- Dietrich, J., Jokisaari, M., & Nurmi, J. E. (2012). Work-related goal appraisals and stress during the transition from education to work. *Journal of Vocational Behavior, 80*(1), 82-92.

- Drahota, A., Meza, R. D., Brikho, B., Naaf, M., Estabillo, J. A., Gomez, E. D., Vejnaska, S. F., Dufek, S., Stahmer, A. C., & Aarons, G. A. (2016). Community-academic partnerships: A systematic review of the state of the literature and recommendations for future research. *The Milbank Quarterly*, *94*(1), 163-214.
- Epton, T., Currie, S., & Armitage, C. J. (2017). Unique effects of setting goals on behavior change: Systematic review and meta-analysis. *Journal of Consulting and Clinical Psychology*, *85*(12), 1182-1198.
- Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs – Principles and practices. *Health Services Research*, *48*(6 Pt 2), 2134-2156.
- Filzmoser, P. (2005). Identification of multivariate outliers: A performance study. *Austrian Journal of Statistics*, *34*(2), 127-138.
- Gemünden, G. H. (2014). From the editor: Project management as a behavioral discipline and as driver of productivity and innovations. *Project Management Journal*, *45*(6), 2-6.
- Höchli, B., Brügger, A., & Messner, C. (2018). How focusing on superordinate goals motivates broad, long-term goal pursuit: A theoretical perspective. *Frontiers in Psychology*, *9*(1), 1879.
- Igel, U., Gausche, R., Lück, M., Lipek, T., Spielau, U., Garz, M., Kiess, W., & Grande, G. (2018). Challenges in doing multi-disciplinary health promotion research in Germany. *Health Promotion International*, *33*(6), 1082-1089.
- Kleingeld, A., van Mierlo, H., & Arends, L. (2011). The effect of goal setting on group performance: A meta-analysis. *Journal of Applied Psychology*, *96*(1), 1289-1304.
- Johnston, L. M., & Finegood, D. T. (2015). Cross-sector partnerships and public health: Challenges and opportunities for addressing obesity and non-communicable diseases through engagement with the private sector. *Annual Review of Public Health*, *36*(1), 255-271.
- Lance, C. E., Dawson, B., Birkelbach, D., & Hoffman, B. J. (2010). Method effects, measurement error, and substantive conclusions. *Organizational Research Methods*, *13*(3), 435-455.
- Latham, G. P. (2016). Goal-setting theory: Causal relationships, mediators, and moderators. In O. J. Braddick (Ed.), *Oxford research encyclopedia of psychology*. Retrieved April 19, 2022, from <https://oxfordre.com/psychology/view/10.1093/acrefore/9780190236557.001.0001/acrefore-9780190236557-e-12>.  
10.1093/acrefore/9780190236557.013.12.

- Lee, C., Bobko, P., Earley, P. C., & Locke, E. A. (1991). An empirical analysis of a goal setting questionnaire. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organisational Psychology and Behavior*, 12(6), 467-482.
- Lemaire, R. H. (2020). What is our purpose here? Network relationships and goal congruence in a goal-directed network. *The American Review of Public Administration*, 50(2), 176-192.
- Lindquist-Grantz, R., & Vaughn, L. M. (2016). The journey and destination need to be intentional: Perceptions of success in community-academic research partnerships. *Gateways: International Journal of Community Research and Engagement*, 9(1), 1-21.
- Locke, E. A. & Latham, G. P. (2006). New directions in goal-setting theory. *Current Directions in Psychological Science*, 15(5), 265-268.
- Locke, E. A., & Latham, G. P. (2013). *New developments in goal setting and task performance*. New York, NY: Routledge.
- Marek, L. I., Brock, D.-J. P., & Savla, J. (2015). Evaluating collaboration for effectiveness. *American Journal of Evaluation*, 36(1), 67-85.
- Neuhann, F., & Barteit, S. (2017). Lessons learnt from the MAGNET Malawian-German Hospital Partnership: The German perspective on contributions to patient care and capacity development. *Globalisation and Health*, 13(1), 50.
- Putz, P., & Lehner, J. (2002). Effekte zielorientierter Führungssysteme: Entwicklung und Validierung des Zielvereinbarungsbogens (ZVB) [Effects of goal-oriented management systems: Development and validation of the goal-setting questionnaire]. *Zeitschrift für Arbeits- und Organisationspsychologie*, 46(1), 22-34.
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A. & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99(6), 323-338.
- Seaton, C. L., Holm, N., Bottorff, J. L., Jones-Bricker, M., Errey, S., Caperchione, C. M., Lamont, S., Johnson, S. T., & Healy, T. (2018). Factors that impact the success of interorganizational health promotion collaborations: A scoping review. *American Journal of Health Promotion*, 32(4), 1095-1109.
- Trotter, R. T., Laurila, K., Alberts, D., & Huenneke, L. F. (2015). A diagnostic evaluation model for complex research partnerships with community engagement: The partnership for Native American Cancer Prevention (NACP) model. *Evaluation and Program Planning*, 48(1), 10-20.



# Chapter 3

## *Hope, Goal-Commitment and -Stress Mediating between Collaborative Leadership, Financial Resources and Project Performance*

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*"The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails."*

— *William Arthur Ward*

*"He is the best sailor who can steer within fewest points of the wind and extract a motive power out of the greatest obstacles."*

— *Walter Scott*

## Hope, Goal-Commitment and -Stress Mediating between Collaborative Leadership, Financial Resources and Project Performance

### 3.1. Abstract

**Purpose** - Combining the goal-setting and job demands-resources (JD-R) theories, we examine how two project resources, collaborative project leadership and financial project resources, enhance high project performance in Community-Academic Health Partnerships.

**Design/methodology/approach** - With a sequential explanatory mixed-method research design, data were collected through a survey (N = 318) and semi-structured interviews (N = 21). A hypothesised three-path mediation model was tested using structural equation modelling with bootstrapping. Qualitative data were examined using thematic analysis.

**Findings** - Project workers' hope, goal-commitment, and -stress: (1) fully mediate the hypothesised relationship between highly collaborative project leadership and high project performance; and (2) partially mediate the relationship between financial project resources and high project performance. The qualitative data corroborate and deepen these findings, revealing the crucial role of hope as a cognitive-motivational facilitator in project workers' ability to cope with challenges.

**Originality** - The findings contribute to the project management and JD-R literature by considering the joint effects of project workers' hope and two commonly studied project resources (collaborative project leadership and financial project resources) on high project performance. Moreover, we demonstrate the importance of the goal-setting and JD-R theories for

understanding complex health-promotion projects connecting academic to community work.

**Practical implications** - Project leaders should promote project workers' goal commitment, reduce their goal stress, and boost project performance by securing financial project resources or reinforcing workers' hope, e.g., by fostering collaborative project leadership.

### **3.2. Introduction**

Health projects are increasingly delivered through Community-Academic Health Partnerships (CAHPs) to address complex community health issues (Drahota et al., 2016). However, the complexity of such cross-sectoral, goal-directed partnerships prevents many academic and community actors from collaborating effectively or sustaining the long-term commitment and resource investment necessary for project success (Coates & Mickan, 2020). Therefore, to enhance the chance of those projects reaching their ambitious goals or delivering lasting health impacts on the communities, it is vital to understand the mechanisms that can boost project performance and success (Steenkamer, Drewes, Putters, van Oers, & Baan, 2020). Given that the performance of CAHP projects heavily relies on the complex behaviours of all actors involved, they are eminently suited to be examined through an Organisational-Behavioural (OB) lens to understand the intra- and extra-personal dynamics driving high project performance (Smith, Huang, & Peng, 2021).

To date, however, little research attention has been paid to understanding the human dynamics in promoting high performance in these complex projects (Steenkamer, Drewes, Putters, van Oers, & Baan, 2020). In particular, we lack integrative frameworks that consider the relative influence of staff in collaborative working environments (Williams & Radnor, 2021), as well as explanations of how individuals' cognitive and motivational mechanisms, together with other resources, contribute to high project performance (Scott & Boyd, 2020). In a recent study, Gredig and colleagues (2021) lamented the negligence of intrapersonal factors that may influence project success, such as project workers' perception of financial project resource sufficiency and goal commitment.



Collaborative project leadership (Shu & Wang, 2021), sufficient financial project resources (Coates & Mickan, 2020; Smith et al., 2021), and project workers' goal commitment (Coates & Mickan, 2020) are the most commonly assumed antecedents of high CAHP project performance. However, how these factors may jointly contribute to high project performance from a CAHP project worker's perspective remains unclear (Steenkamer et al., 2020), especially given that stressful and demanding project work may also cause burnout, staff turnover and hamper project workers' performance (Gredig et al., 2021a). Therefore, this article investigates how two types of entirely different (yet presumably interrelated) project resources, namely collaborative project leadership and sufficient financial project resources, may affect collective project performance in CAHP settings through intrapersonal project workers' resources, namely hope, goal-commitment, and -stress, as additional conduits of high project performance.

To establish a comprehensive framework to unravel such dynamics, we draw on both goal-setting (Locke & Latham, 2019) and the job demands-resources (JD-R) theories (Bakker & Demerouti, 2017, 2014). Combining both theoretical frameworks, of which the former is cognitive-based and the latter motivational-based, we elucidate the human route from project resources to project performance. Specifically, we argue that hope facilitates workers' perceived ability to identify pathways in goal attainment as a cognitive resource (Gallagher & Lopez, 2018); and induces engagement, psychological well-being, and high work performance as a motivational resource (Schaufeli & Taris, 2014). Hence, hope can function as a mediator catalysing the mechanisms towards high project performance by fostering project workers' goal commitment and mitigating stress. Thus, we aim to enhance our understanding of how collaborative project leadership and financial project resources may affect individual project workers' goal commitment, goal stress, and partnership project performance through hope. This study addresses two questions using a sequential explanatory mixed-method research design: What are the effects of (a) highly collaborative project leadership and (b) sufficient financial project resources on project performance? To what extent are these relationships mediated by project workers' (a) hope, (b) goal commitment, and (c) goal stress?

The contribution of this research is three-fold: firstly, guided by hypotheses derived from goal-setting and JD-R theories, it contributes to project management research by empirically addressing the effects of two key project resources on project performance and their mediating mechanisms in enhancing workers' productivity and performance. Secondly, by introducing the concept of hope, we unpack a novel cognitive-motivational mediator that explains the relationships between collaborative project leadership, financial project resources, project workers' goal-commitment and -stress, and project performance. Lastly, through importing OB theory-based variables to project management, we demonstrate the practical relevance of goal-setting and JD-R theories for understanding complex partnership projects connecting academic and community work.

### **3.3. Literature Review**

#### **3.3.1. Goal-setting Theory**

Goal-setting theory (Locke & Latham, 2019) posits that goals are central to work motivation since they prompt individuals to pursue objectives by strengthening their determination, persistence, and the strategies to achieve these objectives (Locke & Latham, 2006). Therefore, goal commitment, an individual's determination to reach a goal, is vital for high performance (Hollenbeck & Klein, 1987). While CAHPs are essentially goal-directed project settings formed upon shared interests, project workers' goal commitment is fundamentally intrinsic and resides at the intrapersonal level (Scott & Boyd, 2020). However, the competitive resource environments and demanding working conditions make it challenging for workers to fully commit themselves to the projects (Gredig, Heinsch, Amez-Droz, Hüttemann, Rotzetter, & Sommerfeld, 2021). Hence, identifying the mechanisms that can enhance their commitment and lower their stress level in goal pursuit is crucial for improving project performance (Foy, Dwyer, Nafarrete, Hammoud, & Rockett, 2019).

Goal-setting literature has primarily focused on cognitive aspects (Locke and Latham, 2019), neglecting other individual-level resources that boost project workers' goal commitment, mitigate goal stress, and facilitate goal attainment (Scott & Boyd, 2020). The theory also fails to explain how individual differences

may influence workers' coping strategies when experiencing intense demands that may impede goal pursuit (Clements & Kamau, 2018). We further draw on the well-established, motivational-based JD-R model to address these limitations and explain the motivational resources required to sustain individual project workers' goal commitment, to reduce goal stress, and to promote their performance in complex project contexts.

### **3.3.2. JD-R Theory**

According to the JD-R theory, an individual's job performance, health, and well-being can be influenced by two psychological pathways: motivational and health-impairment processes (Bakker & Demerouti, 2014, 2017). Job resources, which refer to the physical, psychological, social, and organisational factors that enhance work goal achievement and personal growth, can increase job performance, workers' motivation, engagement, and commitment, and buffer the stressful impact of high job demands (Schaufeli & Taris, 2014). Contrarily, high job demands may cause exhaustion, stress, and burnout, ultimately hindering job performance (Katou, Koupkas, & Triantafillidou, 2021).

Given its broad motivational nature and wide applicability, the JD-R theory allows us to explore more intrapersonal factors that drive people's attitudes and behaviours in goal-directed, partnership project settings (Schaufeli & Taris, 2014). Provided the motives for project workers' actions range from external resources to more intrinsic personal inclinations (Bakker & Demerouti, 2017), we propose that the theory further complements goal-setting theory by combining the motivational and psychological mechanisms driving high project performance (Clements & Kamau, 2018).

### **3.3.3. Hypotheses Development**

To develop our hypotheses, we draw on the goal-setting and JD-R theories and extant project management literature on the antecedents of high project performance. More specifically, we examine the juxtaposition of two pivotal project resources (i.e., collaborative project leadership and financial project resources) on a cognitive-motivational resource (hope), project workers' goal commitment, goal stress, and project performance.

### **3.3.3.1. Collaborative Project Leadership and Financial Project Resources for High Project Performance**

Collaborative leadership is an important enabler of partnership project performance and sustainability (Vangen & Huxham, 2003; Boone et al., 2020), characterised by embracing, empowering, involving, and mobilising project actors' active participation. By taking a heterarchical, democratic approach, collaborative project leadership facilitates transparent decision-making and productive interactions among diverse stakeholders (Cramm et al., 2011). It also bridges cultures, perspectives, and values and strengthens project workers' involvement and contribution toward project goals (Alexander, Hearld, & Mittler, 2011). In so doing, it has a motivational spill-over effect on other workers (Mayan, Lo, Oleschuk, Paucholo, & Laing, 2017) and boosts overall collaborative functioning (Shu & Wang, 2021).

Securing adequate financial project resources is another critical factor for high project performance that is often overlooked (Smith et al., 2021). Sufficient financial project resources enable project workers to acquire the space, equipment, goods, and staff necessary to support operational activities associated with partnership goal fulfilment (Boone et al., 2020). However, many partnership projects struggle to sustain themselves financially; highly competitive grant environments and short funding periods also force them to prioritise short-term, measurable outcomes over long-term, sustainable solutions (Drahota et al., 2016). Furthermore, a lack of secured funding often leads to inadequate time and resources for meaningful engagement between academic and community partners (Neuhann & Barteit, 2017), hence threatening their project performance (Gredig et al., 2021). Consequently, we hypothesise that collaborative project leadership and financial project resources go hand in hand in determining project performance:

*H1: Collaborative project leadership (a) and financial project resources (b) are positively related to project performance.*

### **3.3.3.2. Mediation of Project Workers' Hope between Collaborative Project Leadership/Financial Project Resources and Project Performance**

Besides more traditional human (e.g., collaborative project leadership) and economic resources (e.g., financial project resources), (intra)personal resources (e.g., individuals' sense of control or influence on environments) may offer insights into the mechanisms that enhance partnership performance (Coates & Mickan, 2020). In particular, hope is a proven intrapersonal resource that drives work performance (Tüzün, Çetin, & Basım, 2018). Hope, which represents an individual's motivation to succeed in goal attainment by generating possible approaches to resolve obstacles and challenges (Luthans, Avolio, Avey, & Norman, 2007), predicts goal-directed performance by reinforcing goal-directed efforts (Gallagher & Lopez, 2018). Workers with greater hope are more capable of attaining goals effectively by finding alternative approaches and bypassing obstacles (e.g., a lack of resources or personnel) (Snyder, Feldman, Taylor, Schroeder, & Adams, 2000).

Some OB scholars have identified the predictors of hope (Gallagher & Lopez, 2018). For instance, effective leadership can indirectly improve followers' work engagement and job performance by awakening their hopeful thinking (Gallagher & Lopez, 2018); by creating abundant job resources for team members to deal with job challenges and demands (Bakker & Demerouti, 2017); and by motivating project workers to anticipate uncertainties and resolve difficulties (Nixon, Harrington, & Parker, 2012; Khosravi, Rezvani, & Ashkanasy, 2020). In line with those findings, Alexander et al. (2011) highlighted that collaborative project leadership facilitates workers' coordination and experimentation of innovative strategies for problem-solving in community health care alliances. Likewise, sufficient financial project resources offer project workers the freedom to explore alternative ways of performing activities necessary for goal attainment (Arrieta et al., 2017). Hence, we expect that highly collaborative project leadership and sufficient financial project resources will stimulate project workers' ability and motivation to carve out creative, innovative ways in goal pursuit (i.e., hope) and improve their project performance in collaborative partnership settings. Thus, we hypothesise:

*H2: Project workers' hope mediates the relationships between both (a) collaborative project leadership and project performance and (b) financial project resources and project performance.*

### **3.3.3.3. Mediation of Project Workers' Goal-Commitment and -Stress between Collaborative Project Leadership/ Financial Project Resources and Project Performance**

While increasing team motivation and performance, job resources can also mitigate individual-level negative health outcomes such as strain (Schaufeli & Taris, 2014). In CAHPs, collaborative project leadership garners project workers' commitment, promotes participation and enhances partnership success (Boone et al., 2020). Leadership stimulates the synergy among project workers and their commitment to the project, ameliorating the impact of threats to the project's success (Mayan et al., 2017). Equally, sufficient financial project resources safeguard project workers' commitment to attaining goals and effective performance (Scott & Boyd, 2020). It secures the investment of materials, daily expenses, staff, and time necessary for effective engagement and partnership operations (Arrieta et al., 2017). Contrarily, an absence of collaborative project leadership or a hiatus of financial project resources can disturb project workers' ability to pursue goals, leading to strain and frustration (LeClair et al., 2018). It can also stall a partnership project's progress in goal achievement, decrease project workers' goal commitment (Mayan et al., 2017) and increase the chance of undesirable outcomes such as burnout, work overload, disengagement, high staff turnover, or even partnership failure (Neuhann & Barteit, 2017; Rattrie, Kittler, & Paul, 2020). Thus, we propose that project workers' goal commitment and -stress mediate the relationships between the two key project resources and CAHP project performance:

*H3: Project workers' (a) goal commitment; and (b) goal stress mediate the relationship between collaborative project leadership and project performance; and project workers' (c) goal commitment; and (d) goal stress mediate the relationship between financial project resources and project performance.*

#### **3.3.3.4. *Inconsistent Mediation of Hope between Collaborative Project Leadership/Financial Project Resources, Project Workers' Goal-Commitment and -Stress***

Work-environment and job-related factors can influence workers' performance by affecting their adaptability, commitment, and motivation (Diamantidis & Chatzoglou, 2019). Like most project settings, partnership projects are typically dynamic, complex, and highly uncertain (Smith et al., 2021). Consequently, project workers not only experience the pressure to deliver project outcomes within tight deadlines and limited resources (LeClair, Lim, & Rubin, 2018) but also need to adapt to unexpected events (e.g., diminishing resources and changes in leadership) (Nixon, Harrington, & Parker, 2012). Such events might negatively influence their perceptions of work conditions, invoke goal stress and lower their commitment to the projects. Indeed, whilst insufficient financial project resources can hinder project workers from performing the activities necessary to fulfil project objectives (Arrieta et al., 2017), frequent leadership changes or a vacuum in task coordination can overwhelm the workers (Neuhann & Barteit, 2017), hindering their ability to cope with goal stress (Foy, Dwyer, Nafarrete, Hammoud, & Rockett, 2019).

Nevertheless, workers can still cope with stressors effectively and stay engaged (in subsequent coping thoughts and actions) through high hope (Gallagher & Lopez, 2018). Drawing on the dual psychological pathways of JD-R theory (Bakker & Demerouti, 2014), we assume project workers' hope mediates positively between collaborative project leadership/financial project resources and project goal commitment in the motivational pathway (i.e., high collaborative project leadership/adequate financial project resources increase workers' hope, which then increases project goal commitment). Meanwhile, since stress can be reduced through high hope (Wen et al., 2021), we propose that hope can negatively mediate between the two project resources and project goal stress in the health-impairment pathway (i.e., highly collaborative project leadership/adequate financial project resources increase workers' hope, and then hope decreases project goal stress). This results in an inconsistent mediation,

where “at least one mediated effect has a different sign than other mediated or direct effects” (MacKinnon et al., 2007, p. 600). Thus, we propose:

*H4: CAHP project workers’ hope mediates the relationship between:*

- (a) collaborative project leadership and goal commitment (positively);*
- (b) collaborative project leadership and goal stress (negatively);*
- (c) financial project resources and goal commitment (positively); and*
- (d) financial project resources and goal stress (negatively).*

### **3.3.3.5. Mediation of Goal-Commitment and -Stress between Project Workers’ Hope and Project Performance**

Individuals may experience strain when there is an imbalance between job demands and resources (Bakker & Demerouti, 2017), notably when there are high job demands and low job control over their tasks (Bakker & Demerouti, 2014). As such situations are typical in health partnerships (Mayan, Lo, Oleschuk, Paucholo, & Laing, 2017), individual project workers must often exert cognitive and motivational effort to cope with them (Igel et al., 2018).

JD-R research has increasingly shown that hope can mitigate the adverse effects of high job demands on burnout and reinforce the positive effects of job resources on work engagement (Schaufeli & Taris, 2014). Hope can directly improve workers’ job satisfaction, work happiness, and organisational commitment and indirectly enhance work performance (Youssef & Luthans, 2007). Additionally, hopeful people are better at envisioning a promising future and pursuing goals in the face of overwhelming obstacles (Gallagher & Lopez, 2018). Moreover, they tend to respond to external challenges and implement effective coping strategies better, therefore experiencing less stress, higher commitment and more success in identifying plausible means to reach their goals (Snyder, Feldman, Taylor, Schroeder, & Adams, 2000). They can also bring positive, motivating energy to the group (Pleeging, van Exel, & Burger, 2021). Indeed, highly committed project workers are vital for the success and survival of collaborative projects, as they actively steer the projects despite situational constraints (Arrieta et al., 2017). Hence, we hypothesise that people with a higher level of hope tend to report higher overall project performance since they are



better at managing stress due to high project goal demands and staying committed to project goal attainment. We propose:

*H5: Project workers' (a) goal commitment; and (b) goal stress mediate between their hope and project performance.*

### **3.3.3.6. Three-path Mediations of Collaborative Project Leadership, Financial Project Resources to Project Performance via Hope, Goal-Commitment and -Stress**

By combining the propositions of both goal-setting and JD-R theories, we propose that both collaborative project leadership and financial project resources reinforce project workers' hope, reducing their goal stress due to high project goal demands, boosting their commitment toward project goal pursuit, and resulting in better project performance. Hence, we hypothesise the following three-path mediations:

*H6: Project workers' hope and (a) goal commitment; and (b) goal stress mediate the relationships between collaborative project leadership and project performance in a series. Project workers' hope and (c) goal commitment; and (d) goal stress mediate the relationships between financial project resources and project performance in a series.*

## **3.4. Methodology**

This study adopts a sequential explanatory mixed-method research design (Fetters, Curry, & Creswell., 2013) and consists of two phases. In phase I, a survey targeting academic and community actors working in the health and social care disciplines and CAHP partnerships in the German-speaking regions of Europe was disseminated. In phase II, semi-structured, qualitative interviews were conducted with an independent sample of project leaders working in different, ongoing, or recently completed German CAHP projects.

### **3.4.1. Quantitative Study**

#### **3.4.1.1. Data Collection**

A self-administered online survey was disseminated between June and September 2019 as part of a larger quantitative study. Given the absence of a list of all CAHP project workers in German-speaking regions of Europe, 8,422

potential respondents were randomly drawn from a list of academic and community actors working in the health and social care disciplines obtained through screening the websites of all higher education institutions and CAHP partnerships in Germany, Austria, and the German-speaking cantons of Switzerland. Only individuals who participated in (ongoing or recently completed) CAHP projects (between 2017 and 2019) were included for analysis to minimise potential recall bias. As a result, out of 578 individuals who completed the survey (response rate of 6.9%), 322 of them (56%) were eligible for analysis. After removing four responses due to missing values and detecting no extreme outliers using Mahalanobis distance (Grentzelos, Caroni, & Barranco-Chamorro, 2021), the data of 318 participants were analysed. The average age of the sample was 43.9 (SD = 11.8). Females represented 50.3% (n = 160) of the total sample. Majority of participants were from Germany (66.3 %, n = 211), followed by Switzerland (8.2%, n = 26), Austria (6.3%, n = 20), Others (0.6%, n = 2), and Not Specified (18.6%, n = 59). Most participants were from academia (77.4%, n = 207) and have a managerial role in their projects (69.8%, n = 222) (Table 3.1).

**Table 3.1 Sample Characteristics (N = 318)**

|  |              |
|--|--------------|
| <b>Age (Mean (SD))</b>                   | 44 (11.80)   |
| <b>Gender (N (%))</b>                    |              |
| Female                                   | 160 (50.3 %) |
| Male                                     | 143 (45.0 %) |
| Not Specified                            | 15 (5.0 %)   |
| <b>Country of residence (N (%))</b>      |              |
| Germany                                  | 211 (66.3 %) |
| Switzerland                              | 26 (8.2 %)   |
| Austria                                  | 20 (6.3 %)   |
| United States/ United Kingdom            | 2 (0.6 %)    |
| Not specified                            | 59 (18.6 %)  |
| <b>Organisation type (N (%))</b>         |              |
| Research/University                      | 246 (77.4 %) |
| University hospital                      | 39 (12.2 %)  |
| Non-governmental organisation            | 13 (4.1 %)   |
| Professional association                 | 4 (1.3 %)    |
| Government authority                     | 5 (1.6 %)    |
| Healthcare and social welfare facilities | 5 (1.6 %)    |
| Business/Industry                        | 4 (1.3 %)    |
| (Health) insurance                       | 2 (0.8 %)    |
| <b>Role in project (N (%))</b>           |              |
| Managerial                               | 222 (69.8 %) |
| Non-managerial                           | 96 (30.2 %)  |

### 3.4.1.2. Measures

The survey (available in German and English languages) assessed project workers' self-rated hope, collaborative project leadership, sufficiency of financial project resources, project goal commitment, goal stress (due to excessive project goal demands), project performance, and demographic questions. The descriptive statistics, correlations, and reliabilities of the variables are shown in Table 3.2.

**Table 3.2 Descriptive Statistics, Correlations, and Reliabilities of Study Variables**

|  | M    | SD   | 1       | 2       | 3      | 4      | 5     | 6     |
|--|------|------|---------|---------|--------|--------|-------|-------|
| <b>1. Project performance</b>              | 7.23 | 1.42 | (.80)   |         |        |        |       |       |
| <b>2. Project workers' goal stress</b>     | 2.32 | .71  | -.38*** | (.74)   |        |        |       |       |
| <b>3. Project workers' goal commitment</b> | 4.41 | .55  | .37***  | -.27*** | (.69)  |        |       |       |
| <b>4. Project workers' hope</b>            | 4.75 | .73  | .29***  | -.33*** | .29*** | (.78)  |       |       |
| <b>5. Financial project resources</b>      | 3.66 | .80  | .21***  | -.19**  | .07    | .13*   | (.75) |       |
| <b>6. Collaborative project leadership</b> | 3.36 | 1.06 | .26***  | -.27*** | .13*   | .30*** | .19** | (.79) |

Notes: N = 318; M = Mean; SD = Standard Deviation

Cronbach's alphas are in parentheses along the diagonal. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Project performance.** The degree of project performance was assessed with a 4-item scale adapted from the Collaboration Assessment Tool developed by Marek, Brock, and Savla (2015). A sample item is "How successful is this project in implementing strategies to address project goals and objectives?" ( $\alpha = .80$ ). Answers ranged from 0 (not at all successful) to 10 (extremely successful).

**Project workers' hope.** Hope (4-items) was measured with the validated, short version of the Psychological Capital Questionnaire (PCQ-12) (Avey, Avolio, & Luthans, 2011). The items were slightly adjusted to allow respondents rate on project work ( $\alpha = .78$ ). A sample item is "If I should find myself in a jam at project work, I could think of many ways to get out of it". Answers ranged from 1 (*strongly disagree*) to 6 (*strongly agree*) on a Likert scale.

**Collaborative project leadership.** Collaborative project leadership (4-items) was measured with a validated, short version of the Partnership Self-Assessment Tool (PSAT-S) (Cramm, Strating, & Nieboer, 2011). A sample item is "How would you rate the leadership in this project regarding inspiring or

motivating project participants?" ( $\alpha = .79$ ). Answers ranged from 1 (*poor*) to 5 (*extremely good*) on a Likert scale.

**Financial project resources.** The sufficiency of financial project resources for staffing, equipment and goods, and physical space (3-items) was measured with the original validated version of the Partnership Self-Assessment Tool (PSAT) (Weiss, Anderson, & Lasker, 2002). A sample item is: "To what extent does the project have the money for staffing it needs to work effectively?" ( $\alpha = .75$ ). Answers on a Likert scale ranged from 1 (*nothing of what it needs*) to 5 (*everything of what it needs*).

**Project goal commitment.** The 5-item goal commitment scale was used to assess project workers' goal commitment (Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001). A sample item is: "It is hard to take this (these) project goal(s) seriously" ( $\alpha = .69$ ). Responses are provided on a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

**Project goal stress.** Project goal stress (due to excessive project goal demands) (4-items) was measured with a scale validated in German contexts (Lee, Bobko, Christopher Earley, & Locke, 1991; Putz & Lehner, 2002). A sample item is "I find working towards my goals in this project to be very stressful" ( $\alpha = .74$ ). Responses ranged from 1 (*almost never*) to 5 (*almost always*).

### **3.4.2. Qualitative Study**

#### **3.4.2.1. Data Collection**

To deepen our understanding of the quantitative findings, we then conducted an independent qualitative investigation to examine what contextual challenges CAHP project workers encountered and how they coped with those challenges. We performed purposive sampling to identify ongoing German CAHP projects that consisted of at least one academic researcher and at least one community representative with the common aim to achieve specific health-related goal(s) (Drahota et al., 2016). Using publicly available contact details from CAHP projects' websites, leaders of eligible CAHP projects were invited for interviews since they knew the most about the project structure, project workers' behaviours, and project performance. Project leaders were included regardless of their

gender, leadership experiences, and backgrounds. Out of 118 CAHP project leaders invited, 21 project leaders (response rate = 18%, 14 females and 7 males) participated in the semi-structured interviews. The number of participants was determined based on iterative data collection and analysis, where the data collection process ended when saturation was reached (Morse, 2000). None of the interviewees participated in the quantitative part of this study. The interviews were conducted virtually between April and November 2020 and lasted between 30 and 60 minutes. They were audio-taped with the consent of interviewees and transcribed verbatim. Interviews conducted in German were then translated into English by native German-English speakers.

Interviewees were asked to describe the objectives of their most engaged, ongoing CAHP project, evaluate its overall performance, and reflect on the leadership style. They were also asked to comment on any major challenges faced in the project, their subsequent reactions, and factors that have helped them cope with the challenges.

### **3.4.3. Quantitative Analyses**

All quantitative analyses were conducted using R, version 4.0.3. We performed reliability, correlation, and confirmatory factor analyses and tested the hypotheses using structural equation modelling with bootstrap procedures and latent variables. The model fits were presented with the following indices: Chi-square ( $\chi^2$ ), degree of freedom (df), ratio of  $\chi^2$  to degrees of freedom ( $\chi^2/df$ )  $\leq 3$ , comparative fit index (CFI)  $\geq .90$  (reasonable)/.95 (acceptable), root mean square error of approximation (RMSEA) (95% CI)  $< .06$  (.00 - .08) and standardised root mean square residual (SRMR)  $\leq .08$  (Schreiber, 2017).

*Test for common-method variance.* We adopted the single-common-method factor approach to evaluate the effect of common-method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A common factor, comprised of the first-order common variance factor derived from principal component analysis, was added to the full model. After adding this factor, we observed no significant increase in the  $R^2$  value of project performance (from .407 to .409). Thus, no substantial common-method bias was limiting this study.

*Hypotheses testing.* We tested the hypotheses using structural equation modelling (SEM) with latent variables. The indirect effects of collaborative project leadership and financial project resources on project performance through project workers' hope, goal-commitment and -stress were tested using bootstrap procedures (N = 1000).

#### **3.4.4. Qualitative Analyses**

We followed Braun and Clarke's (2006) well-established six steps to thematic analysis using MAXQDA 2020. We examined the data iteratively: data, potential themes, and theoretical arguments were constantly compared and recoded, discarding or collapsing similar codes (Gioia, Corley, & Hamilton, 2012). Relying on participants' wordings, we obtained first-order, second-order, and overarching themes (Gioia et al., 2012). The process proceeded until additional data offered no new insights, giving us confidence that we had reached saturation (Morse, 2000). The final data structure is presented in Figure 3.1.

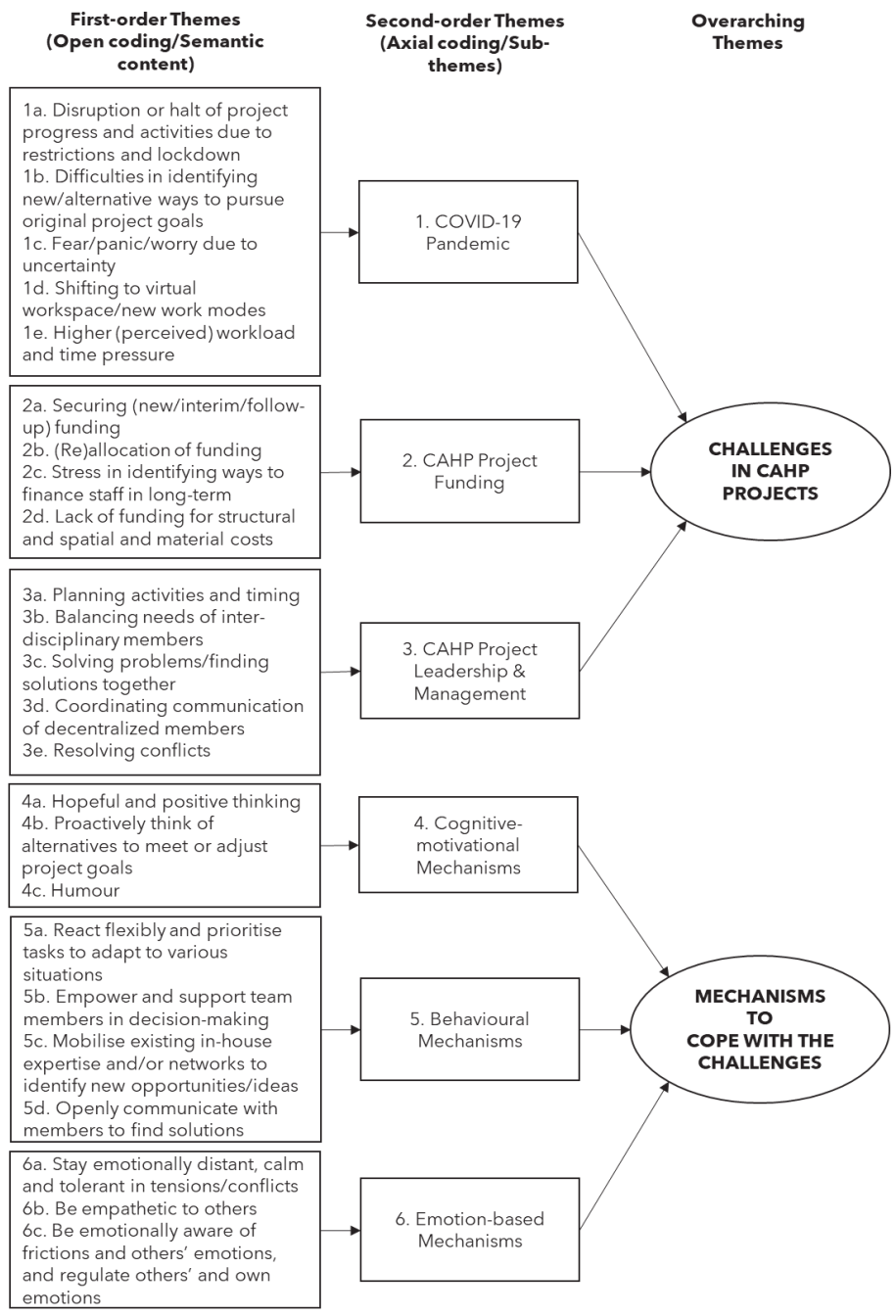


Figure 3. 1 Data Structure

**3.5. Results**

**3.5.1. Quantitative Findings**

Descriptive statistics and correlations of the study’s variables are reported in Table 3.2. Project performance relates negatively to project workers’ goal stress ( $r = -.38, p < .001$ ), and is positively correlated to their goal commitment ( $r = .37, p < .001$ ), hope ( $r = .29, p < .001$ ), financial project resources ( $r = .21, p < .001$ ) and collaborative project leadership ( $r = .26, p < .001$ ).

**Test of measurement model.** We performed confirmatory factor analyses and compared the nested models with the hypothesised, six-factor model using Chi-square difference tests. The results showed a reasonable fit for a six-factor model ( $\chi^2(260) = 453.895, \chi^2/df = 1.746, CFI = .922, TLI = .910, RMSEA = .048, SRMR = .051$ ) (Table 3.3). Compared to other nested models, such as a one-factor model ( $\chi^2(275) = 1514.408, \chi^2/df = 5.507, CFI = .501, TLI = .456, RMSEA = .118, SRMR = .103$ ), the six-factor model had the best fit ( $\Delta\chi^2(15) = 1060.50, p < .001$ ).

**Table 3.3 Results of Nested Model Comparisons**

| Model   | $\chi^2$ | DF  | $\chi/DF$ | CFI  | TLI  | RMSEA | SRMR | $\chi^2$ test difference         |
|---|----------|-----|-----------|------|------|-------|------|----------------------------------|
| 1 Baseline: 6-factor model (PP, CL, FR, Hope, GC, GS) | 453.895  | 260 | 1.746     | .922 | .910 | .048  | .051 | Preferred Model                  |
| 2 5-factor model (PP, CL + FR, Hope, GC, GS)          | 707.634  | 265 | 2.67      | .822 | .798 | .072  | .080 | $\Delta\chi^2(5) = 253.74$ ***   |
| 3 4-factor model (PP, CL + FR + Hope, GC, GS)         | 989.636  | 269 | 3.679     | .710 | .677 | .091  | .082 | $\Delta\chi^2(9) = 535.74$ ***   |
| 4 3-factor model (PP, CL + FR + Hope + GC, GS)        | 1164.901 | 272 | 4.283     | .641 | .604 | .101  | .092 | $\Delta\chi^2(12) = 711.01$ ***  |
| 5 2-factor model (PP, CL + FR + Hope + GC + GS)       | 1301.114 | 274 | 4.749     | .587 | .547 | .108  | .097 | $\Delta\chi^2(14) = 847.22$ ***  |
| 6 1-factor model (PP + CL + FR + Hope + GC + GS)      | 1514.408 | 275 | 5.507     | .501 | .456 | .118  | .103 | $\Delta\chi^2(15) = 1060.50$ *** |

Notes: PP = Project Performance; CL = Collaborative Project Leadership; FR = Financial Project Resources; Hope = Project Workers’ Hope; GS = Project Workers’ Goal Stress; GC = Project Workers’ Goal Commitment. \*\*\*  $p < .001$ .



**Hypotheses testing.** We tested hypothesis 1 by examining the direct effects of (a) collaborative project leadership and (b) financial project resources on project performance, respectively. The model shows an acceptable goodness-of-fit:  $\chi^2(99) = 177.522$ ,  $\chi^2/df = 1.793$ , CFI = .953, RMSEA = .050 and SRMR = .047 (see, Table 3.4). The direct effect of collaborative project leadership on project performance is not significant ( $\beta = .075$ , 95% btCI = [-.049, .227]), while that of financial project resources is ( $\beta = .444$ , 95% btCI = [.243, .687]) (Table 3.5). Hence, H1a was not supported, while H1b was supported.

**Table 3.4 Fit Statistics of the Structural Models**

| Hypotheses | Hypotheses Testing   | $\chi^2$ | DF  | CFI  | RMSEA | SRMR |
|------------|--|----------|-----|------|-------|------|
| H1         | (a) CL → PP<br>(b) FR → PP   | 177.522  | 99  | .953 | .050  | .047 |
| H2         | (a) CL → Hope → PP<br>(b) FR → Hope → PP   | 172.519  | 98  | .956 | .049  | .044 |
| H3         | (a) CL → GC → PP<br>(b) CL → GS → PP<br>(c) FR → GC → PP<br>(d) FR → GS → PP                             | 336.569  | 179 | .907 | .056  | .055 |
| H4         | (a) CL → Hope → GC<br>(b) CL → Hope → GS<br>(c) FR → Hope → GC<br>(d) FR → Hope → GS                     | 335.406  | 179 | .915 | .052  | .053 |
| H5         | (a) Hope → GC → PP<br>(b) Hope → GS → PP   | 243.458  | 113 | .914 | .060  | .059 |
| H6         | (a) CL → Hope → GC → PP<br>(b) CL → Hope → GS → PP<br>(c) FR → Hope → GC → PP<br>(d) FR → Hope → GS → PP | 474.279  | 261 | .914 | .049  | .058 |

Notes: CL = Collaborative Project Leadership; PP = Project Performance; FR = Financial Project Resources; Hope = Project Workers' Hope; GC= Project Workers' Goal Commitment; GS = Project Workers' Goal Stress

**Table 3.5 Results of Hypotheses Testing**

| Hypotheses | Hypotheses Testing  | $\beta$ | SE   | 95% BtCI |       | Results       |
|------------|---------------------|---------|------|----------|-------|---------------|
|            |                     |         |      | Lower    | Upper |               |
| H1a        | CL → PP             | .075    | .067 | -.049    | .227  | Not supported |
| H1b        | FR → PP             | .444    | .111 | .243     | .687  | Supported     |
| H2a        | CL → Hope → PP      | .033    | .019 | .006     | .082  | Supported     |
| H2b        | FR → Hope → PP      | .042    | .022 | .012     | .106  | Supported     |
| H3a        | CL → GC → PP        | .018    | .019 | -.008    | .069  | Not supported |
| H3b        | CL → GS → PP        | .031    | .020 | .003     | .083  | Supported     |
| H3c        | FR → GC → PP        | .058    | .028 | .019     | .145  | Supported     |
| H3d        | FR → GS → PP        | .068    | .040 | .014     | .170  | Supported     |
| H4a        | CL → Hope → GC      | .064    | .028 | .026     | .147  | Supported     |
| H4b        | CL → Hope → GS      | -.048   | .021 | -.105    | -.018 | Supported     |
| H4c        | FR → Hope → GC      | .080    | .039 | .031     | .204  | Supported     |
| H4d        | FR → Hope → GS      | -.060   | .026 | -.125    | -.021 | Supported     |
| H5a        | Hope → GC → PP      | .130    | .054 | .045     | .277  | Supported     |
| H5b        | Hope → GS → PP      | .172    | .072 | .061     | .350  | Supported     |
| H6a        | CL → Hope → GC → PP | .018    | .011 | .005     | .054  | Supported     |
| H6b        | CL → Hope → GS → PP | .013    | .008 | .003     | .041  | Supported     |
| H6c        | FR → Hope → GC → PP | .023    | .014 | .006     | .068  | Supported     |
| H6d        | FR → Hope → GS → PP | .017    | .011 | .004     | .046  | Supported     |

Notes: CL = Collaborative Project Leadership; PP = Project Performance; FR = Financial Project Resources; Hope = Project Workers' Hope; GC= Project Workers' Goal Commitment; GS = Project Workers' Goal Stress

Hypothesis 2 stated that CAHP project workers' hope mediates the relationship between (a) collaborative project leadership; (b) financial project resources and project performance. The fit statistics of the model to test this mediation were:  $\chi^2(98) = 172.519$ ,  $\chi^2/df = 1.76$ , CFI = .956, RMSEA = .049, SRMR = .044. Both paths for collaborative project leadership ( $\beta = .033$ , 95% btCI = [.006, .082]) and financial project resources to project performance ( $\beta = .042$ , 95% btCI = [.012, .106]) were significant. Hence, both hypothesis 2a and 2b were accepted.

Hypothesis 3 stated that while CAHP project workers' (a) goal commitment and (b) goal stress both mediate the relationships between collaborative project leadership and project performance; their (c) goal commitment and (d) goal stress mediate the relationships between financial project resources and project performance. The fit statistics of this model were:  $\chi^2(179) = 336.569$ ,  $\chi^2/df = 1.88$ , CFI = .907, SRMR = .056, and RMSEA = .055. The effect of collaborative project leadership on project performance via goal commitment was not significant ( $\beta = .018$ , 95% btCI = [-.008, .069]), while that through goal stress was significant ( $\beta = .031$ , 95% btCI = [.003, .083]). H3a was not supported while H3b was. The

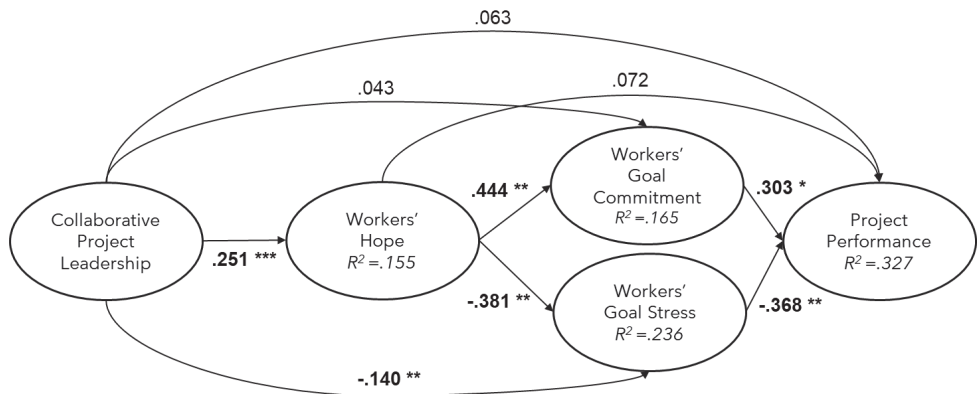
mediation effects of project workers' goal commitment between financial project resources and project performance ( $\beta = .058$ , 95% btCI = [.019, .145]), and that of goal stress were both positive and significant ( $\beta = .068$ , 95% btCI = [.014, .170]). Thus, H3c and H3d were supported.

Hypothesis 4 stated that while CAHP project workers' hope mediates between collaborative project leadership and (a) goal commitment (positively); and (b) goal stress (negatively); their hope also mediates between financial project resources and (c) goal commitment (positively); and (d) goal stress (negatively). The fit statistics of this model were:  $\chi^2(179) = 335.406$ ,  $\chi^2/df = 1.873$ , CFI = .915, SRMR = .052, and RMSEA = .053. The results show that CAHP project workers' hope mediates positively between collaborative project leadership and goal commitment ( $\beta = .064$ , 95% btCI = [.026, .147]); and negatively between collaborative project leadership and project goal stress ( $\beta = -.048$ , 95% btCI = [-.105, -.018]). Similarly, project workers' hope mediates positively between financial project resources and goal commitment ( $\beta = .080$ , 95% btCI = [.031, .204]); and negatively between financial project resources and goal stress ( $\beta = -.060$ , 95% btCI = [-.125, -.021]). Thus, H4a, H4b, H4c, H4d were all supported.

We tested hypothesis 5 on the mediation effects of CAHP project workers' (a) goal commitment; (b) and goal stress between their hope and project performance, respectively. The fit statistics of this model were:  $\chi^2(114) = 256.283$ ,  $\chi^2/df = 2.25$ , CFI = .906, SRMR = .063, and RMSEA = .069. The results show significant mediation effect of project workers' goal commitment between hope and project performance ( $\beta = .130$ , 95% btCI = [.045, .277]); as well as goal stress ( $\beta = .172$ , 95% btCI = [.061, .350]). Thus, H5a and H5b were both supported.

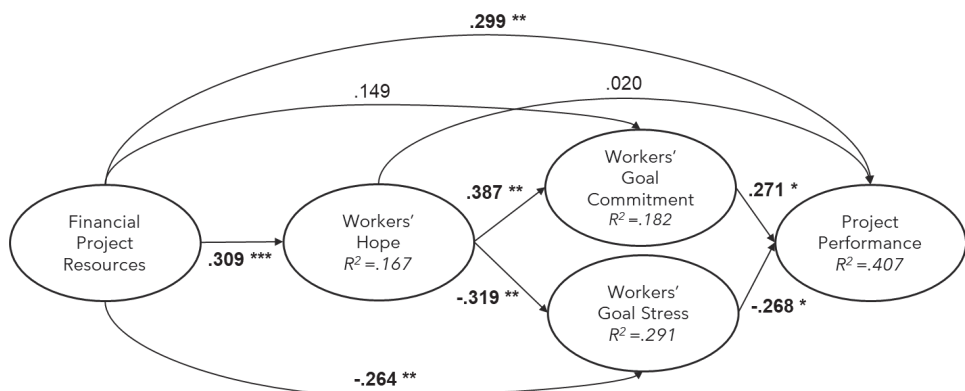
We tested hypothesis 6 on the three-path mediation effects of collaborative project leadership and financial project resources on project performance through hope, goal-commitment and -stress, respectively. The fit statistics of this model were:  $\chi^2(261) = 462.033$ ,  $\chi^2/df = 1.77$ , CFI = .916, SRMR = .049, and RMSEA = .055. The path from collaborative project leadership to project performance via hope and goal commitment was significant ( $\beta = .018$ , 95% btCI = [.005, .054]), so did the path via hope and goal stress ( $\beta = .013$ , 95% btCI = [.003, .041]). The path from financial project resources to project performance via hope and goal commitment

was also significant ( $\beta = .023$ , 95% btCI = [.006, .068]), so was the path via hope and goal stress ( $\beta = .017$ , 95% btCI = [.004, .046]). Therefore, the four three-path mediation paths proposed in this study (H6a, H6b, H6c and H6d) were supported. The graphical representation of the separate and full hypothesised path models are presented in Figures 3.2, 3.3, and 3.4.



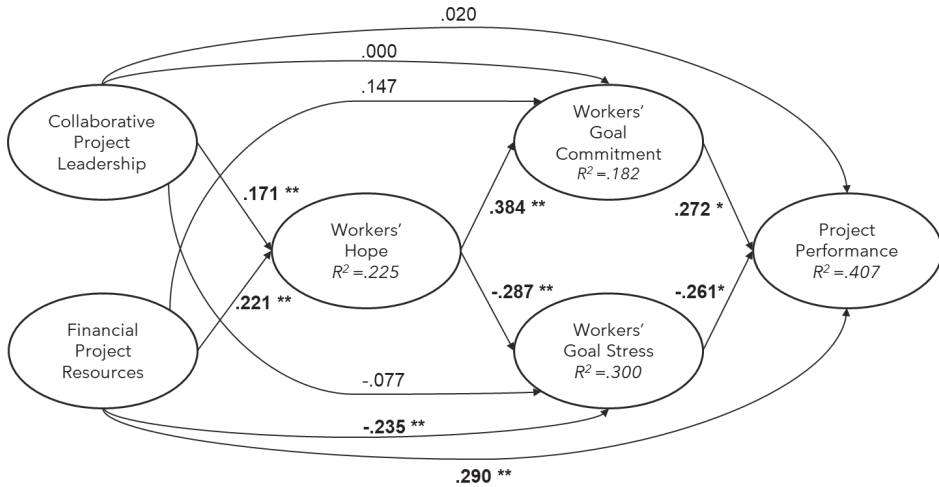
Note: The observed variables are omitted for simplicity. \*  $p < .05$ , \*\*  $p < .01$ .

**Figure 3.2 A Three-path Mediation Model of Collaborative Project Leadership on Project Performance with Standardised Path Coefficients**



Note: The observed variables are omitted for simplicity. \*  $p < .05$ , \*\*  $p < .01$ .

**Figure 3.3 A Three-path Mediation Model of Financial Project Resources on Project Performance with Standardised Path Coefficients**



Note: The observed variables are omitted for simplicity. \*  $p < .05$ , \*\*  $p < .01$ .

**Figure 3.4 A Three-path Mediation Model of Collaborative Project Leadership and Financial Project Resources on Project Performance with Standardised Path Coefficients**

### 3.5.2. Qualitative Findings

To better understand and ultimately corroborate our quantitative findings, we explored *what* challenges CAHP project workers faced and *how* they coped with these challenges to perform in their projects. Below we discuss some themes and illustrative quotes (presented with pseudonyms to protect interviewees' identities).

#### 3.5.2.1. Research Question 1: What Challenges did CAHP Project Workers Face?

Several respondents mentioned the *COVID-19 pandemic* and *securing project funding* as key challenges to tackle. For instance, their project progress and activities were interrupted, making coordination or fieldwork engagement difficult: "*Certain things that we can't do (...), participatory inspections, and so on (...) we are now suspending that.*"(Nelson).

Some participants had to change or adjust their project goals due to the pandemic: "*We have, of course, adjusted some of the goals, maybe even reduced them. (...) we must now set realistic new targets to take the pressure off a bit.*"(Lily)

*"We must, of course, assume that we will have to achieve our goals as usual if we want to continue to promote our work."*(Olivia)

Others experienced difficulties in securing project continuation funding. For example, one respondent highlighted the stress to divert her energy from executing the current project when she had to apply for follow-up projects to secure jobs for her staff:

*"We have to look at where we can accommodate the staff and how we design the follow-up application. (...) when you have a three-year project, after two years, you already have to design the follow-up project; otherwise (...), you will have a gap. (...) That is a heck of a job."*(Helen)

In contrast, project workers with secured funding seemed much relaxed in recruiting the staffing necessary for attaining project goals: *"In the beginning, the impetus was certainly the political will and the provision of funds (...) I'm well equipped to get things moving. I believe that the intensity of our current work would not have been possible without this staffing."* (Tina)

Despite these challenges, respondents mentioned how collaborative style of leadership facilitated the project team to address the challenges: *"All of a sudden people were talking to each other much, much more, and were also supporting each other, asking questions, thinking, brainstorming together: (...) "Damn, how do we do that now? Do you have an idea? How can we do it?"* (Olivia)

*"Okay, then we'll do it differently, and we'll still do it well. It's not all bad now (...) we just go the other way. And if that doesn't work either, we have done enough."* (Nelson)

### **3.5.2.2. Research Question 2: How did CAHP Project Workers Cope with These Challenges to Perform Well in Their Projects?**

Respondents noted various ways of reacting to the above challenges. For example, a few respondents relied on *cognitive-motivational mechanisms* to motivate themselves and others in goal pursuit via demonstrating hopeful, positive thinking, and humour:

*"For most of them [the management team] the battle cry was: 'We can't let this pandemic stop us now.' (...) And I think this is true for any project (...) It's mainly about this (...): 'We won't (...) let this pandemic stop us from talking, or*

*we won't let our goals get in the way, but we'll continue, even if it means that certain things have to be changed'." (Olivia)*

*"In any case, this is a chance! (...), because a common enemy was identified, namely this damn virus (...) that really said something: "Okay, the situation is now as it is, and somehow we have to see that everything is still going on and that we will finish this project". And all of a sudden, there was greater willingness to work together to sort it out and to somehow go further than before.'"(Olivia)*

*"I find humour critical because there are enough rainy days that you really have to say, 'okay, that is nothing, but we take it all with humour.' (...) humour is a very effective tool when using it correctly; because it keeps the ball rolling and we don't end up in depression."(Elaine)*

Some respondents reacted through *behavioural mechanisms* and mobilised their networks to solve the impasse:

*"You have to improvise a bit. You have to experiment; you have to try out what works (...) in which way you can achieve something (...) regardless of these unfortunate circumstances, in projects you often encounter resistance, or you find new situations that you didn't expect." (Max)*

*"What I think has helped me a lot (...) I simply had many contacts in different places." (Kelly)*

Respondents who reported high project performance also noted the importance of *emotion-based mechanisms* to react to others' or their own emotions with great understanding and empathy to perform well: *"understanding (...) to take away a bit of fear, to give a bit of calming effect on the people for whom this was a very, very difficult change, which brought them much anxiety." (Olivia)*

*"What they contribute to the success of the project is not only their work performance but also the way they carry people along. That such people are also naturally (...) so empathic and so charismatic, that they can also take team members with them. All of a sudden, you have such a pulling effect. And then, the project flies." (Olivia)*

Overall, the above quotes indicated how highly collaborative project leadership and sufficient financial project resources facilitated project workers to

cope with project challenges and perform well, i.e., through brainstorming solutions and making decisions collaboratively; conveying hopeful thinking within the project team; ensuring sufficient project funding to sustain staffing; and removing the stress or fear that divert workers' from reaching project goals.

### **3.6. Discussion**

Through a sequential explanatory mixed-method design, this study has explored how two key project resources, namely collaborative project leadership and financial project resources, may impact project performance through key cognitive-motivational mediating mechanisms as hope, goal-commitment, and -stress. Below we detailed the specific theoretical and practical contributions of this study.

#### **3.6.1. Research Implications**

##### **3.6.1.1. *The Significant Effects of Collaborative Project Leadership and Financial Project Resources on Enhancing Workers' Hope and Project Performance***

This study has combined two well-established theories in OB, namely goal-setting and JD-R theories, to explain how key project resources like collaborative project leadership and financial project resources may influence CAHP project performance via project workers' hope, goal-commitment, and -stress. Our quantitative results reveal that collaborative project leadership and financial project resources show similar and significant effects on project performance. Together, they explain a higher degree of variance on both hope ( $R^2 = .225$ ) and project performance ( $R^2 = .407$ ) than collaborative project leadership or financial project resources alone (see, Figure 3.4). This finding suggests that the combination of both resources can remarkably boost CAHP project performance through fostering project workers' hope and reducing their project goal stress.

##### **3.6.1.2. *The Cognitive-Motivational Mechanism in Enhancing CAHP Project Performance***

Our qualitative findings also add depth to these results by explaining the importance of collaborative project leadership in facilitating multi-directional information exchange, proactive brainstorming, and collaborative decision-making among project teams based on shared goals. Highly collaborative project



leadership, in turn, encourages project workers to identify or create alternative pathways to address the challenges and pursue the intended project goals, even during the COVID-19 pandemic. Similarly, financial project resources ensure project workers possess the staffing and equipment needed to achieve the project goals and perform well in the CAHP projects. Furthermore, the qualitative findings validate the roles of project workers' hope, goal-commitment, and -stress as crucial mechanisms between the two key project resources and project performance. The importance of feeling hopeful is particularly evident during the COVID-19 pandemic since its disruptive changes forced many project workers to adapt and identify alternative solutions for goal pursuit. In line with previous research on hope, this study shows how hopeful thinking and acting can be a key mechanism motivating project workers to search for alternative ways to reach project goals despite the increased environmental uncertainty or setbacks affecting their projects (Mayan et al., 2017). Since workers' hope can be contagious (Pleeging et al., 2021), hopeful project workers can motivate peers' proactive efforts and commitment and relieve peers' stress or fear by reinforcing confidence, conveying positive emotions, and using humour (Gallagher & Lopez, 2018; Nyström, Karlton, Keller, & Andersson Gäre, 2018). Subsequently, hopeful project teams also demonstrate greater creativity in problem-solving and mutual support, which enable better goal attainment. These results support Schaufeli and Taris' (2014) propositions that personal resources are highly related to job resources and can buffer the adverse effects of high job demands, enhancing the positive effects of available job resources on job engagement.

### **3.6.1.3. Different Routes of The Two Project Resources on Boosting Productivity and Performance**

Collaborative project leadership and financial project resources also act differently in improving productivity and project performance. Consistent with previous research, we found that having sufficient financial project resources reduces project workers' stress in pursuing goals within the project timeframe (LeClair et al., 2018) and boosts project performance by shaping their collaborative efforts (Gredig et al., 2021a). Similarly, we show how sufficient funding improves project workers' productivity and project performance by

securing staffing and allowing them to focus better on the project work and goal pursuit (Boone et al., 2020). In contrast, participants did not comment on or mention collaborative project leadership in relation to project performance (see, Figure II). This could be because collaborative project leadership tends to indirectly influence workers' project performance by affecting their behaviour, motivation, and mental well-being, such as enhancing their hope, goal-commitment, and reducing their goal stress levels (Bakker & Demerouti, 2017) (see, H4a, H4b, H6a, and H6b in Table 3.5), or promoting their adaptability, proactivity, and efficiency in decision-making and problem-solving (Mayan et al., 2017; Shu & Wang, 2021).

#### **3.6.1.4. Spill-over Effects of Workers' Hope on Enhancing Project Productivity and Performance**

Another important finding is that CAHP project workers' hope may have a spill-over effect on other workers' emotional states. Echoing the positive ways whereby emotional regulation and empathy work (Khosravi, Rezvani, & Ashkanasy, 2020), employees' hope can motivate colleagues' engagement, relieve stress, and boost team efficiency in problem-solving and performance (Gallagher & Lopez, 2018). Particularly when anxiety and uncertainty are high, people with high hope tend to have better emotional regulation skills or empathy to manage their own and other team members' emotions with calmness and relieve others' fear and anxiety (Pleeging et al., 2021). In turn, they stimulate others' engagement, productivity, and flexibility in problem-solving, and improving project performance (Khosravi et al., 2020). As previous research shows, project leaders' empathy may predict performance indirectly (Alexander et al., 2011). Hence, it might be a critical factor contributing to other project workers' goal commitment, goal stress relief, and success in complex partnership projects.

#### **3.6.2. Theoretical Implications**

These findings offered various theoretical contributions. Firstly, by combining the complementary cognitive-based goal-setting and motivational-based JD-R theories, we extend current project management research by demonstrating the cognitive and motivational effects and underlying mediating

mechanisms of collaborative project leadership and financial project resources on enhancing individual project workers' productivity and performance in complex partnership project settings (Scott & Boyd, 2020).

Secondly, by drawing attention to project workers (Williams & Radnor, 2021) and examining their hope as both an intra- and inter-personal catalyst in this particular job setting, we unveil the powerful mediating role that hope has between collaborative project leadership, financial project resources, workers' goal commitment and -stress, and project performance. In so doing, we contribute to positive organisational scholarship in which hope has been widely illustrated as a crucial cognitive-motivational resource for high work performance (Gallagher & Lopez, 2018). Indeed, collaborative project leadership and a sense of sufficient financial project resources may reinforce workers' hope that project goals are achievable regardless of the path chosen. Thus, a high level of hope among workers can act as an intervening variable (Paulhus, Robins, Trzesniewski, & Tracy, 2004), reinforcing their project engagement, suppressing the unavoidable goal stresses, and driving high project performance.

Lastly, while most research has demonstrated the effects of job demands and resources on work performance in single-national, organisational settings (Rattrie, Kittler, & Paul, 2020), the influences of workers' both goal-commitment and -stress on performance in inter-agency, partnership project settings have been under-examined (Scott & Boyd, 2020). Thus, this study contributes to both goal-setting and JD-R literature by extending their (combined) use to multi-organisational settings.

### **3.6.3. Practical Implications**

#### **3.6.3.1. Enhancing CAHP Workers' Productivity and Performance by Securing Financial Project Resources**

Our findings suggest that financial project resources can, both directly and indirectly, boost project workers' productivity and project performance. In particular, our results unravel the indirect, yet significant and beneficial cognitive-motivational effects of financial project resources on reducing workers' goal stress; and, at the same time, enhancing workers' efficiency in problem-solving and project goal pursuit by boosting their hope, and goal commitment. Hence,

regardless of the projects' thematic focuses or structures, project leaders should always secure financial project resources to enhance workers' productivity and performance in CAHP projects.

### **3.6.3.2. Reinforcing Workers' Hope by Staffing Hopeful Workers, Offering Hope Development Training and Fostering Collaborative Project Leadership**

Our findings support that hope is a crucial (intra)personal resource that helps project workers successfully adapt or react to unexpected project challenges or changes (Arrieta et al., 2017) and stay committed to goal pursuit amid adversity and uncertainties (Pleeging et al., 2021). The spill-over effect of high hope on others can act in and around collaborative projects, promoting the project teams' ability to derive better pathways to contribute to higher team productivity and performance in goal attainment (Gallagher & Lopez, 2018). Thus, notably when financial project resources are scarce, CAHP network or organisational leaders should staff more hopeful leaders and workers to bring positivity into a project. Providing scenario planning training can also foster project leaders' and workers' conscious, rational yet hopeful thinking and emotional regulation skills. Alternatively, promoting collaborative project leadership can enhance workers' hope, which then strengthens their commitment to goal pursuit, mitigates the risks of goal stress or burnout while working in challenging CAHP project environments and indirectly improving project performance (Gallagher & Lopez, 2018).

### **3.6.4. Limitations and Future Research Implications**

In terms of this study's limitations: we examined only *collaborative* project leadership given its close relevance to high project performance in CAHPs (Alexander et al., 2011). However, different leadership styles might evoke different mechanisms in CAHP projects than hope and positive goal dynamics (Nixon et al., 2012). For example, *transformational* leadership may improve followers' work engagement (Katou, Koupkas, & Triantafillidou, 2021), while collective leadership reinforces cohesion and synergy (Mayan et al., 2017). Therefore, future research should investigate the ingredients of the best possible leadership style(s) for high partnership project workers' performance. Moreover, future (ideally, longitudinal)

research should investigate the collective effects of various leadership styles and account for the possible individual and contextual differences at the partnership project/team level.

Apart from cognitive-motivational factors, the qualitative study has also pointed to the significance of project workers' emotion regulation skills in relieving other workers' stress/fear, facilitating engagement, and improving performance. Particularly during difficult times, such skills can shape a project's climate, reinforcing project workers' hope, motivation, well-being, and performance (Bakker & Demerouti, 2017; Foy et al., 2019). Since difficulties arise in most complex project settings, future studies should examine the impacts of project workers' emotion regulation skills on project performance.

This study has a cross-sectional nature and relies on individual self-reflections of leaders and workers from specific types of German-speaking, cross-sectoral projects. While our mixed-method research design enables the investigation of several factors influencing the performance of heterogeneous projects at the individual level, it is subjected to common-method bias and cannot examine the causality among the variables examined. Despite the measures taken to limit the concerns of common-method variance, and even though the qualitative data deepen and corroborate the quantitative results, future field studies should start testing the assumed causality and examining the reported dynamics with objective performance measures using multi-level analysis (Marek, Brock, & Savla, 2015; Smith et al., 2021).

### **3.7. Conclusion**

This study highlights collaborative project workers' hope as a significant cognitive-motivational mediator between collaborative project leadership/sufficient financial project resources and project performance through reinforcing goal commitment and relieving goal stress. The results harmonise with Shannon K. Butcher's (2009: 236) idea about hope: "A person can do incredible things if he or she has enough hope". Future research should further explore the strategies that reinforce collaborative project leadership, financial project resources, and project workers' hope in increasingly complex partnership project

settings, including the role of their emotion regulation skills on project performance and the causality among the here examined variables.

### 3.8. References

- Alexander, J.A., Hearld, L.R. and Mittler, J. (2011). Measuring leadership in multisector health care alliances. *Nonprofit Management and Leadership*, 21(4), 341-361.
- Arrieta, M.I., Fisher, L., Shaw, T., Bryan, V., Hudson, A., Hansberry, S.,...Crook, E. (2017). Consolidating the academic end of a community-based participatory research venture to address health disparities. *Journal of Higher Education Outreach and Engagement*, 21(3), 113-134.
- Avey, J.B., Avolio, B.J., & Luthans, F. (2011). Experimentally analysing the impact of leader positivity on follower positivity and performance. *The Leadership Quarterly*, 22(2), 282-294.
- Bakker, A.B., & Demerouti, E. (2014). Job demands-resources theory. In Cooper, C.L. (Ed.), *Wellbeing: A complete reference guide* (pp. 1-28). Chichester: Wiley-Blackwell.
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273-285.
- Boone, C. G., Pickett, S. T. A., Bammer, G., Bawa, K., Dunne, J. A., Gordon, I. J., . . .Mallee, H. (2020). Preparing interdisciplinary leadership for a sustainable future. *Sustainability Science*, 1(15), 1723-1733.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Butcher, S.K. (2009), *Burning Alive*, Penguin Group, New York, NY.
- Clements, A. J., & Kamau, C. (2018). Understanding students' motivation towards proactive career behaviours through goal-setting theory and the job demands-resources model. *Studies in Higher Education*, 43(12), 2279-2293.
- Coates, D., & Mickan, S. (2020). Challenges and enablers of the embedded researcher model. *Journal of Health Organization and Management*, 34(7), 743-764.
- Cramm, J. M., Strating, M. M., & Nieboer, A. P. (2011). Development and validation of a short version of the Partnership Self-Assessment Tool (PSAT) among professionals in Dutch disease-management partnerships. *BMC Research Notes*, 4(1), 224.
- Diamantidis, A. D., & Chatzoglou, P. (2019). Factors affecting employee performance: An empirical approach. *International Journal of Productivity and Performance Management*, 68(1), 171-193.
- Drahota, A., Meza, R. D., Brikho, B., Naaf, M., Estabillo, J. A., Gomez, E. D., . . . Aarons, G. A. (2016). Community-academic partnerships: A systematic review

- of the state of the literature and recommendations for future research. *The Milbank Quarterly*, 94(1), 163-214.
- Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs-principles and practices. *Health Services Research*, 48(6 Pt 2), 2134-2156.
- Foy, T., Dwyer, R. J., Nafarrete, R., Hammoud, M. S. S., & Rockett, P. (2019). Managing job performance, social support and work-life conflict to reduce workplace stress. *International Journal of Productivity and Performance Management*, 68(6), 1018-1041.
- Gallagher, M. W., & Lopez, S. J. (Eds.) (2018). *Oxford handbooks. The Oxford handbook of hope*. New York, NY: Oxford University Press.
- Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2012). Seeking qualitative rigor in inductive research. *Organizational Research Methods*, 16(1), 15-31.
- Gredig, D., Heinsch, M., Amez-Droz, P., Hüttemann, M., Rotzetter, F., & Sommerfeld, P. (2021). Collaborative research and development: A typology of linkages between researchers and practitioners. *European Journal of Social Work*, 24(6), 1066-1082.
- Grentzelos, C., Caroni, C., & Barranco-Chamorro, I. (2021). A comparative study of methods to handle outliers in multivariate data analysis. *Computational and Mathematical Methods*, 3(3), 1-20.
- Hollenbeck, J. R., & Klein, H. J. (1987). Goal commitment and the goal-setting process: Problems, prospects, and proposals for future research. *Journal of Applied Psychology*, 72(2), 212-220.
- Igel, U., Gausche, R., Lück, M., Lipek, T., Spielau, U., Garz, M., . . . Grande, G. (2018). Challenges in doing multi-disciplinary health promotion research in Germany. *Health Promotion International*, 33(6), 1082-1089.
- Katou, A. A., Koupkas, M., & Triantafillidou, E. (2021). Job demands-resources model, transformational leadership and organizational performance: A multilevel study. *International Journal of Productivity and Performance Management*, in press.
- Khosravi, P., Rezvani, A., & Ashkanasy, N. M. (2020). Emotional intelligence: A preventive strategy to manage destructive influence of conflict in large scale projects. *International Journal of Project Management*, 38(1), 36-46.
- Klein, H. J., Wesson, M. J., Hollenbeck, J. R., Wright, P. M., & DeShon, R. P. (2001). The assessment of goal commitment: A measurement model meta-analysis. *Organizational Behavior and Human Decision Processes*, 85(1), 32-55.
- LeClair, A., Lim, J. J., & Rubin, C. (2018). Lessons learned from developing and sustaining a community-research collaborative through translational research. *Journal of Clinical and Translational Science*, 2(2), 79-85.
- Lee, C., Bobko, P., Christopher Earley, P., & Locke, E. A. (1991). An empirical analysis of a goal setting questionnaire. *Journal of Organizational Behavior*, 12(6), 467-482.

- Locke, E. A., & Latham, G. P. (2006). New directions in goal-setting theory. *Current Directions in Psychological Science*, 15(5), 265-268.
- Locke, E. A., & Latham, G. P. (2019). The development of goal setting theory: A half century retrospective. *Motivation Science*, 5(2), 93-105.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60(3), 541-572.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58(1), 593-614.
- Marek, L. I., Brock, D.-J. P., & Savla, J. (2015). Evaluating collaboration for effectiveness. *American Journal of Evaluation*, 36(1), 67-85.
- Mayan, M., Lo, S., Oleschuk, M., Paucholo, A., & Laing, D. (2017). Leadership in community-based participatory research: Individual to collective. *Engaged Scholar Journal: Community-Engaged Research, Teaching, and Learning*, 2(2), 11-24.
- Morse, J. M. (2000). Determining sample size. *Qualitative Health Research*, 10(1), 3-5.
- Neuhann, F., & Barteit, S. (2017). Lessons learnt from the MAGNET Malawian-German Hospital Partnership: The German perspective on contributions to patient care and capacity development. *Globalization and Health*, 13(1), 50.
- Nixon, P., Harrington, M., & Parker, D. (2012). Leadership performance is significant to project success or failure: A critical analysis. *International Journal of Productivity and Performance Management*, 61(2), 204-216.
- Paulhus, D. L., Robins, R. W., Trzesniewski, K. H., & Tracy, J. L. (2004). Two replicable suppressor situations in personality research. *Multivariate Behavioral Research*, 39(2), 303-328.
- Pleeging, E., van Exel, J., & Burger, M. (2022). Characterizing hope: An interdisciplinary overview of the characteristics of hope. *Applied Research in Quality of Life*, 17(1), 1681-1723.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879-903.
- Putz, P., & Lehner, J. (2002). Eff ekte zielorientierter Führungssysteme - Entwicklung und Validierung des Zielvereinbarungsbogens (ZVB) [Effects of goal-oriented management systems: Development and validation of the goal-setting questionnaire]. *Zeitschrift Für Arbeits- Und Organisationspsychologie*, 46(1), 22-34.
- Rattrie, L. T., Kittler, M. G., & Paul, K. I. (2020). Culture, burnout, and engagement: A meta-analysis on national cultural values as moderators in JD-R theory. *Applied Psychology*, 69(1), 176-220.
- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the job demands-resources model: implications for improving work and health. In G. F. Bauer &



- O. Hämmig (Eds.), *Bridging occupational, organizational and public health: A transdisciplinary approach* (pp. 43-68). Dordrecht: Springer.
- Schreiber, J. B. (2017). Update to core reporting practices in structural equation modeling. *Research in Social & Administrative Pharmacy*, 13(3), 634-643.
- Scott, R. J., & Boyd, R. (2020). Determined to succeed: Can goal commitment sustain interagency collaboration? *Public Policy and Administration*, 095207672090500. doi:10.1177/0952076720905002
- Shu, Q., & Wang, Y. (2021). Collaborative leadership, collective action, and community governance against public health crises under uncertainty: A case study of the Quanjingwan community in China. *International Journal of Environmental Research and Public Health*, 18(2), 598.
- Smith, S. L., Huang, K., & Peng, S. (2021). Strategic orientation and relationship building among dyads in complex public management networks: Perspectives from state asthma coalitions. *Administration and Society*, 53(5), 737-759.
- Snyder, C. R., Feldman, D. B., Taylor, J. D., Schroeder, L. L., & Adams, V. H. (2000). The roles of hopeful thinking in preventing problems and enhancing strengths. *Applied and Preventive Psychology*, 9(4), 249-269.
- Steenkamer, B., Drewes, H., Putters, K., van Oers, H., & Baan, C. (2020). Reorganizing and integrating public health, health care, social care and wider public services: A theory-based framework for collaborative adaptive health networks to achieve the triple aim. *Journal of Health Services Research & Policy*, 25(3), 187-201.
- Tüzün, I. K., Çetin, F., & Basim, H. N. (2018). Improving job performance through identification and psychological capital. *International Journal of Productivity and Performance Management*, 67(1), 155-170.
- Vangen, S., & Huxham, C. (2003). Nurturing Collaborative Relations. *The Journal of Applied Behavioral Science*, 39(1), 5-31.
- Weiss, E. S., Anderson, R. M., & Lasker, R. D. (2002). Making the most of collaboration: Exploring the relationship between partnership synergy and partnership functioning. *Health Education & Behavior*, 29(6), 683-698.
- Wen, F. F., Zhu, J. L., Ye, H. X., Li, L. Y., Ma, Z., Wen, X. X., & Zuo, B. (2021). Associations between insecurity and stress among Chinese university students: The mediating effects of hope and self-efficacy. *Journal of Affective Disorders*, 281(1), 447-453.
- Williams, S.J. and Radnor, Z.J. (2022). Moving from service to sustainable services: A healthcare case study. *International Journal of Productivity and Performance Management*, 71(4), 1126-1148.



# Chapter 4

## *Effective Leaders(hip) in Community-Academic Health Partnership Projects: An Inductive, Qualitative Study*

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*"The wind and the waves are always on the side of the ablest navigator."*

— *Edmund Gibbon*

*"The wonder is always new that any sane man can be a sailor."*

— *Ralph Waldo Emerson*

# Chapter 4

## Effective Leaders(hip) in Community-Academic Health Partnership Projects: An Inductive, Qualitative Study

4

### 4.1. Abstract

To deepen our understanding of how project leaders can lead effectively in different Community-Academic Health Partnerships (CAHPs), we conducted an inductive, qualitative study through semi-structured interviews (N = 32) and analysed the data with Grounded Theory approaches. By presenting a process model illustrating the cycle of effective leaders(hip) in CAHP projects, we contribute to the literature on CAHP, leadership development, and complexity leadership theory in three ways. Firstly, the model depicts the strategies enabling leaders to navigate typical project challenges and perform leadership tasks effectively. Secondly, we distill four beneficial qualities (i.e., adopting a proactive attitude, having an open and adaptive mindset, relying on peer learning and support, and emphasising self-growth and reflexivity) which CAHP project leaders require to develop themselves into effective leaders. Thirdly, we illustrate leaders' dynamic developmental logics and processes of effective leadership and their contributions to better project functioning in diverse CAHPs.

## 4.2. Introduction

Nowadays, public health challenges such as drug addiction, obesity and physical inactivity are increasingly addressed through Community-Academic Health Partnerships (CAHPs) (Drahota et al., 2016). In a CAHP, academic researchers actively include and recombine diverse community stakeholders' knowledge, resources, and capacities to generate rigorous research and/or targeted health interventions and innovations (Berring, Buus, & Hybholt, 2021). However, CAHPs addressing such wicked health challenges are often intrinsically complex, networked systems that are resource-intensive to manage (Pellecchia et al., 2018; Ramanadhan, Daly, Lee, Kruse, & Deutsch, 2020). Moreover, their successes depend heavily on the dynamic interplay between community and academic partners (Belone et al., 2016; Bigland, Evans, Bolden, & Rae, 2020). Growing literature has pointed to the decisive role of effective leadership in orchestrating such complex dynamics (Boursaw et al., 2021; Huang et al., 2018; Mayan et al., 2017) and steering the partnerships towards successful and sustainable outcomes (Matenga, Zulu, Corbin, & Mweemba, 2019; Ramanadhan et al., 2020).

Nevertheless, such outcomes are often undermined by numerous challenges that CAHP project leaders constantly need to tackle when bringing diverse stakeholders together for the common purpose of the project (Nyström et al., 2018). These challenges can hinder their ability to perform project leadership tasks effectively (Vangen & Huxham, 2003). For example, beyond the daunting duty of securing project resources and reaching goals (Igel et al., 2018), they often need to operate in ambiguous leadership roles (Armistead, Pettigrew, & Aves, 2007), act in uncertain environments (Spyridonidis, Hendy, & Barlow, 2015) and must manage the unavoidable conflicting interests or demands between the diverse partnership members (Huang et al., 2018). However, only a few concrete field studies have illustrated *how* project leaders address such complex challenges in different CAHP settings (Bowers, 2017; Igel et al., 2018). As a result, how project leaders pursue effective leadership sustainably in diverse CAHPs remains largely unexplored (Bigland et al., 2020; Spyridonidis et al., 2015).

This knowledge gap can be attributed to two main reasons. Firstly, most studies have been criticised for reporting only on the effectiveness of specific health interventions and accomplishments whilst neglecting to include details of any struggles, unsuccessful attempts, and useful strategies or processes employed in response to these challenges (Igel et al., 2018; Rusch et al., 2021). Secondly, despite the recognised significance of leadership on CAHP effectiveness in the literature, there were considerable variations and ambiguities in how scholars conceptualise “leadership” (Stolp et al., 2017). For example, some studies have considered leadership as individual leaders’ traits or characteristics (Armistead et al., 2007); others have examined more distributed forms of leadership, such as collaborative leadership (Chak, Carminati, & Wilderom, 2021), collective leadership (Kliewer & Priest, 2019) and shared leadership (Alexander et al., 2020). The inconsistencies in leadership conceptualisation, coupled with the overlooked dynamics and impacts of CAHP project settings on leadership practices, have precluded scholars from drawing answers on how effective leadership and leaders, from decision-making to strategic issues, jointly contribute to effective CAHPs (Mayan et al., 2017).

Hence, to examine how leaders can perform their leadership functions and roles sustainably and effectively in complex CAHP systems (Huang et al., 2018; Porter-O’Grady, 2020), a more focused perspective accounting for both effective *leadership* and effective *leaders* is required (Tourish, 2019). Additionally, CAHP scholars have called for empirical work to obtain a more nuanced and thorough understanding of the complex inner workings of project implementation (MacDonald, Clarke, Huang, & Seitanidi, 2019) and leaders’ efforts in handling the dynamics in different CAHPs (Nyström et al., 2018). To this end, a growing body of health care research has proposed to examine the interplay of project leaders’ behaviours under varied contextual forces (e.g., actors, challenges, and contexts) through the lens of Complexity Leadership Theory (CLT) (Porter-O’Grady, 2020).

Complexity leadership theorists posit that a triadic model of operational, enabling and entrepreneurial leadership behaviours allows leaders to unite diverse perspectives and create shared values in collaboration (Uhl-Bien & Arena, 2018). This theory further complements extant leadership research by highlighting

the critical role of environmental dynamics on leaders' actions (Watkin et al., 2017) and bringing greater attention to the facilitative mechanisms and processes for better learning, innovation, and adaptability in CAHPs (Craps et al., 2019). However, CLT falls short in three aspects in explaining how CAHP projects can be led effectively. Firstly, although CLT provides a meta-framework for leadership behaviours at the organisational level (Uhl-Bien & Arena, 2018), it remains conceptually abstract and lacks empirical descriptions of the strategies for addressing the specific challenges in diverse inter-organisational, networked settings like CAHPs (Tourish, 2019; Wind, Klaster, & Wilderom, 2021). Secondly, the theory has not offered much guidance on becoming a better leader in complex, networked project environments (Uhl-Bien & Arena, 2018). Thirdly, how leadership and leaders evolve and contribute to desirable outcomes in complex systems like CAHPs remains largely unexplored (Porter-O'Grady, 2020).

Independently, both CAHP and CLT scholars have called for qualitative research to offer richer insights into project leaders' notions of effective leadership (Corbin, Jones, & Barry, 2018; Kliewer & Priest, 2019), particularly on strategies and qualities that enhance leaders' readiness and ability to excel in complex, networked systems (Bucknall & Hutchinson, 2020; Mumford, Todd, Higgs, & McIntosh, 2017). Thus, to deepen our limited understanding of effective leadership and leading in different CAHP contexts and in an effort to fill some gaps in CLT, we embarked on a study to address the research question:

***How do project leaders perform their leadership functions and roles effectively in complex CAHP systems?***

We adopt an interpretivist approach to explore project leaders' subjective lived experiences and perceptions of effective CAHP leadership and leading. This study aims to contribute to the burgeoning CAHP and leadership research in three ways. Firstly, by exploring the inner workings of CAHP projects, we aim to unpack CAHP project leaders' practical strategies for navigating the challenges while performing *leadership* tasks effectively in CAHPs and similar complex network settings. Secondly, we aim to advance leadership development by exemplifying the beneficial qualities that project leaders should possess to become effective *leaders* in CAHPs. Thirdly, we aim to extend CLT by depicting the dynamic



developmental logic and processes of effective *leadership* and *leaders* in a CAHP project and their contributions to enhanced project functioning.

### **4.3. Materials and Methods**

#### **4.3.1. Study Design**

We conducted an inductive, qualitative inquiry with leaders from diverse CAHP projects in Germany to explore their lived experiences in leadership and leading. By conducting semi-structured key informant interviews, we aimed to capture the characteristics of effective leadership and leaders based on their past efforts to address the challenges that arose in their projects. This qualitative method provides a rich and detailed description of the often-neglected inner workings of CAHP project leadership with a focus on differentiating between the characteristics of effective *leaders* and those of effective *leadership*.

#### **4.3.2. Recruitment and Sample Characteristics**

In the absence of a complete, updated list of all German CAHP projects, we were unable to generate a comprehensive sampling frame for random sampling (Saunders, Lewis, & Thornhill, 2019, pp. 298). Therefore, we adopted a heterogeneous purposive sampling strategy (Saunders et al., 2019, pp. 337) and compiled a sampling frame based on active web searches to identify eligible CAHP projects (e.g., project websites and participatory project networks). The key terms used for searching were: ("patient\*" OR "community\*" OR "societ\*") AND ("universit\*" OR "academic" OR "research\*") AND ("alliance\*" OR "collaborat\*" OR "participatory" OR "partners\*") AND "health"). As inclusion criteria, eligible CAHP projects were identified based on Drahota and colleagues' (2016) definition of a community-academic partnership: a collaborative relationship between at least one researcher and at least one community member(s) (i.e., representative or agency) from the field(s) of business, health care organisation, policymaking, or civil society (e.g., non-governmental organisations, churches, charities, schools); and specific health-promotional cause(s) that is/are relevant to the community of interest. Any projects that did not clearly describe their projects' causes, partners involved, or the relationships between community and academic partners were excluded. To reduce the chances of recall bias, we only considered ongoing or

recently completed CAHP projects between 2019 and 2021. To ensure a broad range of perspectives, project leaders of eligible CAHP projects were selected regardless of their gender, experiences in CAHP project leadership, and backgrounds. Eligible project leaders were invited to participate in an interview via email. A reminder email was sent to the non-respondents one week later.

Of the 137 formal CAHP project leaders invited, 32 participated in the study (23%). Thirteen (9.5%) of the invited leaders rejected the invitation due to unavailability (N = 10, 7.3%), retirement (N = 1, 0.7%), or being occupied with pandemic related work (N = 2, 1.5%). Four contacts were no longer accessible (2.9%), while no replies were received from others after the reminders were sent (N = 88, 64.2%). Meanwhile, twenty-one of the participants were women, and eleven were men. All of them worked on entirely different projects. A detailed overview of each study participant and their CAHP projects is provided in Table S2. Interviewees were 49 years old on average (29 - 68 years old), with an average of 11 years of experience in CAHP project leadership (SD = 5.66). A majority of them also had a job position affiliated with a research institute or university (62.5%, N = 20), followed by (university) hospitals (12.5%, N = 4), government authorities (9.38%, N = 3), non-governmental organisations (9.38%, N = 3), business/industries (6.25%, N = 2), educational institutions (e.g., schools, training centres) (3.13%, N = 1), and insurance companies (3.13%, N = 1). It is worth to mention that two participants, Iris (P08) and Ulva (P20), reported more than one affiliation (see, Table S2). The thematic focuses of the CAHP projects in which interviewees were involved were diverse, ranging from health treatment/care improvement (N = 12), community health promotion (N = 10), education/training for health professionals (N = 4), patient support (N = 3), disease management (N = 2) to disease prevention (N = 1). The average duration of the projects was 4.5 years (SD = 3.54) (Table 4.1).

**Table 4.1 Participant Characteristics (N = 32)**

|  |   |             |
|--|---|-------------|
| <b>Gender (%)</b>  | Women   | 21 (65.6 %) |
|  | Men   | 11 (34.3 %) |
| <b>Age (Mean (Range))</b>                                    |   | 49 (29-68)  |
| <b>Years of experience in project leadership (Mean (SD))</b> |   | 11 (5.66)   |
| <b>Project duration in years (Mean (SD))</b>                 |   | 4.5 (3.54)  |
| <b>Project leaders' affiliation (%)<sup>1</sup></b>          | Research institute/University                           | 20 (62.50%) |
|  | (University) hospital                                   | 4 (12.50%)  |
|  | Government authority                                    | 3 (9.38%)   |
|  | Non-governmental organisation                           | 3 (9.38%)   |
|  | Business/Industry                                       | 2 (6.25%)   |
|  | Insurance company                                       | 1 (3.13%)   |
|  | Educational institution (e.g., school, training centre) | 1 (3.13%)   |
| <b>Education level (%)</b>                                   | Professorship   | 11 (34.38%) |
|  | Doctorate   | 11 (34.38%) |
|  | Postgraduate  | 6 (18.75%)  |
|  | Undergraduate   | 3 (9.38%)   |
|  | Diploma   | 1 (3.13%)   |
| <b>Project theme (%)</b>                                     | Treatment/care improvement                              | 12 (37.50%) |
|  | Community health promotion                              | 10 (31.25%) |
|  | Education and training for health professionals         | 4 (12.50%)  |
|  | Patient support   | 3 (9.38%)   |
|  | Disease management                                      | 2 (6.25%)   |
|  | Disease prevention                                      | 1 (3.13%)   |
| <b>Project funding source (%)<sup>1</sup></b>                | Federal funding   | 13 (40.63%) |
|  | State/Regional funding                                  | 11 (34.38%) |
|  | Insurance company                                       | 5 (15.63%)  |
|  | Private funding   | 3 (9.38%)   |
|  | European funding  | 2 (6.25%)   |
|  | Membership fee  | 1 (3.13%)   |
|  | Bank  | 1 (3.13%)   |

Note:<sup>1</sup> Multiple answers were allowed for these variables. Since the percentages represent the prevalence among respondents, they do not add up to 100%.

#### **4.3.3. Research Instrument**

A semi-structured interview protocol was developed and piloted with three project leaders from different CAHPs in Germany, ranging from health care management and health care education to disease prevention. The content of the interview protocol was then revised based on the interviewees' feedback to ensure the appropriateness, clarity, and comprehensibility of the questions (Malmqvist, Hellberg, Möllås, Rose, & Shevlin, 2019). The final interview protocol (Table S3)

comprised open-ended questions covering five main themes: project structure, leadership and decision-making processes, reflections on any (leadership) challenges, enablers, and performance in the projects. Interviewees were asked to describe the objectives and structure of their current or recently completed CAHP projects (e.g., "Could you please briefly describe the project?"); their previous experiences in leading any CAHP projects (e.g., "Have you also led/managed similar project(s)?"); their project roles and tasks (e.g., "How would you describe your role in the project?"); and the decision-making processes in the projects (e.g., "How are major decisions made in the project?"). Then, they were invited to illustrate if they had faced any significant challenges in leading the projects and to reflect on how they dealt with those challenges (e.g., "Have you faced any major setbacks/challenges in this project? How did you react to them?"). We also asked interviewees to note any enablers, strategies, or tactics that helped them address those challenges and evaluate their current projects' overall performance (e.g., "What have you found to be important in helping you (or your team members) cope with the challenges?") (Table S3).

We implemented semi-structured interviews since they were deemed appropriate for deeper probing into participants' perception of effective leadership and leading practices, and facilitating the identification and constant comparison of themes (Corbin & Strauss, 1990). All interviews were conducted digitally (N = 27) or via phone (N = 5) between March 2020 and April 2021, following the safety regulations put in place during the COVID-19 pandemic. Interviews were conducted in German or English, audio-recorded and transcribed verbatim by native speakers. German transcripts were then translated into English by fluent bilinguals. The interviews lasted between 30 and 60 minutes, yielding 382 single-spaced pages for data analysis.

The study was approved by the Ethics Committee of the University and complied with the General Data Protection Regulation. We obtained verbal and written consent from all interviewees before the interviews and reassured them that their participation was voluntary, strictly confidential, and anonymous. Considering the interviews were conducted digitally or via phone and that the accuracy of transcripts could potentially be affected by any background noises or

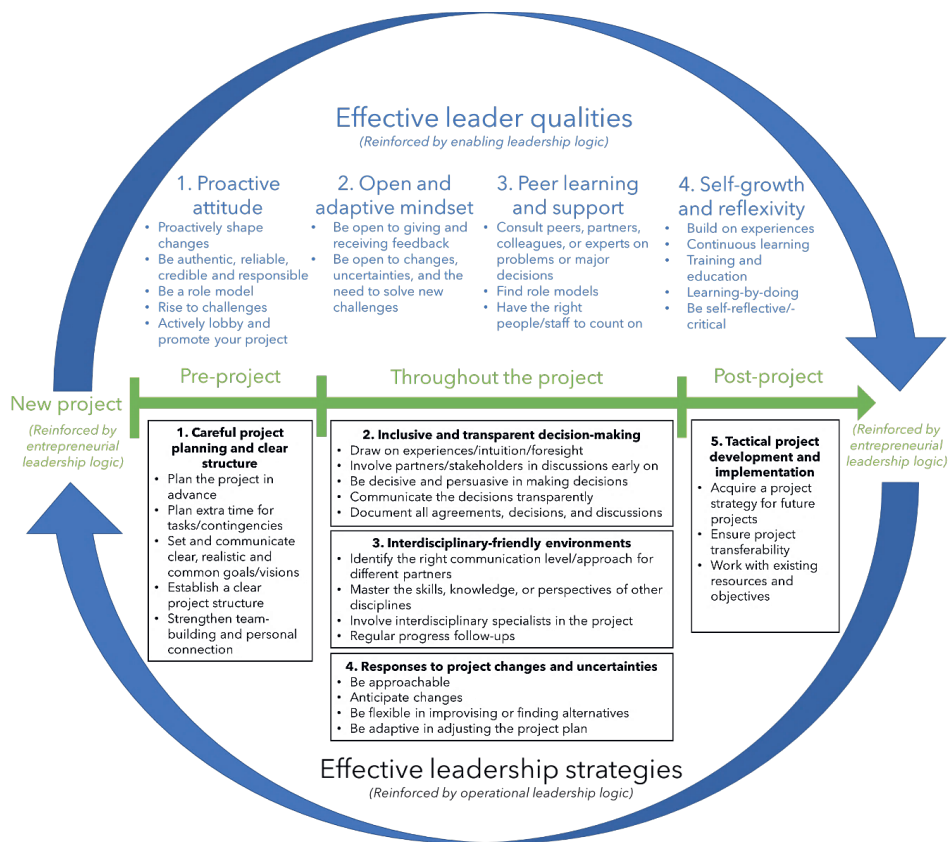
technical issues, all transcripts were sent back to interviewees for corrections or additional comments. Transcripts were anonymised to conceal participants' identities and personal information after receiving interviewees' potential corrections or comments.

#### **4.3.4. Data Collection and Analysis**

We followed Corbin and Strauss' (1990) and Gioia, Corley, and Hamilton's (2012) suggestions and analysed the data in parallel with the data collection process. After each of the three interview rounds (March - April 2020; October - November 2020; and March - April 2021), we performed preliminary analyses to obtain initial insights and identify knowledge gaps. The interview protocol was then revised as the research progressed to identify the themes concerning our research questions (Gioia et al., 2012). We then collected and analysed the data iteratively until we reached theoretical saturation and when no new insights emerged from adding further study participants (Morse, 2000).

Using Corbin and Strauss' (1990) Grounded Theory approaches (Corbin & Strauss, 1990) and Gioia, Corley, and Hamilton's (2012) inductive coding method, two bilingual coders analysed the transcripts and performed the initial inductive coding process separately. Here, first-order codes adhering to the terms and expressions used by interviewees were generated (Corbin & Strauss, 1990). During the process, the coders also performed memo writing, in which notes and observations were written, sorted, and resorted to offer a firm base for theoretical development (Corbin & Strauss, 1990). Findings were then constantly compared, discussed, and refined between the coders until a consensus on data interpretation was reached (Gioia et al., 2012). Subsequently, the coders discussed any themes or insights derived from the data and performed axial coding, a process in which relationships among open codes (i.e., first-order concepts) were identified to form sub-categories (i.e., second-order themes) after constantly testing the linkages proposed against the data collected (Corbin & Strauss, 1990; Gioia et al., 2012). This process gave rise to the theory-centric, second-order themes, which enabled us to explore the relationships among the first-order concepts and eventually to cluster the themes into three aggregated

dimensions relevant to our research questions (Gioia et al., 2012). The analysis was carried out using the MAXQDA 2020 software. We recursively referred to the collected data, emerging insights, and extant literature to establish linkages between the identified themes. We then synthesised the findings and constructed a process model depicting the cycle of effective CAHP leaders(hip) (Figure 4.1).

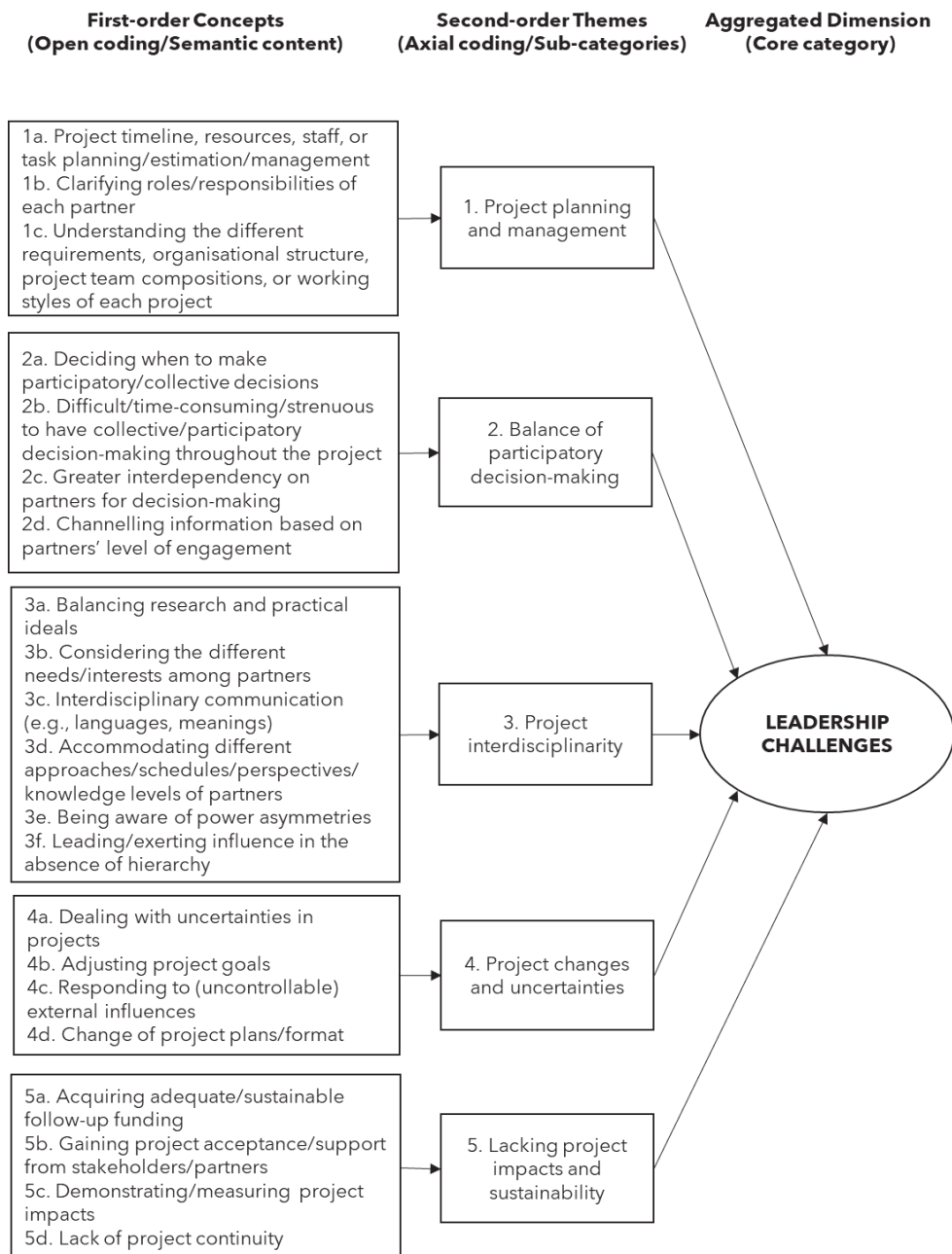


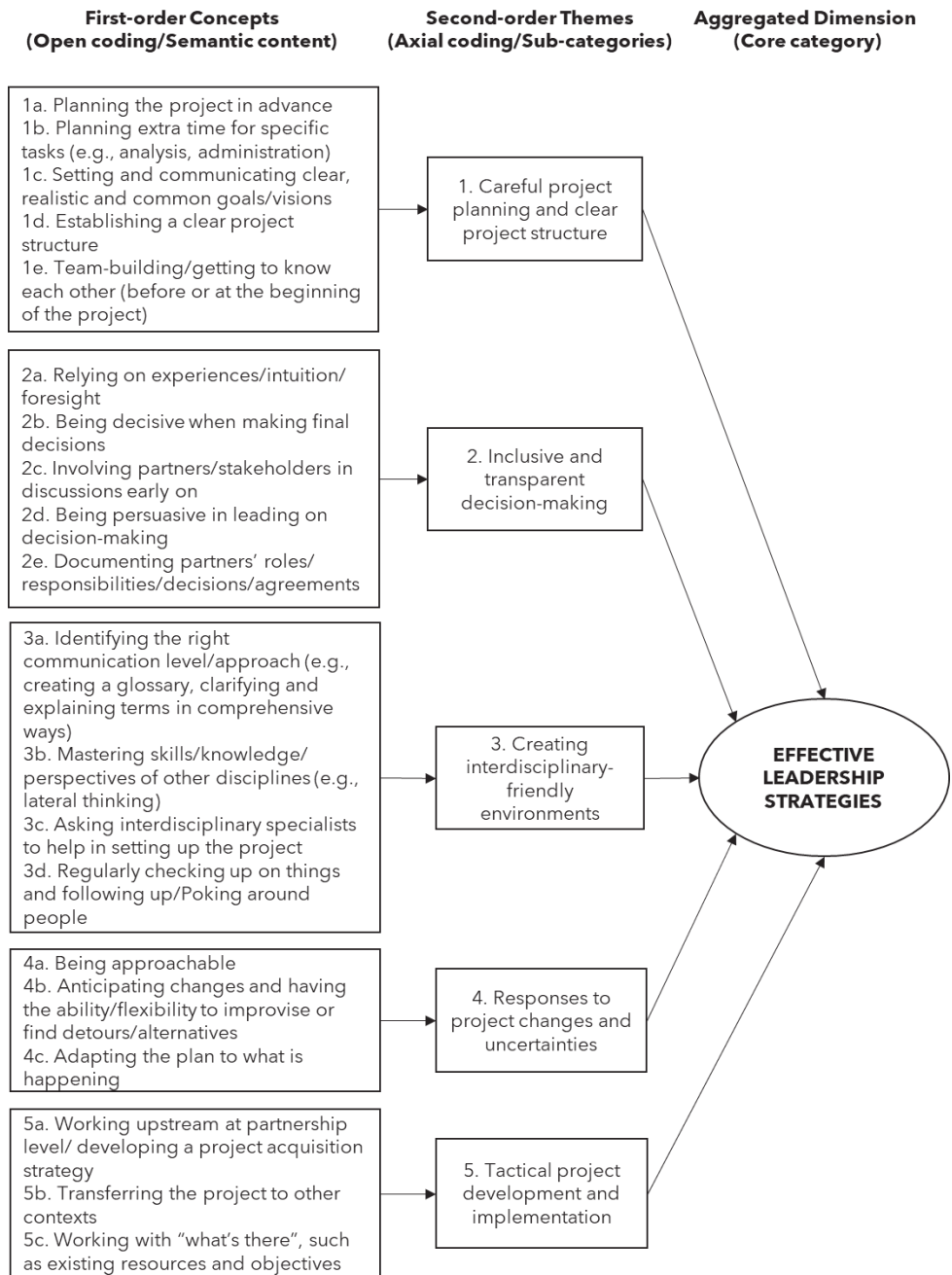
**Figure 4. 1 Effective CAHP Project Leaders(hip) Cycle**

#### 4.4. Results

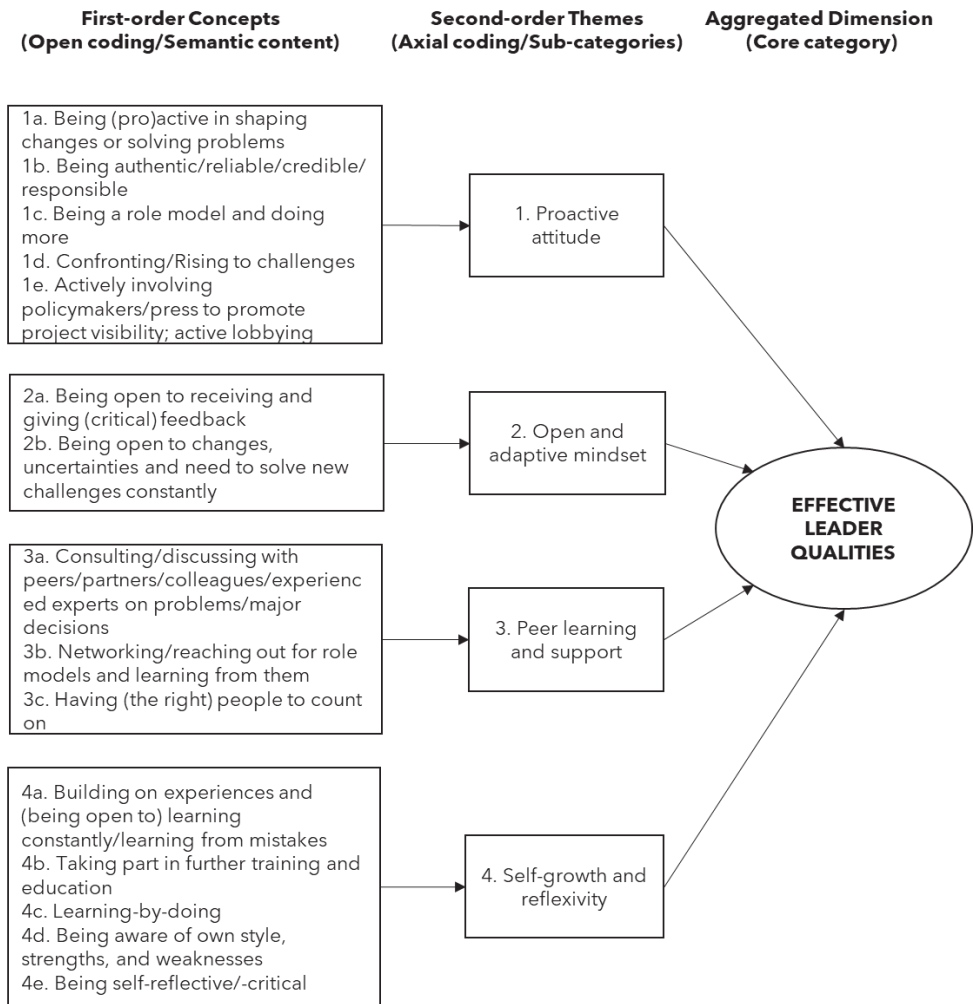
While our primary focus was to answer how project leaders could perform their leadership functions and roles effectively in complex CAHP systems, we present the leadership challenges faced by project leaders as part of our findings to provide a better contextual reference for elucidating the complex realities of leading CAHPs. Accordingly, three overarching themes emerged: (a) leadership challenges faced by CAHP project leaders; (b) effective leadership strategies for dealing with those challenges; and (c) effective leader qualities. The data

structures for all themes are shown in Figure 4.2. Illustrative quotes are presented with pseudonyms to protect interviewees’ identities, along with their age and years of experience in CAHP project leadership (Y.o.E). Additional responses coded to each theme are available online at: <https://bit.ly/39Nv8Au>.









**Figure 4. 2 Data Structures**

**4.4.1. Leadership Challenges Faced by CAHP Project Leaders**

Five second-order themes emerged concerning the leadership challenges interviewees encountered while leading their CAHP projects: project planning and management, the balance of participatory decision-making, project interdisciplinarity, project changes and uncertainties, and lacking project impacts and sustainability.

#### **4.4.1.1. Challenge 1: Project Planning and Management**

In CAHP projects, planning adequate time and resources for project task execution was a common challenge for relatively inexperienced CAHP project leaders (<5 years of experience). For example, one of the interviewees underlined that sometimes they happened to be under-resourced due to unforeseen expenses on some project tasks: *"In some cases, we applied for too little [funding]. For example, in a training course, we did not consider some of the interviews still have to be translated, that we somehow need funds for translators."* (Jasmine, Age 35, 2 Y.o.E)

In the same vein, many interviewees mentioned the complexity of defining and clarifying project management roles and responsibilities in a highly decentralized project setting. For instance, they must first take the time to understand the specific structural conditions and differences among the partner members and their institutions to define their roles and responsibilities in the projects:

*"At the beginning, it took a lot of discussion for all of us to realize that there is external project management, which is my responsibility; and internal project management, which partners lead a bit like the scouts from different institutions - as they cannot always turn to their original institution when there are things to be clarified for the project. It's like a separate institution where you work together without having the same employer."* (Sophie, Age 54, 9 Y.o.E)

Sometimes, they also had to be familiar with new requirements or structures and help partners understand and deal with them. For example, a respondent noted it was challenging for him to get familiar with legal topics and manage the finance:

*"The most difficult thing for me was...to implement the project and to draft it in a way that it would be legally sustainable...I have no idea about the law..."* (Moses, Age 56, 2 Y.o.E)

Accordingly, they often had to tailor their leadership approaches due to the different requirements, organisational structures, project team compositions and working styles of partners and their organisations in each project. One of the

participants noted: *“For every project, everything you lead is different. And you’ll have to get to know the people that are working on it and in it.”* (Janet, Age 31, 3 Y.o.E).

Due to the uniqueness of each project setting, leaders must devote extra time to discuss with the project partners, understand how specific structural and environmental dynamics may impact their project planning and implementation and explore the most effective ways of leading.

#### **4.4.1.2. Challenge 2: The Balance of Participatory Decision-making**

Several interviewees mentioned that their projects adopted a high degree of participatory or shared decision-making processes, where decisions were mostly or always made by consensus among project partners. For example, a respondent mentioned: *“So, there is no hierarchy in the sense that someone has the authority to give orders, but everything **only** [emphasised] works by consensus.”* (Moses, Age 56, 2 Y.o.E)

However, a few interviewees also struggled to determine the *“right mixture of participation and leadership”* (Iris, Age 35, 2 Y.o.E) in their projects and to channel the information to suit partners’ desired level of engagement. For instance, a project leader explained that although decisions about project content were always made collectively, she recognized that it is sometimes impractical to adopt a fully participatory or shared leadership style in a large-scale project with remote partners, since the communication process could become time-consuming and strenuous, eventually leading to partner disengagement:

*“At the beginning, I really asked a lot of questions in the round and tried to decide together, which was very difficult with the number of consortium partners and also the distance... This unfortunately made you realize that certain things simply had to be decided by yourself... you can’t give all decisions to everyone because it doesn’t lead to consensus. Now many people no longer participate in the decisions. There is no feedback.”* (Claire, Age 40, 6 Y.o.E)

It is clear that many project leaders struggled to find the balance between participatory and unilateral decision-making, as they had to adapt quickly to

partners' feedback, determine when to make decisions collectively, and adjust their leadership strategy when necessary to keep the project moving.

#### **4.4.1.3. Challenge 3: Project Interdisciplinarity**

Despite years of experience leading CAHP projects, harmonising the diverse perspectives and satisfying the varied needs and interests among partners remained challenging for some project leaders due to the interdisciplinarity in their projects. One of them highlighted:

*"So, I think that is a challenge... especially when it comes to public health in this project, then you are suddenly in a broad field where quite a lot of perspectives come together: the medical perspectives, the psychological, sociological, and communicative perspectives... and I also find it not quite easy to orient oneself there." (Barry, Age 64, 9 Y.o.E)*

Ensuring effective interdisciplinary communication was also a tremendous hurdle for a few interviewees. According to one of them, for instance, interdisciplinary scientists often *"cannot get into the heads of the others"* (Bonnie, Age 35, 2 Y.o.E). Communication became more complicated while leading in the absence of hierarchy, for which leaders must be open to opinions from all sides. Meanwhile, they must also exert their influence on project members to attain the intended goals: *"I don't have any disciplinary responsibility above anyone. This means that I cannot claim a managerial position... I must try to exert influence on other project members, for example, to be able to achieve the goals."* (Ron, Age 26, 2 Y.o.E)

As a result, project leaders had to orient themselves to accommodate partners' diverse perspectives and deal with issues concerning interdisciplinary and inter-organisational communication.

#### **4.4.1.4. Challenge 4: Project Changes and Uncertainties**

Since many project activities were affected by external influences such as the COVID-19 pandemic, some project leaders reported facing a high degree of uncertainty in their projects. One of them underlined:

*"There was a great deal of uncertainty about how things would continue as a team here...about what to do now...We have, of course, adjusted some of*

*the goals, maybe even reduced them...because the expectation was that we would catch up after the lockdown. But it is not that easy.” (Lily, Age 34, 2 Y.o.E)*

Hence, the need to promptly adjust or cut back on project goals, as well as to change plans while in progress, could lead to worries and stress about achieving the intended project goals on time.

#### **4.4.1.5. Challenge 5: Lacking Project Impacts and Sustainability**

Some project leaders commented on the lack of impact and sustainability in their projects due to uncontrollable external influences, such as limited funding or project duration and regulation changes, forcing them to seek new projects. For example, an interviewee expressed: *“I would say that the project needs to grow more. And the problem is that it will only be there for four years and then it is gone. There’s no continuity.” (Carla, Age 49, 5 Y.o.E)*

It could also be demanding for projects that address controversial or unfamiliar topics to the public to gain enough societal support or acceptance to sustain themselves: *“The biggest challenge is to convince the funds because people don’t understand what [the project topic] is.” (Anna, 53, 12 Y.o.E)*

Consequently, ensuring projects’ acceptance, societal impacts, and sustainable outcomes could be challenging for some project leaders. Indeed, a lack of these elements could trigger additional difficulties in project execution (e.g., financial challenges) and threaten partnership sustainability.

#### **4.4.2. Effective Leadership Strategies**

Five second-order themes were identified regarding the effective strategies adopted or suggested by interviewees to deal with the aforementioned challenges. They included: careful project planning and clear project structure; inclusive and transparent decision-making; creating interdisciplinary-friendly environments; responses to project changes and uncertainties; and tactical project development and implementation. These strategies are presented chronologically according to participants’ suggested time of relevance in a project cycle (Figure 1).

#### **4.4.2.1. Strategy 1: Careful Project Planning and Clear Structure (Pre-project)**

In response to the challenges of having inadequate time and resources for project task execution, a few interviewees with prior experiences in similar projects highlighted the significance of careful project planning and better preparation in advance (i.e., as early as the project application stage), such as planning a buffer for time-consuming project tasks. For example, an interviewee mentioned: *"I know how often such an analysis goes wrong, and I can build that into the project planning. That works."* (Helen, Age 50, 10 Y.o.E)

Apart from formulating and discussing the shared vision with partner members continuously, some interviewees also found it critical to establish a clear project structure at the start of the project. A predefined project structure can play a strategic role in facilitating the decision-making process and settling the differences, such as varied ways of working: *"You really get a structure in place and come to a decision, with all the differences that you might have in the team."* (Elaine, Age 42, 4 Y.o.E)

Yet, establishing a clear project structure requires a thorough consideration of the organisational and structural differences of partners and their organisations, as well as communicating the structure to all relevant stakeholders. For example, a respondent mentioned that he had to understand the differences in partnering organisations' funding logics and clarify internally (within the leader's organisation) and externally (to their partnering organisations) how the new funding structure worked:

*"... we had to clarify internally, but it also had to be clarified with [the partnering institutes]... This was also an unfamiliar approach for them because other funding logics simply work differently than health insurance funding, both in science and in sports."* (Moses, 56, 2 Y.o.E)

Meanwhile, early team-building measures were vital for enabling diverse partner members to get to know each other better on a personal level even before the project started officially. Although such activities can be highly time-consuming and costly, interviewees found them helpful in reconciling partner

members' perspectives and working styles, which later improved their project involvement:

*"That was quite a lot of effort, time-consuming for all people. But what I found interesting was that everybody was involved... you get to know each other... I found it very helpful at the time because it loosened up the atmosphere a bit... you got to know people beyond their professional competence." (Bonnie, Age 35, 2 Y.o.E)*

Therefore, many project leaders saw the need to invest time and effort in planning, establishing clear project structures, formulating goals with partners and engaging in team-building activities as early as possible. These activities could help partner members align their interests and resources, establish better personal relationships, and lead to smoother project functioning later on.

#### **4.4.2.2. Strategy 2: Inclusive and Transparent Decision-making (Throughout the Project)**

While interviewees often relied on their foresight, intuition, or feelings to determine when to engage partners in major decisions or how to communicate with them; they also recognised the need to be decisive in making decisions to ensure project progress, especially for larger projects that involve multiple partners:

*"When you have so many partners, you naturally want to make decisions together... however, it is still important for a project manager to be able to make decisions... If it comes to the fact that there are problems... you have to hit the table and decide." (Elaine, Age 42, 4 Y.o.E)*

A project leader also highlighted that it was critical to establish a framework and safe space for community partners to enable a highly inclusive decision-making process: *"You have to be very close [to the community partners] and provide a framework so that a "safe space" is created. They [The community partners] bring a lot of resources with them, but we [leadership team] have to set the framework." (Iris, Age 35, 2 Y.o.E)*

Although not all decisions were jointly made, interviewees underscored the necessity to involve partners in discussions early on and ensure a transparent decision-making process *during the project*. This could be achieved by ensuring proper documentation (e.g., minutes or summary reports), which ensures the transparency of all decisions and agreements. One of the participants noted: *“After each meeting, everyone has a different understanding of what was discussed, to put it exaggeratedly. And such minutes help us immensely to make progress and agree on the next steps based on the joint minutes.”* (Marie, Age 36, 2 Y.o.E)

Similarly, keeping a daily project diary throughout the project helped a project leader stay aligned with prior decisions and directions, which was a key determinant for project quality and success: *“We keep a project diary in every project, where we write something down every day...That is a crucial success factor. By the way, it’s also a quality factor. Otherwise, you do something else after half a year.”* (Walter, Age 56, 6 Y.o.E)

Accordingly, proper documentation is vital to keep the decision-making process inclusive and transparent. It also helps project partners to build on prior agreements and decisions and clear up any misunderstandings, thus accelerating the project’s progress and promoting its quality and success.

#### **4.4.2.3. Strategy 3: Interdisciplinary-friendly Environments (Throughout the Project)**

A few project leaders underscored the necessity of ensuring an interdisciplinary-friendly environment for partners *throughout the project*. For instance, they would master the skills, knowledge, or perspectives from other disciplines; and foster networking and lateral thinking skills, which, according to one of them, is the ability to *“link things that are not really connected”*: *“Everyone has different aspects, even from their training, which they bring to the team. And this networking and lateral thinking result in teamwork.”* (Elaine, Age 42, 4 Y.o.E)

Other interviewees proposed strategies to ensure clear and comprehensible communication for interdisciplinary partners, such as by creating a glossary to clarify any technical terms in each meeting or by involving



interdisciplinary specialists to establish an effective communication structure *from the start of the project*:

*“Right at the beginning... we decided that we would get support and hired two people from a university who know about interdisciplinary work. They have always come to our meetings and listened, for example, how do we communicate? How is that received by everyone?... which worked quite well.”*  
(Bonnie, Age 35, 2 Y.o.E)

Moreover, leaders who led team members in the absence of disciplinary hierarchy often could not direct or decide partners' pace of work in a networked project. A useful strategy was to ask for project updates regularly, to detect any challenges, and to persuade partners to make progress during project implementation. Cultivating a strong personal connection between partners also assisted them in overcoming communication problems and promoted effective collaboration. One of the interviewees underlined: *“At the beginning... there have been some misunderstandings and communication problems. But in the end, I think we have come to terms with each other and got to know each other so well that it went pretty well.”* (Max, Age 68, 14 Y.o.E)

Creating a friendly project environment on both personal and professional levels was crucial to overcome differences across disciplines and facilitate effective ongoing communication.

#### **4.4.2.4. Strategy 4: Responses to Project Changes and Uncertainties (Throughout the Project)**

To handle unexpected project changes that arise during the project implementation, a few interviewees highlighted the importance of being approachable for questions, discussions, and prompt clarification: *“I am approachable - always, at all times in the project.”* (Nelson, 46, 14 Y.o.E)

Meanwhile, project leaders' experience significantly influenced their adaptability, resilience, and patience in responding to dynamic project environments. For example, more experienced project leaders explained that they

acquired the capability of anticipating changes over time, thus were more comfortable in improvising or finding detours upon changing project situations:

*“Experience also does something to you, that you simply know there is nothing that runs smoothly and everyone who has ever done a project knows that no project is ever implemented the way it was created. Something always happens (laugh). Yes, and in this respect, you need a bit of flexibility and at the same time... you always have to know: ‘where are we going?’”* (Annie, Age 45, 5 Y.o.E)

Thus, being available for others, anticipating changes and remaining flexible throughout the project were essential for effectively adapting to unforeseen project circumstances.

#### **4.4.2.5. Strategy 5: Tactical Project Development and Implementation (Post-project)**

In response to the challenges of lacking project impact and sustainability, a few respondents noted the necessity to consider and explore any opportunities to continue their endeavour *at the end of the projects*. Apart from applying for follow-up funding, one way to ensure project impact and sustainability was to develop a strategic research agenda to retain staff and conduct more projects in the same area:

*“You have to acquire a strategy... That means: how do you promote this [research topic] over the years? And they have to converge thematically...so that a) I can handle it with my team of people and b) they stay with me so that I can pursue my research line?”* (Walter, Age 56, 6 Y.o.E)

Sometimes, that also implies ensuring the project’s strategic orientation fit the different interests of relevant parties. For example, a respondent noted:

*“In terms of content, for me it is a matter of ensuring that the strategic orientation of this project.... This means that I have to keep my entire health reporting [of the city] in mind... but I also have to keep an eye on the strategic orientation of urban renewal. There are overlaps, but they also have their own interests in this.”* (Moses, Age 56, 2 Y.o.E)

Alternatively, one could transfer the project idea to other contexts or work pragmatically with existing resources and capacities to ensure project quality and impacts:

*“We always work within a framework and with the resources available to us, so as not to overburden anyone or anything; because that always leads to measures being implemented inadequately or unsatisfactorily. That’s why I think, and here I believe in a more sustainable sense, that I look at ‘what’s there’ and try to implement the project objectives.” (Jasmine, Age 35, 2 Y.o.E)*

Hence, strategically planning for the research agenda and transferring project results based on existing resources and outcomes contributed to maintaining a project’s impact and sustainability beyond the project cycle.

#### **4.4.3. Effective Leader Qualities**

Together with effective strategies, we also identified four qualities that leaders should possess to effectively lead in CAHP projects. They included adopting a proactive attitude, having an open and adaptive mindset, relying on peer learning and support, and emphasising self-growth and reflexivity.

##### **4.4.3.1. Quality 1: Proactive Attitude**

Whilst many CAHP project leaders explained that they have a coordinating or enabling role in the projects, a few interviewees emphasised the significance of being proactive in asking for new information to understand the project content or to shape changes to make progress in their projects: *“You have to be flexible, trust yourself; but at the same time, be active... you have to be willing to shape changes.” (Olivia, Age 29, 3 Y.o.E)*

Sometimes, it also implies that they must set an example to motivate partner members to engage in the project or to rise to any challenges proactively: *“I have to be a role model. I have to do more, know more and always want to... I have to rise to the challenges... If I’d rather not put so much effort into it, then it won’t work.” (Walter, Age 56, 6 Y.o.E)*

Project leaders can also actively involve policymakers or the press to promote their projects’ vision, visibility, and acceptance. For example, an

interviewee working on a highly controversial health topic has noted the significance of lobbying and media work on his project: *“We were called names there. We had a television crew every week... We were in every major national newspaper... Public opinion was absolutely on our side... So, we work intensively with the media.”* (Walter, Age 56, 6 Y.o.E).

Over the years, the project has become one of the successful model projects that convinced former opponents to cooperate and drove several legal changes at the federal level.

Therefore, besides enhancing project-level engagement, leaders’ proactivity in advocating for their projects could also radiate to a societal level. This could lead to more significant project impacts and external support from the project environment or society.

#### **4.4.3.2. Quality 2: Open and Adaptive Mindset**

Despite many project leaders mentioning the need for project planning in advance, each project can be highly different and susceptible to uncertainties. Therefore, it is vital for project leaders to adopt an open and adaptive mindset, to keep an ear open for feedback and criticism and to adjust their leadership styles constantly:

*“We don’t get much feedback from colleagues at my level now... But then, they don’t say anything about my projects either. So, that means you don’t really get much feedback as a leader. That’s always totally helpful when you have that [feedback]... even if it is sometimes critical, oblique, or so. However, if they don’t react to me, I have no idea how to put it... And vice versa, giving feedback [to others]. Even if it’s critical [feedback], stand by it. Otherwise, we won’t get anywhere together.”* (Walter, Age 56, 6 Y.o.E)

More experienced project leaders also learned to improvise and accept that some things cannot be controlled directly. Instead, they must be constantly prepared for new challenges and to identify alternative paths to take to achieve the same goal when contingencies occur:

*“You certainly have a rough goal and a direction in mind, but you have to be prepared to deviate from the seemingly emerging path under certain*

*circumstances and to take a better path instead, and I think it is important to try to maintain this openness and also to communicate it.” (Barry, Age 64, 9 Y.o.E)*

Thus, an open and adaptive mindset allowed leaders to redirect their measures to meet their project goals readily.

#### **4.4.3.3. Quality 3: Peer Learning and Support**

When making major decisions on complicated issues beyond their scope of expertise, many project leaders would actively discuss or seek advice and support from peers, including their network/partner members, colleagues, experts, or superiors from their organisations: *“Most things are not decided alone but always, at least with my closer team or with the methodological director of the project, who works in [city name] at the university. I discuss this with him.” (Claire, Age 40, 6 Y.o.E)*

Alternatively, when there is an absence of role models to refer to in an innovative project, project leaders note that a good way to cope is by reaching out to external experts to learn from their experiences. For instance, one respondent mentioned:

*“Unfortunately, we did not have so many role models. That means that next time I would perhaps try to network more, also outside the [affiliated organisation]... I would probably get help directly from others, perhaps other funds or projects, and simply conduct an interview (laughs) and ask: ‘What have your learnings been? And what can you recommend to me?’” (Marie, Age 36, 2 Y.o.E)*

Meanwhile, other interviewees expressed the benefits of having supportive staff or complementary colleagues in assisting project implementation: *“But realistically, I think the key is to have the right people to support you. So, I’m in the fascinating and amazing position that I have great people whom I can count on.” (Natalie, Age 45, 10 Y.o.E).*

Therefore, peer exchanges and support enabled project leaders to identify ways to deal with complex, challenging, or critical situations and implement their projects more effectively.

#### **4.4.3.4. Quality 4: Self-growth and Reflexivity**

Several project leaders reflected on the importance of self-growth and reflexivity in leadership practices. These enabled them to perform more effectively in (future) CAHP projects, such as building on previous leadership experiences and being prepared to learn new things constantly:

*“When you are that old, you can build on your experience, and you are constantly learning. And I think that was an important asset for me... The best example to prove that you can do it is that you have done it before, successfully. And I think that’s how it works in many areas in life and also here in this particular field of science.” (Barry, Age 64, 9 Y.o.E)*

That learning process includes taking part in management training or learning-by-doing. In addition, understanding one’s leadership styles, strengths, and weaknesses remains critical for improving the ability to lead CAHP projects effectively. Such reflexivity in leadership practices and self-criticism helped project leaders think about their self-image, reflect on their role models, and summarise their learnings. For instance, a respondent noted:

*“Being able to look back, why is it now? Is that so now? I believe that this is a crucial variable: the ability to reflect... I have to reflect on it, and I have to restructure everything somehow. This ability to reflect and then open up; instead of standing still and burying our heads in the sand, look at it and deal with it openly.” (Nelson, Age 46, 14 Y.o.E)*

Hence, the conscious, continuous cycles of self-reflection helped leaders restructure their leading experience and improve their ability to lead more effectively.

Based on the above findings, we constructed a process model summarising how effective CAHP project leadership and leading can be achieved (See, Figure 4.1).

## **4.5. Discussion**

Although prior CAHP and CLT research has highlighted the influential role of effective project leadership in driving successful partnership outcomes (Craps et al., 2019; Gredig et al., 2021b), how this is achieved in different CAHP settings

remains under-defined and under-researched (Spyridonidis et al., 2015; Stolp et al., 2017). Therefore, through an interpretivist approach, this study purposively approached project leaders of various CAHPs in Germany to explore their perspectives on effective leadership and leading in their unique project settings.

Our findings reveal several insights into the meaning of effective leadership and effective leaders and suggest the dynamic strategies, qualities, logics, and processes needed to enhance effective CAHP project execution by juxtaposing CLT's operational, enabling, and entrepreneurial leadership logics (Figure 4.1).

#### **4.5.1. Effective CAHP Project Leadership Strategies**

Our findings suggest that project leaders may face similar leadership challenges within a CAHP project cycle. Despite the differences in project team composition, project size, and thematic foci, these challenges (i.e., project planning and management, the balance of participatory decision-making, project interdisciplinarity, project changes and uncertainties, and lacking project impacts and sustainability) are known in the CAHP literature (Igel et al., 2018; Nyström et al., 2018; Ramanadhan et al., 2020). Besides corroborating these challenges, our study further highlights the effective strategies that facilitate project leaders in non-hierarchical, complex CAHP settings to perform their *leadership* tasks effectively. Our findings also indicate that these strategies, functioning as dynamic responses to emergent challenges, align with the operational leadership logic of the triadic complexity leadership model (Uhl-Bien & Arena, 2018). For instance, project leaders displayed operational leadership behaviours (i.e., structuring tasks, resources, roles, and responsibilities) while tackling project planning and structural issues. They also actively coordinated with partners and created the inclusive, transparent, and interdisciplinary-friendly environments necessary for participatory decision-making and meaningful collaboration while dealing with decision-making and interdisciplinary communication challenges.

In addition, our findings extend the literature on effective CAHP functioning (Bowen et al., 2019; Corbin et al., 2018; Matenga et al., 2019) by unravelling how these strategies promote smooth CAHP project operations by reinforcing facilitating factors of effective collaboration (i.e., project inputs and resources,

roles and procedures, communication). Our evidence shows that careful project planning and management can secure adequate inputs and resources for project task implementation. Similarly, participatory decision-making and project efficiency can be reinforced by establishing a clear decision-making structure and delineating partners' roles and responsibilities. Likewise, effective communication can be strengthened via fostering lateral thinking, creating interdisciplinary-friendly environments, or channelling information based on partners' engagement levels.

#### **4.5.2. Effective Leader Qualities in CAHP Projects**

Secondly, our study contributes to the theoretical advancements of leadership development in complex adaptive network settings by pointing to a leader's active learning-oriented, individual growth process. Our empirical evidence echoes literature on the enabling leadership logic of CLT (Porter-O'Grady, 2020), suggesting that CAHP project leaders often had an enabling role on top of an operational one. They also found themselves most effective in performing their roles when they actively customised their leadership approaches according to their relational dynamics with project partners, instead of adopting specific leadership 'styles'. Meanwhile, extant literature generally assumes that a project leader's ability to excel in CAHP projects depends on their professional judgement built upon leadership experiences (Berring et al., 2021; Edmonstone, Lawless, & Pedler, 2019). However, given the heterogeneity, complexity, and uniqueness of each CAHP project (Gredig et al., 2021b), project leaders (particularly those lacking such background knowledge and experiences) can only identify the most effective approaches by constantly experimenting and renewing their learnings in a collaboration process (Watkin et al., 2017). Our findings show that four qualities enable CAHP project leaders to lead more effectively, namely: (1) adopting a proactive attitude to move projects forward; (2) having an open and adaptive mindset to embrace learning and leadership improvement opportunities; (3) relying on peer learning and support in addressing leadership challenges; and (4) emphasising self-growth and reflexivity to improve leadership practices continually. These findings resonate with Bucknall and colleagues' (2021)



proposition that CAHP project leaders perform better if they remain approachable, are open to conversations and ideas, and are willing to learn and explore new research areas. In line with the proposition of complexity leadership that leaders nowadays must be more flexible, agile, and adaptive in an ever-changing and unpredictable world (Uhl-Bien & Arena, 2018), our findings further elaborate on how leaders' deliberate efforts in active learning can help them lead better in complex, ambiguous and heterogeneous CAHP project environments. For example, project leaders' proactive attitudes in shaping changes or rising to challenges help them establish the credibility and legitimacy required to make progress in non-hierarchical, shared power arrangements like CAHPs. As such projects often involve multi-stakeholder effort in innovation and co-creation (Mumford, Todd, Higgs, & McIntosh, 2017), project leaders' abilities to constantly learn, adapt to new environments and seek support from peers facilitate them to identify innovative approaches for solving community health issues. Thus, our findings indicate that effective project leaders must acquire a growth mindset to strengthen their proactivity, openness, adaptability, resourcefulness, and self-growth in a CAHP project cycle.

#### **4.5.3. The Dynamic Developmental Logics and Processes of Effective CAHP Project Leaders(hip)**

Thirdly, given that extant CLT literature primarily focuses on complex network interactions instead of positional leaders' contributions (Wind et al., 2021), our research extends the CLT literature by accounting for the differences between effective *leadership* and effective *leaders* in complex, networked project settings like CAHPs (Tourish, 2019). Our research also illustrates the contributions of their developmental logics and processes to enhanced project functioning in a CAHP project cycle. Unlike the linear entrepreneurial-enabling-operational leadership emergence sequence proposed by Uhl-Bien et al. (2018), our findings suggest that effective CAHP project leadership emerges from dynamic, fluid changes between the three forms of complexity leadership logics throughout the project cycle. Even though the entrepreneurial leadership logic can be seen as the primary force initiating and driving the cycle, it requires the project process to adapt to the changing or uncertain environments constantly. Hence, only in

combination with the other logics can the entrepreneurial process effectively move forward until new opportunities need to be identified for future projects to address the challenge of lacking project continuity and sustainability. Each leadership logic (operational, enabling, and entrepreneurial) thus allows CAHP project leaders to accomplish their versatile leadership tasks concerning project operation, partner relations, and project uncertainty.

Together, CAHP leaders' ability to use the three logics flexibly and in situationally-appropriate ways enhanced the overall project functioning and prevented major subsequent leadership challenges. For instance, adopting an *operational leadership logic during project implementation* can help project leaders to create structures, resources, and routines necessary for smooth operation and high project performance and efficiency. Meanwhile, *enabling leadership logic* was crucial for sustaining partner relations and effective leading *throughout the CAHP cycle*. Creating interdisciplinary-friendly environments and fostering relationship-building among partners were essential for establishing trustful personal bonds and resolving subsequent tensions, conflicts, and miscommunication. On the other hand, in the face of persistent project uncertainty (particularly at *pre-and post-project phases*), project leaders may perform their leadership roles more effectively by adopting an *entrepreneurial leadership logic*. This logic allows them to proactively explore and ideate new project opportunities, experiment with novel solutions, or generate paths for sustainable project development. Thus, our findings suggest that project leaders must act under various leadership logics to meet the CAHP's needs for project performance and meaningful knowledge cocreation to develop effective leadership in interorganisational, networked CAHP project settings.

We also found that leaders' identities in CAHP projects could be unstable or evolving, as suggested by Tourish et al. (2019). Hence, for CAHP leaders to lead their projects effectively, they should constantly build on the four identified qualities (i.e., being proactive, adaptive, resourceful, and self-growing) *throughout the project cycle* and repeat the same learning cycle in each CAHP project. Reinforcing these qualities would help them develop and evolve into effective leaders over time and strengthen their ability, readiness, and legitimacy to lead as

enablers in non-hierarchical and ever-changing CAHP settings. Our proposed process model (Figure 4.1) provides a unifying theoretical account of the organic task execution and qualities required for CAHP project leaders to achieve high leadership effectiveness. The model highlights the iterative cycle of how project leaders may continuously learn, adapt, evolve, synthesise, and transfer their learnings into their leading process to effectively fulfil their leadership functions and leader roles in new (CAHP) project environments.

#### **4.5.4. Practical Implications**

Whilst previous studies have investigated effective leadership at a specific project stage (i.e., formation and ending phases) (Alexander et al., 2020; Mayan et al., 2017), our study captures a full spectrum of empirical insights into effective leading throughout the project cycle by examining CAHP projects in different stages. We also differentiated between effective leadership and effective leaders to synthesise the components of effective leading from diverse CAHP projects, ranging from newly formed to successful follow-up partnerships and those of varied complexity, power dynamics, and sizes. In so doing, our proposed model offers practitioners in CAHP project leadership roles a framework to translate effective leadership into practice. More specifically, the framework provides clear directions on what project leaders can do to prevent and/or navigate the challenges they may face in implementing CAHPs (Rusch et al., 2021).

Another important practical implication from our findings is that although project leaders may address the leadership challenges differently (Huxham & Vangen, 2000), the overarching process through which they can lead effectively can be similar (Uhl-Bien & Arena, 2018). For instance, project leaders can be operational by establishing a clear structure or routine for project practicalities like efficiency and performance. Within the pre-defined project structure and routine, they may create a flexible and adaptive space or culture to enable innovation and cocreation while embracing the unique tensions, ambiguity, and uncertainty. They may also be entrepreneurial in seeking new ways and plans to adapt to changing environments in a dynamic project process. Thus, the leading process illustrated in

our model can offer project leaders a visual synopsis of the fundamental steps to ensure effective CAHP leading.

Moreover, although researchers are often automatically assigned a leadership role to manage CAHP projects (Gredig et al., 2021b), our findings indicate that some might not be fully trained or mentally prepared to take up such positions, thus resulting in the risk of indecisiveness and mismanagement due to inexperience. Therefore, our study echoes previous literature (Bucknall & Hutchinson, 2020; Mumford et al., 2017; Uhl-Bien & Arena, 2018) by demonstrating the necessity for CAHP project leaders to reinforce their cognitive skills and resilience in handling the project complexity through leadership training. Our evidence also supports Chak et al. (2021) that an alternative for project leaders lacking leadership training or support from their affiliated organisations is to leverage their personal (cognitive) resourcefulness. For instance, apart from learning-by-doing the tasks necessary for effective leadership, they may also proactively sustain or boost the project momentum, possess an open, adaptive mindset to handle any project contingencies, and actively seek advice and support from their partnership networks, experts, colleagues, or peers. To become better leaders, project leaders should also develop a growth mindset (Bucknall & Hutchinson, 2020) and be open to new ideas and critical feedback from others.

Our evidence suggests that this cognitive, growth-oriented quality is especially relevant for experienced and high-status project leaders since they may not receive as much feedback on executing their leadership as their inexperienced junior counterparts, thus failing to sense any issues or room for improvement. Therefore, we suggest that CAHP project leaders should regularly engage in open discussions with their peers or partner members in learning communities to share practices and gain critical feedback. Regardless of their experiences and status in the affiliated organisations, they should continuously reflect on their leadership tasks and behavioural qualities in recent practices to improve their leadership effectiveness in complex and constantly evolving CAHP settings. Alternatively, we recommend that experienced CAHP project leaders actively provide and promote leadership training, mentoring, and/or coaching to their successors or peers. This ensures that the extensive practice and hands-on experience, together with the

valuable tacit knowledge accumulated over time, are not dissipated, and can be passed on as they retire or change positions.

#### **4.5.5. Limitations and Future Research Implications**

As with all research, this study is also subjected to limitations. Firstly, readers should remember that our new model discusses how project leaders can perform their leadership functions and roles effectively through different strategies and develop themselves into effective leaders in unique CAHP settings. Hence, the leadership strategies and qualities can be limited to positional leaders' perspectives. We tried to reduce this bias by asking project leaders how major decisions were made in the project instead of their leadership styles, and also by asking them to support the ways of leading they described with concrete behavioral examples. However, from a CLT perspective, leadership is not confined only to positional leaders (Uhl-Bien & Arena, 2018). Effective leadership can also be co-constructed by interacting individuals (Craps et al., 2019). Indeed, a growing body of literature has highlighted the potential for developing collective and shared leadership capacity (Edmonstone et al., 2019) and mutual/collaborative learning skills in a partnership (Belone et al., 2016; Kliewer & Priest, 2019). Thus, project partners' leadership skills and qualities may also significantly augment effective CAHP project implementation. Whether partner members should possess the same qualities as project leaders and their potential synergetic effect at the project level deserve further research. Future research may explore the applicability of the proposed strategies and qualities to project partners (who are not in formal project leadership positions) or to the collective level. Researchers may also validate the model by conducting an ethnographic or longitudinal observational study on carefully nominated, effective CAHP leaders to examine if the proposed strategies and qualities are reflected.

Secondly, although our research covers a broad perspective of leaders from diverse CAHP projects, our study is based on a heterogeneous purposive sampling (Saunders et al., 2019, pp. 337) and is limited to projects specific to the German context. Thus, it may have limited generalizability due to its nonprobability sampling and cultural embedding (Saunders et al., 2019, pp. 296).

Therefore, studying and reflecting on German project leaders' experiences may not be so limiting after all. Also, it is worth mentioning that German projects financially supported by the ministries or private non-profit foundations often strongly align with the German welfare regime (Gredig et al., 2021b). Indeed, most CAHP projects reported in this study were third-party funded projects formally led by academic researchers. Therefore, the leadership challenges and strategies reported here might be more specific to academic leaders and are tinged with research-oriented and power imbalance issues (Bowen et al., 2019). Future studies should explore the transferability of our model to other contexts, such as other interdisciplinary projects, or bottom-up, grassroots CAHP projects initiated or led by community stakeholders, where the power dynamics and project structures may differ (Bowers, 2017). Thirdly, although the transcripts were sent to interviewees for checking to ensure their accuracy, we did not perform member checking by sharing the completed analysis with interviewees. Our decision was based on Morse's argument (2015), according to which this strategy was not recommended due to its limited value in attaining validity and reliability and the potential negative impact on analysis objectivity (Morse, 2015). However, we followed Morse's suggestion to enhance the credibility of our findings by checking for the presence of any normative behavioral patterns among CAHP project leaders during concurrent data collection and analysis. We did so by referring to other participants' comments during data collection, asking the following question: "Other interviewee(s) mentioned [a specific situation or a response to the same or similar situation]. What was it like in your situation?" (Morse, 2015). Future studies could consider using this approach to further improve the credibility of findings.

#### **4.6. Conclusion**

This study examines the leadership dynamics within the complex realities of CAHPs by underlining the significant yet poorly understood role of project leaders in CAHP project orchestration. Our work links state of the art complexity leadership, wicked problems, and leaders(hip) development processes to illustrate how project leaders in diverse CAHP settings can effectively operate. We

differentiated effective leadership from effective leaders and unravelled the strategies, qualities, logics, and processes that support CAHP project leaders to enact leadership and lead more effectively. Extra attention should be dedicated to the selection, development, and monitoring of project leaders' leadership effectiveness and their preparedness in leading CAHPs to ensure fruitful co-construction between diverse academic and community partners and to fulfil their promise of bringing long-term health benefits to the members of the targeted populations.

#### 4.7. References

- Alexander, L., Sullivan, C., Joosten, Y., Lipham, L., Adams, S., Coleman, P., Carpenter, R., & Hargreaves, M. (2020). Advancing community-engaged research through partnership development: Overcoming challenges voiced by community-academic partners. *Progress in Community Health Partnerships Research, Education, and Action, 14*(3), 315-326.
- Armistead, C., Pettigrew, P., & Aves, S. (2007). Exploring leadership in multi-sectoral partnerships. *Leadership, 3*(2), 211-230.
- Belone, L., Lucero, J. E., Duran, B., Tafoya, G., Baker, E. A., Chan, D., Chang, C., Greene-Moton, E., Kelley, M. A., & Wallerstein, N. (2016). Community-based participatory research conceptual model: Community partner consultation and face validity. *Qualitative Health Research, 26*(1), 117-135.
- Berring, L. L., Buus, N., & Hybholt, L. (2021). Exploring the dynamics of a research partnership in a co-operative inquiry: A qualitative study. *Issues in Mental Health Nursing, 1*(1), 1-16.
- Bigland, C., Evans, D., Bolden, R., & Rae, M. (2020). Systems leadership in practice: Thematic insights from three public health case studies. *BMC Public Health, 20*(1), 1735.
- Boursaw, B., Oetzel, J. G., Dickson, E., Thein, T. S., Sanchez-Youngman, S., Peña, J., . . . Wallerstein, N. (2021). Scales of practices and outcomes for community-engaged research. *American Journal of Community Psychology, 67*(3-4), 256-270.
- Bowen, S., Botting, I., Graham, I. D., MacLeod, M., Moissac, D. de, Harlos, K., Leduc, B., Ulrich, C., & Knox, J. (2019). Experience of health leadership in partnering with university-based researchers in Canada - A call to "re-imagine" research. *International Journal of Health Policy and Management, 8*(12), 684-699.
- Bowers, A. M. (2017). University-community partnership models: Employing organizational management theories of paradox and strategic contradiction. *Journal of Higher Education Outreach and Engagement, 21*(2), 37-64.
- Bucknall, T. K., & Hutchinson, A. M. (2020). Cultivating value co-creation in health system research comment on "Experience of health leadership in partnering with university-based researchers in Canada: A call to re-imagine research". *International Journal of Health Policy and Management, 10*(3), 165-167.
- Chak, C. M., Carminati, L., & Wilderom, C. P. M. (2021). Hope, commitment, and stress mediating between leadership, financial resources and CAHP performance. *Academy of Management Proceedings, 2021*(1), 12090.
- Corbin, J. H., Jones, J., & Barry, M. M. (2018). What makes intersectoral partnerships for health promotion work? A review of the international literature. *Health Promotion International, 33*(1), 4-26.
- Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology, 13*(1), 3-21.



- Craps, M., Vermeesch, I., Dewulf, A., Sips, K., Termeer, K., & Bouwen, R. (2019). A relational approach to leadership for multi-actor governance. *Administrative Sciences, 9*(1), 1-11.
- Drahota, A., Meza, R. D., Brikho, B., Naaf, M., Estabillo, J. A., Gomez, E. D., Vejnaska, S. F., Dufek, S., Stahmer, A. C., & Aarons, G. A. (2016). Community-academic partnerships: A systematic review of the state of the literature and recommendations for future research. *The Milbank Quarterly, 94*(1), 163-214.
- Edmonstone, J., Lawless, A., & Pedler, M. (2019). Leadership development, wicked problems and action learning: Provocations to a debate. *Action Learning: Research and Practice, 16*(1), 37-51.
- Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2012). Seeking qualitative rigor in inductive research. *Organizational Research Methods, 16*(1), 15-31.
- Gredig, D., Heinsch, M., Amez-Droz, P., Hüttemann, M., Rotzetter, F., & Sommerfeld, P. (2021). Collaborative research and development: A typology of linkages between researchers and practitioners. *European Journal of Social Work, 24*(6), 1066-1082.
- Huang, K.-Y., Kwon, S. C., Cheng, S., Kamboukos, D., Shelley, D., Brotman, L. M., . . . Hoagwood, K. (2018). Unpacking partnership, engagement, and collaboration research to inform implementation strategies development: Theoretical frameworks and emerging methodologies. *Frontiers in Public Health, 6*, 190.
- Huxham, C., & Vangen, S. (2000). Leadership in the shaping and implementation of collaboration agendas: How things happen in a (not quite) joined-up world. *Academy of Management Journal, 43*(6), 1159-1175.
- Igel, U., Gausche, R., Lück, M., Lipek, T., Spielau, U., Garz, M., Kiess, W., & Grande, G. (2018). Challenges in doing multi-disciplinary health promotion research in Germany. *Health Promotion International, 33*(6), 1082-1089.
- Kliwer, B. W., & Priest, K. L. (2019). Building collective leadership capacity: Lessons learned from a university-community partnership. *Collaborations: A Journal of Community-Based Research and Practice, 2*(1), 1-10.
- MacDonald, A., Clarke, A., Huang, L., & Seitanidi, M. (2019). Partner strategic capabilities for capturing value from sustainability-focused multi-stakeholder partnerships. *Sustainability, 11*(3), 557.
- Malmqvist, J., Hellberg, K., Möllås, G., Rose, R., & Shevlin, M. (2019). Conducting the pilot study: A neglected part of the research process? Methodological findings supporting the importance of piloting in qualitative research studies. *International Journal of Qualitative Methods, 18*(1), 1-11.
- Matenga, T. F. L., Zulu, J. M., Corbin, J. H., & Mweemba, O. (2019). Contemporary issues in North-South health research partnerships: Perspectives of health research stakeholders in Zambia. *Health Research Policy and Systems, 17*(1), 1-13.

- Mayan, M., Lo, S., Oleschuk, M., Paucholo, A., & Laing, D. (2017). Leadership in community-based participatory research: Individual to collective. *Engaged Scholar Journal: Community-Engaged Research, Teaching, and Learning*, 2(2), 11-24.
- Morse, (2000). Determining sample size. *Qualitative Health Research*, 10(1), 3-5.
- Morse, J. M. (2015). Critical Analysis of Strategies for Determining Rigor in Qualitative Inquiry. *Qualitative Health Research*, 25(9), 1212-1222.
- Mumford, M. D., Todd, E. M., Higgs, C., & McIntosh, T. (2017). Cognitive skills and leadership performance: The nine critical skills. *The Leadership Quarterly*, 28(1), 24-39.
- Nyström, M. E., Karlton, J., Keller, C., & Andersson Gäre, B. (2018). Collaborative and partnership research for improvement of health and social services: Researcher's experiences from 20 projects. *Health Research Policy and Systems*, 16(1), 1-17.
- Pellecchia, M., Mandell, D. S., Nuske, H. J., Azad, G., Wolk, B. C., Maddox, B. B., Reisinger, E. M., Skriner, L. C., Adams, D. R., Stewart, R., Hadley, T., & Beidas, R. S. (2018). Community-academic partnerships in implementation research. *Journal of Community Psychology*, 46(7), 941-952.
- Porter-O'Grady, T. (2020). Complexity leadership: Constructing 21st-century health care. *Nursing Administration Quarterly*, 44(2), 92-100.
- Ramanadhan, S., Daly, J., Lee, R. M., Kruse, G. R., & Deutsch, C. (2020). Network-based delivery and sustainment of evidence-based prevention in community-clinical partnerships addressing health equity: A qualitative exploration. *Frontiers in Public Health*, 8, 213.
- Rusch, A., DeCamp, L. M., Liebrecht, C. M., Choi, S. Y., Dalack, G. W., Kilbourne, A. M., & Smith, S. N. (2021). A Roadmap to inform the implementation of evidence-based collaborative care interventions in communities: Insights from the Michigan mental health integration partnership. *Frontiers in Public Health*, 9, 655999.
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (Eighth edition). Harlow: Pearson Education Limited.
- Spyridonidis, D., Hendy, J., & Barlow, J. (2015). Leadership for knowledge translation: The case of CLAHRCs. *Qualitative Health Research*, 25(11), 1492-1505.
- Stolp, S., Bottorff, J. L., Seaton, C. L., Jones-Bricker, M., Oliffe, J. L., Johnson, S. T., Errey, S., Medhurst, K., & Lamont, S. (2017). Measurement and evaluation practices of factors that contribute to effective health promotion collaboration functioning: A scoping review. *Evaluation and Program Planning*, 61(1), 38-44.
- Tourish, D. (2019). Is complexity leadership theory complex enough? A critical appraisal, some modifications and suggestions for further research. *Organization Studies*, 40(2), 219-238.

- Uhl-Bien, M., & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *The Leadership Quarterly*, 29(1), 89-104.
- Vangen, S., & Huxham, C. (2003). Nurturing collaborative relations. *The Journal of Applied Behavioral Science*, 39(1), 5-31.
- Watkin, D., Earnhardt, M., Pittenger, L., Roberts, R., Rietsema, K., & Cosman-Ross, J. (2017). Thriving in complexity: A framework for leadership education. *Journal of Leadership Education*, 16(4), 148-163.
- Wind, M. E., Klaster, E., & Wilderom, C. P. (2021). Leading networks effectively: Literature review and propositions. *Journal of Leadership Studies*, 14(4), 21-44.



# Chapter 5

## *Discussion*

*“He who loves practice without theory is like the sailor who boards ship without a rudder and compass and never knows where he may cast.”*

— *Leonardo da Vinci*

*“It is not the ship so much as the skilful sailing that assures the prosperous voyage.”*

— *George William Curtis*

# Chapter 5

## Discussion

In response to the criticisms of CAHPs' resource-intensiveness, lack of performance or sustainability, and project management complexity, the overarching aim of this dissertation was to understand how project workers (including leaders) could effectively meet such challenges and constraints inherent in their CAHP environments to achieve high performance in increasingly diversified CAHP settings. To this end, it has investigated project workers' perspectives from different CAHPs in the German-speaking regions to reveal their hidden perceptions and lived experiences concerning project execution. By employing different theoretical lenses from an Organisational Behaviour (OB) perspective, this dissertation has presented three empirical studies that examined the individual-level prerequisites enabling high project performance (i.e., workers' perceptions of *project goals*, workers' perceived sufficiency of *project resources*, and effective *project leaders(hip)*) in Chapters 2, 3, and 4, respectively. Drawing on Goal-setting (GST) (Locke & Latham, 2006), Job Demands-Resources (JD-R) (Bakker & Demerouti, 2014), and Complexity Leadership (CLT) theories (Uhl-Bien & Arena, 2018), each chapter scrutinised the plausible boundary conditions (Chapter 2), mechanisms (Chapter 3), and processes (Chapter 4) that facilitated individual project workers to cope with various challenges and constraints to attain high project performance in CAHPs.

This chapter discusses these three studies' unique and shared theoretical contributions as well as practical implications. It then discusses the limitations of this research and suggests future research avenues.

### 5.1. Unique Theoretical Contributions of Each Chapter

Considering that CAHPs' aim to meet ambitious health goals under limited resources, **Chapter 2** examined how CAHP workers' perceptions of project goal

clarity, goal stress and goal importance can collectively affect their perceived project performance, a proxy indicator commonly used to assess the performance of ongoing CAHPs (Lindquist-Grantz & Vaughn, 2016; Pellecchia et al., 2018). Its theoretical contribution to the Goal-setting literature is twofold. Firstly, the findings show the positive, significant effect of individual CAHP workers' perceptions of high project goal importance and goal clarity on counteracting the negative influences of high project goal stress and promoting project performance. Therefore, this study extends the often experimental, organisational-based GST to the real-life, inter-organisational CAHP project settings, demonstrating the significance of intrapersonal goal-directed motivation in boosting the performance of diverse CAHP projects. Secondly, the study unveils the complex reality behind these well-established GST constructs in the CAHP settings. In particular, it expands our current understanding by showing that in addition to goal/task difficulty, project workers' goal stress can also be induced by undesirable job/project environments (e.g., lack of organisational support, poor leadership qualities) and insufficient resources available to achieve the project goals (e.g., lack of funding). These findings highlighted how the hardships experienced by CAHP workers could discourage and obstruct them from pursuing (ambitious) project goals.

Moreover, by applying GST to real-life networked CAHP project settings, the study contributes to health care management literature. More specifically, it offers novel insights into how managing workers' assessment of project goals can contribute to better-perceived project performance. Chapter 2 also shed light on the significance of individual project workers' goal-directed motivation in enabling CAHP performance. In addition, it highlights the potentially adverse effects of poor leadership and lack of resources in inducing workers' goal stress, thus laying the groundwork for investigating how workers' perceived sufficiency of project resources may improve their perceived CAHP performance in Chapter 3.

Building on the findings from the previous chapter, **Chapter 3** drew on the GST and JD-R theories to investigate the mechanisms of how CAHP workers' perceived sufficiency of two commonly cited and interrelated project resources



(i.e., collaborative project leadership and financial project resources) (Luger et al., 2020; Markle-Reid et al., 2017; Steenkamer et al., 2020) enhance their perceived project performance. The findings reveal the critical role of CAHP project workers' personal, cognitive-motivational project resources (i.e., hope) in mediating between the two project resources and project performance via reinforcing their project goal commitment and mitigating their project goal stress. They also elucidate how these factors are interlinked in real-life CAHP project settings. The contribution of these findings is threefold. Firstly, it advances project management research by providing novel insights into the contribution of human cognition and motivation in the project resources-to-performance process. Secondly, it contributes to positive organisational scholarship by offering empirical evidence of the powerful cognitive-motivational mediating effect of workers' hope between their perceived collaborative project leadership, financial project resources, project goal commitment, project goal stress, and project performance in complex CAHP settings. Thirdly, it demonstrates the practical relevance of integrating the complementary GST and JD-R theory to understand the complex partnership projects connecting academic and community work by importing OB theory-based variables to CAHP project management. Meanwhile, the qualitative results suggest the need for further investigation of the optimal leadership style(s) that boost CAHP workers' performance, leading to a follow-up study on project leadership in Chapter 4.

**Chapter 4** reports the study investigating the processes that facilitate project leaders to perform their leadership functions and roles well in different CAHPs. Results from in-depth, semi-structured interviews reveal the strategies project leaders took to perform their leadership tasks effectively and identified four beneficial qualities that helped them develop into effective leaders during the project cycle. Evidence suggests that regardless of project leaders' leadership style(s), they could use the triadic complexity leadership logic to excel in a CAHP project. Based on these findings, a process model was constructed to illustrate the dynamic developmental processes of effective CAHP project *leaders(hip)*. Overall, the study contributes to the burgeoning CAHP and leadership research in three

ways. Firstly, by drawing on the insider insights from different CAHP project leaders, the study unpacks the practical and useful measures that project leaders could take to navigate their leadership challenges and perform their tasks effectively in complex collaborative network settings. It also highlights how these measures promoted smooth CAHP project functioning and reinforced effective collaboration. Secondly, it advances the literature on leadership development by highlighting the beneficial qualities that project leaders could continuously build on to become effective and explaining how developing these qualities can facilitate them to lead better in complex, dynamic, and diverse CAHP project environments. Thirdly, the study extends CLT by depicting the dynamic developmental processes of effective CAHP project leaders(hip). In particular, it illustrates the mechanisms of different complexity leadership logic in enhancing project functioning. In sum, the process model presented in Chapter 4 provides a unifying theoretical account of the iterative, cyclical task execution, qualities, and logic necessary for project leaders to develop effective leadership functions and roles in new (CAHP) project environments, thus facilitating their ongoing pursuit of effective leadership in the increasingly diverse and dynamic CAHPs.

## **5.2. Shared Contributions of All Chapters**

Being situated at the crossroad of CAHP, health care (project) management and implementation, and OB, all chapters in this dissertation share four commonalities regarding their theoretical contributions to the growing literature in these areas.

Firstly, this dissertation contributes to effective CAHP management by generating deeper insights into the sophisticated partnership dynamics and their relative effects on CAHPs' performance (Ortiz et al., 2020). In particular, this research has examined the intricate individual-structural-relational dynamics between three key enablers of highly performing partnership processes (i.e., workers' perceptions of project goals, workers' perceived sufficiency of project resources, and effective project leaders(hip)) and the typical challenges and constraints that may impede a CAHP's performance (e.g., lacking project goal commitment and high goal stress). Additionally, via investigating their collective

impact on project performance in heterogeneous, real-life CAHPs, this dissertation offers better empirical insights into the essential prerequisites for enhancing different CAHPs' performance (Luger et al., 2020; Seaton et al., 2018).

Secondly, this dissertation contributes to the theoretical advancement of CAHP project management by unravelling the "black box" of effective partnership processes and mechanisms in a wide variety of CAHP settings (Ahmed et al., 2016; Ortiz et al., 2020). By introducing the OB theories and variables (i.e., from GST, JD-R theory, and CLT) to inter-organisational, networked CAHP project environments, the dissertation enhances our understanding of the underlying conditions, mechanisms, and processes that enabled project workers to effectively respond to challenges and constraints and drive project performance in diverse CAHP settings. Such unifying insights offer CAHP scholars new perspectives to elucidate the intra- and extra-personal dynamics driving individual workers' behaviours in interdisciplinary and complex project work, thereby advancing the development of effective CAHP models (Vaughn et al., 2018).

Thirdly, this dissertation adds to a growing body of literature on CAHPs' implementation (Pellecchia et al., 2018; Sánchez et al., 2021) by capturing the hidden complex realities of project work and highlighting the helpful skills, strategies, and qualities that individual project workers can develop and mobilise to implement their CAHPs more effectively. In response to the criticisms of CAHPs' high failure rate and lacking reflections on how challenges or failures are handled in practice (Igel et al., 2018; Trotter et al., 2015), the dissertation has explored how project workers from different CAHPs interpreted and responded to the challenges and constraints encountered during project implementation. Based on their reflections, it has revealed the often-neglected lived experiences of project workers in implementing real-life, heterogeneous CAHP projects and synthesised their learnings from any (un)successful projects. The research findings thus deepen our knowledge of how these challenges and constraints may jeopardise a project's success and the useful measures to address them, offering empirical insights into effective CAHP project implementation.

Lastly, this dissertation contributes to the nascent field of CAHP research in the German-speaking areas of Europe (Wright & Kongats, 2018) by generating up-to-date, theory-driven, and evidence-based findings that enable CAHPs to function well in practice, such as a better view of how to tackle its unique contextual challenges, better use of resources, and more effective CAHP implementation. For instance, the inherent project challenges and constraints reported by CAHP workers in our studies were consistent with previous literature describing the challenges and unsuccessful cases of CAHP implementation in German-speaking regions (Gredig et al., 2021a; Igel et al., 2018; Neuhann & Barteit, 2017). Yet, our findings provide deeper insights into the unique contextual challenges caused by their socio-cultural embedding (e.g., (changes in) funding policies and orientation, social recognition/awareness of health topics, research environments for CAHPs). They also illuminate *how* these contextual challenges are manifested in different CAHP projects and affect their performance. In so doing, our research not only has responded to the call for more research on the specific measures enabling better performance of different CAHP projects (Gredig et al., 2021); but also offered additional theory-driven and empirical evidence to demonstrate how workers from different CAHPs within a Germanic culture could strategically and actively cope with various challenges and constraints embedded in the CAHP environments to excel in their projects.

### **5.3. Practical Implications**

Next to its theoretical contributions, this research has several practical implications for frontline CAHP project workers, leaders/policymakers at the project, organisational, partnership, and network levels, and funding agencies. Below, we distill the recommendations for each group to promote CAHPs' performance based on these implications.

#### **5.3.1. Frontline CAHP Project Workers**

By unpacking the hidden inner project workings from CAHP frontline workers' perspectives, this research highlights several ways for project workers to reinforce their ability to achieve high performance in the dynamic, challenging partnership processes. Firstly, workers should actively mobilise personal resources

like empathy, positive and hopeful thinking, humour, and proactivity to help them better cope with the challenging and dynamic CAHP project situations and improve their well-being, productivity, and performance. For instance, they may develop these resources via goal-setting and scenario-planning exercises.

Secondly, a highly collaborative leadership style is needed in CAHPs to openly discuss challenges, struggles, and doubts and foster a positive, mutual learning and resilient project team climate. Such collaborative leadership practices are particularly crucial when formal leadership is absent or lacking in the decentralised project settings, as they enable workers to adapt better to fast-changing environments and identify solutions to achieve high performance.

Apart from drawing on the resources and expertise beyond the project teams, workers should also actively mobilise their extended networks (e.g., their personal, professional, and institutional networks) to seek new inspirations, suggestions and solutions to resolve any impasses. For example, participating in regular workshops or external project exchange opportunities can encourage project practitioners to share good practices and discuss their experiences, challenges, and lessons learned in implementing their CAHP projects.

### **5.3.2. Leaders/ Policymakers at the Project, Organisational, Partnership, and Network Levels**

Besides frontline CAHP practitioners, this dissertation also provides some theory-driven and evidence-based practical guidance for leaders/policymakers at the project, organisational, partnership, and network levels, thus helping them to better lead and support frontline workers in the design, implementation, and oversight of CAHP projects.

For instance, our research has highlighted project leaders' crucial role in enabling high performance in CAHPs. Based on the findings, we recommend project leaders to take the following actions to enable better performance in CAHPs: (1) organise regular (peer-)performance feedback to foster workers' sense of project goal clarity, significance, and meaningfulness, which motivates them to perform challenging tasks; (2) offer workers adequate social support, autonomy, recognition, and regular, constructive feedback to facilitate them in dealing with

the daily challenges; (3) actively cultivate and reinforce a highly collaborative leadership culture in the project teams to promote open and transparent communication and active involvement among project workers; (4) allocate sufficient financial resources to support essential personnel costs and project activities through careful and strategic project planning during grant application; and (5) foster workers' level of hope (i.e., ability to find alternative pathways to attain project goals) through scenario planning workshops, training, and coaching. In addition, by referring to our effective leader(ship) cycle model, project leaders from diverse CAHPs can learn more about the helpful leadership strategies, leader qualities, and complexity leadership logic that facilitate them to address their leadership challenges and perform their functions and roles more effectively.

Meanwhile, consistent with previous studies (Coates & Mickan, 2020; Sormani, Baaken, & van der Sijde, 2021), our research has shown that project workers' perceived organisational support can significantly promote their engagement and ability to achieve high CAHP project performance. Hence, leaders and policymakers at the organisational level could play a supportive and enabling role to help project leaders and workers fully concentrate on project goal pursuit and improve their capacity to develop creative and innovative solutions for achieving their designated project goals. For instance, they could: (1) place highly motivated, committed, and hopeful leaders and workers into the projects to bring positivity and energetic momentum; (2) provide regular scenario planning exercises to coach workers to develop hopeful thinking in project work if there is a shortage of hopeful workers; (3) provide adequate staffing and stable job positions to reduce workers' stress due to job insecurity and to sustain their energetic, collaborative efforts; (4) organise training in project planning, management, leadership, and administration to actively assist project leaders in developing and planning their CAHP projects more systemically and strategically during grant applications; (5) find synergies in various CAHP projects to support the efficient use of financial resources and reduce redundancy (e.g., reducing CAHP workers' burden by offering support in administrative and financing tasks); and (6) invite experienced CAHP leaders to share their experiences or coach

project leaders (and workers) to strengthen their skills for leading and implementing CAHP projects effectively.

### **5.3.3. CAHP Funding Agencies**

Our findings have pointed to some key concerns regarding the current funding mechanisms and evaluation systems in the German-speaking regions. For instance, while most CAHP projects were third-party funded, issues like intense funding competition, lack of funding opportunities for follow-up projects, especially for large collaborative projects, and political changes often result in over-intensive projects with inadequate or short-term funding, significantly compromising the projects' quality. Rigid project structures, such as timelines and funding use, also limited CAHP workers' ability to react flexibly to changing environments (particularly in volatile, uncertain situations like the COVID-19 pandemic). These issues often put workers under tremendous pressure regarding project goal attainment, resulting in low morale over time. Subsequently, they also increase the risk of staff burnout, job instability, and turnover and lead to project inefficiency. As a result, CAHP workers often had insufficient time and resources to meet the triple requirements of enabling innovation, community engagement, and effectiveness. At times, they must deviate from goal pursuit to look for new funding or discard promising projects to start a new one. Failing to thoroughly test their ideas/solutions or sustain their collaborative efforts also jeopardised CAHP workers' ability to transform the solutions into effective, feasible and sustainable solutions.

Taken together, it is important for funders to understand the structural complexity inherent in CAHPs and the impact on individual project workers' ability to perform well in such networked environments. Therefore, we propose several courses of action for funding agencies to improve CAHPs' performance. Firstly, in response to CAHPs' dynamics and uncertainty, funders could consider more flexible funding models, policies, and (pre- and post-project) supportive measures to provide more space and optimal conditions for effective and resilient CAHP practices. For instance, small seed funding can be provided to support (early) project planning and team-building activities before the project formally begins

(see Boone et al., 2020). Secondly, allowing more flexibility in the use of funding and resources can allow workers to mobilise resources promptly to respond to various project contingencies, resulting in smoother project functioning and higher project efficiency. Thirdly, funders need to dedicate more support to established CAHP projects with promising results to enhance project sustainability and uptake. For instance, more potential follow-up funding opportunities could be offered to help CAHPs validate, upscale, or transfer their project results. Thirdly, funders could encourage more strategic project applications. For example, they may emphasise CAHPs' impact, feasibility, and sustainability in the evaluation criteria to ensure the proposed project objectives and scopes are meaningful, realistic, and viable. Finally, funders could reduce the bureaucratic burdens on those managing inter-organisational, networked structures like CAHPs to offer them the time and space necessary for excellent network management, coordination, and maintenance.

#### **5.4. Limitations and Suggestions for Future Research**

As in all research, the study findings in this dissertation are subject to several limitations. We discuss these limitations and suggest further research avenues in the following.

##### **5.4.1. Cross-sectional Design**

Firstly, the dissertation was based on a cross-sectional design. Although various methods were adopted to compensate for this limitation and add robustness to the findings, as suggested by scholars (Ortiz et al., 2020), the causality of the dynamics under study remains uncertain. Nevertheless, this dissertation has provided the theoretical frameworks and preliminary empirical evidence to support the likely linkages. Based on these findings, future work should adopt a longitudinal, observational (ethnographic) approach to unpack the dynamic causal relationships identified and capture any changes in their impacts on CAHP projects' performance over time. The key questions worth further empirical scrutiny would be: How do CAHP workers' sense of project goal value and performance diminish/replenish over time? Does project workers' perceived performance during the partnership process positively impact their project goal



commitment and goal stress, thereby increasing their hope and ability to identify additional project resources? Do effective CAHP leaders satisfy all the characteristics proposed of an effective CAHP leaders(hip) cycle?

#### **5.4.2. Sampling Bias**

Given the lack of available information on the total number of CAHPs operating in German-speaking countries, the quantitative field study was conducted using simple random and snowball sampling methods. Meanwhile, purposive and snowball sampling methods were used for the qualitative field study. Provided that the potential respondents of both quantitative and qualitative studies were drawn from publicly available information on the websites, our findings are potentially subject to sampling biases. Indeed, our samples were overly represented by academic project leaders and workers engaged in third-party funded CAHP projects. Accordingly, the findings generated may have limited generalisability for bottom-up, grassroots projects initiated or led by community stakeholders (e.g., community-led CAHPs). Hence, future studies should explore the transferability of these findings onto such projects. Indeed, there were no significant differences between both academic and community project workers in our quantitative findings at the individual level. However, future studies that examine the effects of the proposed dynamics at the project or partnership levels should aim for a more balanced representation of academic and community project workers to obtain a more nuanced view of their collective dynamics in the partnership process.

#### **5.4.3. Objectivity of Measurements**

Thirdly, given our major interest in understanding the effects of workers' intrapersonal dynamics (e.g., cognition and motivation) on project performance in diverse CAHP settings, this dissertation mainly relied on project leaders' and workers' self-reported (perceived) performance instead of objective performance measures. Hence, the results may be subject to recall and common method biases. To minimise the risks of recall bias, only leaders and workers engaged in ongoing or recently concluded CAHP projects were included as study participants. They were also asked to report on their experiences regarding the specific projects they

spent the most time on. Control measures like the single-common-method factor approach were also taken into account to limit the concerns of common-method variance (Podsakoff et al., 2003). Nonetheless, future field studies should test the proposed dynamic relationships against objective performance measures to assess their ability to enhance unique project outcomes in CAHP projects. For this purpose, one may rely on external evaluators or recipients of CAHPs to evaluate pre-defined, valid performance measures.

#### **5.4.4. The Positive Role of Emotions**

This dissertation mainly examined the cognitive and motivational factors that enabled project leaders and workers to meet the project challenges/constraints and achieve high project performance. Our qualitative study also pointed to the significance of project workers' affective predictors (e.g., emotional salience and perceived relational support from others) and emotion regulation skills (e.g., empathy and emotional intelligence) in relieving others' stress/fear, facilitating engagement, and enhancing their project performance. For instance, our findings align with previous studies that show these skills can stimulate positive and supportive team climates and create stronger bonds among project team members, thus enhancing their task engagement and productivity at the team level (Khosravi et al., 2020). Future studies should examine the relative impacts of such affective factors on CAHP projects' performance and their interactive effects with the cognitive and motivational predictors examined in this dissertation.

#### **5.4.5. Need for More Multi-level Research**

Given our interest in workers' cognition and motivation on project performance, this dissertation mainly assessed individual project leaders' or workers' perceptions of enablers, challenges/constraints, and project performance at the individual level. However, CAHPs are essentially networked project settings with complex dynamics between multiple partner representatives (and their intra-organisational members) (Johnston & Finegood, 2015; Ortiz et al., 2020). Therefore, having established the effects of the dynamics at the individual worker level, future research should expand the scope of the study to the project team,

organisational, or partnership levels. Alternative, researchers may conduct multi-level research to test if the findings are transferable to CAHP project stakeholders at different levels.

#### **5.4.6. Context Specificity**

It is worth mentioning that although the findings in this dissertation covered a wide range of perspectives from workers of diverse CAHP projects, they might only be relevant for CAHP projects in the German-speaking contexts given its cultural embeddedness and structure (e.g., funding and welfare systems, project structure, and social hierarchies). For this reason, future research should explore the generalisability, replicability, and transferability of the results and the proposed models to other non-German contexts.

### **5.5. Conclusions**

This dissertation revolves around CAHPs, which are, in essence, an emerging networked and temporary organisational form that aims to advance communities' health and well-being by assembling the expertise and capacity of community and academic stakeholders. However, the challenges or constraints presented by this unique structure often hinder its ability to realise such good intentions and lofty goals. For instance, unlike conventional organisational settings, CAHPs often comprise of actors from different organisational, professional, educational, and cultural backgrounds. Although the diverse member composition facilitates the development of more comprehensive and practical solutions, the discrepancies in members' backgrounds, working habits, and expectations may also make CAHPs cumbersome and complex for stakeholder management. Similarly, while CAHPs' equitable, non-hierarchical relational presumptions enable more inclusive knowledge co-creation, they can also lead to highly diffuse and ambiguous leadership, complicating the partnership dynamics, organisation, and decision-making.

Managing and coordinating such complex collaborative networks requires significant financial resources and capacity. However, inadequate, or unstable access to financial resources is one of the most common threats to CAHPs' performance. CAHPs must sometimes expand their goals or project scopes at the

planning stage to secure funding in a highly competitive funding environment. Intense project timelines and constrained resources can risk over-committing, restricting workers' ability to reach the ambitious goals upon implementation. In addition, many project staff (including leaders) may work voluntarily or in temporary, part-time positions due to CAHP's project-based and temporary nature. The lack of permanency and job insecurity can exacerbate workers' perception of project uncertainty, inducing high staff turnover and partner withdrawal. These challenges thus significantly distract workers from developing long-term strategic interventions that genuinely benefit the beneficiaries.

Accordingly, this dissertation examines how the internal CAHP process can be optimised to help workers rise above these inherent challenges and pursue more meaningful and productive knowledge co-creation. It presents three studies investigating how individual leaders and workers of different CAHP projects perceive and respond to these challenges and constraints to achieve high performance. The study findings underscore the significance of actively mobilising CAHP project workers' intrapersonal cognitive and motivational forces (e.g., being fully aware of the clarity and importance of project goals throughout the partnership processes, promoting hopeful thinking) and securing extra-personal project resources (e.g., adequate financial resources and highly collaborative leadership) to enhance CAHP projects' performance. It is also vital for project workers (including leaders) to continuously learn, adapt, evolve, and transfer their learnings and flexibly adopt operational, enabling, and entrepreneurial leadership logic throughout the project cycles to lead effectively in dynamic and heterogeneous CAHP settings.

While these micro-level insights suggest project workers and leaders must adeptly navigate a CAHP's inner complexities to ensure better performance, one may also question: are these challenges and limitations truly inevitable and immutable? Are there more strategic, straightforward, and uncomplicated ways to realise the same goals without establishing such temporary, insecure, and complex health networks? For instance, frontline CAHP workers and leaders can benefit significantly from a leaner project structure and less bureaucratic burdens,

which allow them to focus more on identifying the best possible solutions to deliver the intended health goals. Likewise, a more flexible funding structure could offer workers greater autonomy in activity design and resource mobilisation, thus creating more room for resource reallocation, improvisation and quicker adaptation to any external threats or uncertainties (e.g., COVID-19 pandemic). Similarly, funders can play decisive roles in safeguarding a CAHP's performance by devoting more attention to evaluating a CAHP's viability and sustainability. They may also provide more follow-up opportunities for promising projects to support outcome integration, validation, and transfer. These findings illustrate that CAHPs can be optimised or re-designed to improve their performance and sustainability while possibly reducing the pitfalls associated with their innate structural complexity. Thus, it is perhaps high time to question and re-imagine a CAHP's typical format or design and its associated processes.

Nonetheless, it is worth noting that this dissertation mainly studies the influence of individual CAHP workers' cognitive and motivational forces on driving their perceived project performance but not their influence of the actual project performance data. This is because Lindquist-Grantz and Vaughn (2016) argued that workers' perception of project performance is a crucial driver of their partnership commitment and a key indicator of partnership success before long-term, community-level health impacts become available and measurable. Accordingly, this dissertation's primary focus is on how academic and community project workers *view* their work as an internal proxy for the performance of CAHPs in progress rather than an exact measure of their external validity (e.g., ultimate project outcomes and impacts). Therefore, the following questions should be addressed in future research to demonstrate a CAHP's added value to society: to what extent do the extant CAHPs have the intended effect of improving community health and well-being? To what extent do the recipients (in)directly benefit from CAHPs? Do grassroots-type CAHPs, initiated by community stakeholders, perform better in achieving their objectives as they are more aware of the needs of their communities and more accessible to the target population? An in-depth analysis and evaluation of recipients' satisfaction levels on different

forms of CAHPs will be crucial to answering these questions. Researchers may also consider examining the differences between academic- and community-initiated CAHPs or small and large CAHPs (with equivalent goals) to explore which format is more effective in addressing recipients' needs. Such information would greatly benefit those wishing to adopt or sponsor CAHPs by promoting more informed or wiser use of scarce (public) resources.

In summary, more work is needed to testify to CAHP's value and utility. This dissertation has taken the first steps by providing some empirical insights for CAHP practitioners, leaders/policymakers at all levels and funding agencies in the German-speaking communities to build better collaborative CAHP project environments. It is hoped that these insights will form the basis for the future development of CAHPs, thus enabling them to realise their full potential and generate the intended health benefits in the communities.

## 5.6. References

- Ahmed, S. M., Maurana, C., Nelson, D., Meister, T., Young, S. N., & Lucey, P. (2016). Opening the black box: Conceptualizing community engagement from 109 community-academic partnership programs. *Progress in Community Health Partnerships: Research, Education, and Action*, 10(1), 51-61.
- Bakker, A. B., & Demerouti, E. (2014). Job demands-resources theory. In C. L. Cooper (Ed.), *Wellbeing: A Complete Reference Guide* (pp. 1-28). Chichester: Wiley-Blackwell.
- Boone, C. G., Pickett, S. T. A., Bammer, G., Bawa, K., Dunne, J. A., Gordon, I. J., . . . Mallee, H. (2020). Preparing interdisciplinary leadership for a sustainable future. *Sustainability Science*, 1(15), 1723-1733.
- Gredig, D., Heinsch, M., Amez-Droz, P., Hüttemann, M., Rotzetter, F., & Sommerfeld, P. (2021). Collaborative research and development: A typology of linkages between researchers and practitioners. *European Journal of Social Work*, 24(6), 1066-1082.
- Igel, U., Gausche, R., Lück, M., Lipek, T., Spielau, U., Garz, M., . . . Grande, G. (2018). Challenges in doing multi-disciplinary health promotion research in Germany. *Health Promotion International*, 33(6), 1082-1089.
- Johnston, L. M., & Finegood, D. T. (2015). Cross-sector partnerships and public health: Challenges and opportunities for addressing obesity and noncommunicable diseases through engagement with the private sector. *Annual Review of Public Health*, 36(1), 255-271.
- Khosravi, P., Rezvani, A., & Ashkanasy, N.M. (2020). Emotional intelligence: A preventive strategy to manage destructive influence of conflict in large scale projects. *International Journal of Project Management*, 38(1), 36-46.
- Lindquist-Grantz, R., & Vaughn, L. M. (2016). The journey and destination need to be intentional: Perceptions of success in community-academic research partnerships. *Gateways: International Journal of Community Research and Engagement*, 9(1), 1-21.
- Locke, E. A., & Latham, G. P. (2006). New directions in goal-setting theory. *Current Directions in Psychological Science*, 15(5), 265-268.
- Luger, T. M., Hamilton, A. B., & True, G. (2020). Measuring community-engaged research contexts, processes, and outcomes: A mapping review. *The Milbank Quarterly*, 98(2), 493-553.
- Markle-Reid, M., Dykeman, C., Ploeg, J., Kelly Stradiotto, C., Andrews, A., Bonomo, S., . . . Salker, N. (2017). Collaborative leadership and the implementation of community-based fall prevention initiatives: A multiple case study of public health practice within community groups. *BMC Health Services Research*, 17(1), 141.

- Neuhann, F., & Barteit, S. (2017). Lessons learnt from the MAGNET Malawian-German Hospital Partnership: The German perspective on contributions to patient care and capacity development. *Globalization and Health, 13*(1), 50.
- Ortiz, K., Nash, J., Shea, L., Oetzel, J., Garoutte, J., Sanchez-Youngman, S., & Wallerstein, N. (2020). Partnerships, processes, and outcomes: A health equity-focused scoping meta-review of community-engaged scholarship. *Annual Review of Public Health, 41*(1), 177-199.
- Pellecchia, M., Mandell, D. S., Nuske, H. J., Azad, G., Benjamin Wolk, C., Maddox, B. B., . . . Beidas, R. S. (2018). Community-academic partnerships in implementation research. *Journal of Community Psychology, 46*(7), 941-952.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology, 88*(5), 879-903.
- Sánchez, V., Sanchez-Youngman, S., Dickson, E., Burgess, E., Haozous, E., Trickett, E., . . . Wallerstein, N. (2021). CBPR Implementation framework for community-academic partnerships. *American Journal of Community Psychology, 67*(3-4), 284-296.
- Seaton, C. L., Holm, N., Bottorff, J. L., Jones-Bricker, M., Errey, S., Caperchione, C. M., . . . Healy, T. (2018). Factors that impact the success of interorganizational health promotion collaborations: A scoping review. *American Journal of Health Promotion, 32*(4), 1095-1109.
- Steenkamer, B., Drewes, H., Putters, K., van Oers, H., & Baan, C. (2020). Reorganizing and integrating public health, health care, social care and wider public services: A theory-based framework for collaborative adaptive health networks to achieve the triple aim. *Journal of Health Services Research & Policy, 25*(3), 187-201.
- Trotter, R. T., Laurila, K., Alberts, D., & Huenneke, L. F. (2015). A diagnostic evaluation model for complex research partnerships with community engagement: The partnership for Native American Cancer Prevention (NACP) model. *Evaluation and Program Planning, 48*(1), 10-20.
- Uhl-Bien, M., & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *The Leadership Quarterly, 29*(1), 89-104.
- Vaughn, L. M., Jacquez, F., & Zhen-Duan, J. (2018). Perspectives of community co-researchers about group dynamics and equitable partnership within a community-academic research team. *Health Education & Behavior, 45*(5), 682-689.
- Wright, M. T., & Kongats, K. (2018). What is participatory health research? In Wright, M., Kongats, K. (Eds.), *Participatory health research* (pp. 3-15). Cham: Springer International Publishing.



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# Supplemental Files

**Table S1 Survey Constructs**

|   |  |   |
|---|--|---|
| <b>Project Goal Clarity</b>             | <b>In my project tasks, ...</b><br>I understood exactly what I was supposed to do. (1)<br>I had specific, clear goals to aim for. (2)<br>I knew how project performance was measured. (3)<br>I had fixed time-frames/deadlines to achieve the goals in this project. (4)<br>if I had more than one goal to accomplish, it was clear which one was the most important and which was the least important. (5)<br>I had unclear goals. (6) (-)  | From 1 (Almost never) to 5 (Almost always)                            |
| <b>Project Goal Stress</b>              | <b>In my project tasks, ...</b><br>I found working towards my goals in this project to be very stressful. (1)<br>My goals in this project were much too difficult. (2)<br>I failed to attain my goals in this project. (3)<br>I had too many goals to meet in this project. (4)  | From 1 (Almost never) to 5 (Almost always)                            |
| <b>Types of Official Project Goals</b>  | <b>Please select all applicable official goal(s) of this project.</b><br><input type="checkbox"/> Creating new products/services (e.g., technology, equipment, health measures, etc.) (1)<br><input type="checkbox"/> Generating new knowledge and insights (e.g., publications) (2)<br><input type="checkbox"/> Implementing effective health measures/programmes (3)<br><input type="checkbox"/> Increasing the uptake of existing products/services (4)<br><input type="checkbox"/> Building community capacity/readiness (5)<br><input type="checkbox"/> People/professional development (e.g., empowerment, new knowledge, skills, or better work quality) (6)<br><input type="checkbox"/> Facilitating the knowledge exchange between partners (e.g., ideas, evidence, or expertise) (7)<br><input type="checkbox"/> Facilitating sustainable structural/systemic changes in society (8)<br><input type="checkbox"/> Facilitating sustainable partnership between project partners (9)<br><input type="checkbox"/> Others (please specify): (10) | Yes/No  |
| <b>Project Goal Importance</b>          | <b>Based on the goal(s) you selected, what was the relative importance of these goals to you during the project period?</b><br>(*Respondents were asked to rate <u>each</u> selected goal independently, but the questions were not mandatory to be completed due to greater mental capacity and time required to reflect on each goal)  | From 1 (Not at all important) to 5 (Extremely important) (5)          |
| <b>Project Goal Commitment</b>          | <b>Based on the goal(s) you selected, to what extent do you agree with the following statements?</b><br>Quite frankly, I don't care if the project goals are achieved. (1) (-)<br>I am strongly committed to pursuing these project goals. (2)<br>It wouldn't take much to make me abandon these project goals. (3) (-)<br>I think these are good project goals to shoot for. (4)<br>It's hard to take these goals seriously. (5) (-)  | From 1 (Strongly disagree) to 5 (Strongly agree)                      |
| <b>Collaborative Project Leadership</b> | <b>How would you evaluate the leadership in this project regarding the following aspects?</b><br>Taking responsibility for the project (1)<br>Inspiring or motivating project participants (2)<br>Empowering project participants (3)<br>Recruiting diverse people and organisations into the project (4)  | From 1 (poor) to 5 (extremely good)                                   |
| <b>Financial Project Resources</b>      | <b>To what extent does this project have the resources it needs to work effectively?</b><br>To what extent does this project have the money for staffing it needs to work effectively? (1)<br>To what extent does this project have the money for physical space it needs to work effectively? (2)<br>To what extent does this project have the money for purchasing the equipment and goods it needs to work effectively? (3)   | From 1 (nothing of what it needs) to 5 (everything for what it needs) |
| <b>Project Workers' Hope</b>            | <b>Please indicate your level of agreement or disagreement with each statement:</b><br>If I should find myself in a jam at work, I could think of many ways to get out of it. (1)<br>Right now, I see myself as being pretty successful at work. (2)<br>I can think of many ways to reach my current work goals. (3)<br>At this time, I am meeting the work goals that I have set for myself. (4)  | From 1 (strongly disagree) to 6 (strongly agree)                      |
| <b>Project Performance</b>              | <b>How successful is/was this project in...?</b><br>...implementing strategies to address project goals and objectives? (1)<br>...achieving the current project goals and objectives? (2)<br>...achieving its goals and objectives <i>effectively</i> ? (3)<br>...achieving its goals and objectives <i>efficiently</i> (e.g., maximising productivity with minimum wasted effort or expenses)? (4)  | From 0 (not at all successful) to 10 (extremely successful)           |

**Table S2 Participant Overview (N = 32)**

| Identifier | Pseudonym | Age | Gender | Affiliated position (type of affiliation) <sup>1</sup> | Project partners <sup>1</sup> | Years of experience in project leadership | Project duration | Number of project years | Project theme                                   | Funding source <sup>2</sup> |
|------------|-----------|-----|--------|--|-------------------------------|---|------------------|-------------------------|---|-----------------------------|
| <b>P01</b> | Anna      | 53  | Woman  | Professor (U)  | E, HCI, U                     | 12  | 2015 - 2020      | 6                       | Education and training for health professionals | B                           |
| <b>P02</b> | Bonnie    | 35  | Woman  | Researcher (R)   | H, R                          | 2   | 2013 - 2020+     | 8                       | Disease prevention                              | FS, M                       |
| <b>P03</b> | Claire    | 40  | Woman  | Professor (U)  | HCI, P, R                     | 6   | 2018 - 2020      | 3                       | Treatment/Care improvement                      | S                           |
| <b>P04</b> | Daisy     | 46  | Woman  | Post-doc researcher (U)                                | C, HCP                        | 4   | 2019 - 2021      | 3                       | Treatment/Care improvement                      | FS                          |
| <b>P05</b> | Elaine    | 42  | Woman  | Manager (C)  | C, H, U, NGO                  | 4   | 2016 - 2020+     | 5                       | Treatment/Care improvement                      | EU                          |
| <b>P06</b> | Gary      | 40  | Man    | Chief executive officer & founder (C)                  | C, R, U                       | 5   | 2015 - 2020+     | 6                       | Treatment/Care improvement                      | FS                          |
| <b>P07</b> | Helen     | 50  | Woman  | Private lecturer (U)                                   | P, R                          | 10  | 2017 - 2020+     | 4                       | Disease management                              | FS                          |
| <b>P08</b> | Iris      | 35  | Woman  | Officer (NGO), researcher (U)                          | CS, HP                        | 2   | 2019 - 2020+     | 2                       | Community health promotion                      | I, S                        |
| <b>P09</b> | Jasmine   | 35  | Woman  | Research associate and lecturer (U)                    | CS, G, NGO                    | 2   | 2018 - 2020+     | 3                       | Community health promotion                      | S                           |
| <b>P10</b> | Kelly     | 50  | Woman  | Worker (NGO)   | C, G, HCI                     | 4   | 2020 - 2021      | 2                       | Education and training for health professionals | I, S                        |
| <b>P11</b> | Lily      | 34  | Woman  | Coordinator (H)  | CS, H, HCI, R, U              | 2   | 2019 - 2022      | 4                       | Disease management                              | FS                          |
| <b>P12</b> | Max       | 68  | Man    | Senior professor (U)                                   | C, HCI, U                     | 20  | 2015 - 2020      | 6                       | Community health promotion                      | FS                          |
| <b>P13</b> | Nelson    | 46  | Man    | Professor (U)  | G, HCP, NGO, U                | 14  | 2019 - 2022      | 4                       | Community health promotion                      | FS                          |
| <b>P14</b> | Olivia    | 29  | Woman  | Deputy director (H)                                    | C, HCI, U                     | 3   | 2017 - 2020+     | 4                       | Treatment/Care improvement                      | P                           |
| <b>P15</b> | Paul      | 55  | Man    | Professor (U)  | G, HCP                        | 14  | 2020 - 2022      | 3                       | Education and training for health professionals | EU                          |
| <b>P16</b> | Queenie   | 64  | Woman  | Project leader (H)                                     | C, CS, U                      | 22  | 2018 - 2020+     | 3                       | Patient support                                 | P                           |

|            |         |    |       |   |                    |    |              |   |                            |      |
|------------|---------|----|-------|---|--------------------|----|--------------|---|----------------------------|------|
| <b>P17</b> | Ron     | 26 | Man   | Research associate (U)                              | G                  | 2  | 2018 - 2022  | 5 | Health promotion           | S    |
| <b>P18</b> | Sophie  | 54 | Woman | Department head (G)                                 | G, HCl, NGO, U     | 9  | 2019 - 2020+ | 2 | Patient support            | FS   |
| <b>P19</b> | Tina    | 55 | Woman | Staff (G)   | G, HCP, U          | 5  | 2015 - 2021  | 7 | Community health promotion | S, I |
| <b>P20</b> | Ulva    | 55 | Woman | Advisory board member (NGO); freelance lecturer (E) | G, NGO             | 10 | 2019 - 2020+ | 2 | Patient support            | P    |
| <b>P21</b> | Victor  | 62 | Man   | Professor (U)                                       | C, HCl, NGO        | 6  | 2018 - 2020+ | 3 | Treatment/Care improvement | S    |
| <b>P22</b> | Morton  | 45 | Man   | Professor (U)                                       | C, H, U            | 4  | 2016 - 2019  | 4 | Treatment/Care improvement | FS   |
| <b>P23</b> | Karen   | 30 | Woman | Manager (H)   | H, HCl, HCP, R     | 0  | 2020         | 1 | Treatment/Care improvement | FS   |
| <b>P24</b> | Carla   | 49 | Woman | Professor (U)                                       | CS, G, HCP         | 5  | 2015 - 2020  | 6 | Community health promotion | S    |
| <b>P25</b> | Barry   | 64 | Man   | Professor (U)                                       | I, H, HCP, U       | 9  | 2020 - 2022  | 3 | Treatment/Care improvement | FS   |
| <b>P26</b> | Walter  | 58 | Man   | Managing director (R)                               | HCl, U             | 6  | 2017 - 2020  | 4 | Treatment/Care improvement | FS   |
| <b>P27</b> | Annie   | 45 | Woman | Professor (U)                                       | CS, NGO, U         | 5  | 2018 - 2021  | 4 | Treatment/Care improvement | S    |
| <b>P28</b> | Marie   | 36 | Woman | Management officer (I)                              | I, NGO, U          | 0  | 2019 - 2023  | 5 | Treatment/Care improvement | FS   |
| <b>P29</b> | Moses   | 56 | Man   | Managing director (G); health reporter              | CS, G, NGO, U      | 0  | 2019 - 2021+ | 3 | Community health promotion | I    |
| <b>P30</b> | Janet   | 31 | Woman | Project manager (U)                                 | C, H, HCl, G, I, U | 3  | 2018 - 2022  | 5 | Community health promotion | S    |
| <b>P31</b> | David   | 42 | Man   | Research associate (U)                              | E, HCP, NGO, U     | 3  | 2018 - 2021  | 4 | Community health promotion | S    |
| <b>P32</b> | Natalie | 45 | Woman | Professor (U)                                       | C, H, NGO, I, U    | 10 | 2020 - 2022  | 3 | Community health promotion | I    |

Notes: <sup>1</sup> U = Universities; E = Educational institutions (e.g., schools, training centres); HCl = Health care institutions (e.g., clinics, health care centres, private practices); R = Research institutes; P = Patients; HCP = Healthcare professionals (e.g., doctors, nurses); H= Hospitals; C = Companies; CS = Citizens; NGO = Non-governmental organisations (e.g., non-profit organisations, charities); G = Government authorities/policymakers; I = Insurance companies

<sup>2</sup> B = Bank; FS = Federal state funding; M = Membership fee; S = State funding; EU = European funding; I = Insurance company; P = Private funding

**Table S3 Final Interview Protocol**

| <b>Introduction and purpose (5 minutes)</b> |   |  |
|---|---|--|
| Greetings                                   | <ul style="list-style-type: none"> <li>Welcome and self-introduction (Name, Affiliation)</li> </ul>   | <ul style="list-style-type: none"> <li>Begrüßung und eigene Vorstellung (Name, Zugehörigkeit)</li> </ul>   |
| Introduction                                | <ul style="list-style-type: none"> <li>Research background</li> <li>Aim: To find out <i>what</i> challenges CAHP project leaders encounter and <i>how</i> they deal with those challenges to perform well.</li> </ul>   | <ul style="list-style-type: none"> <li>Grund der Untersuchung</li> <li>Ziel: Um die Herausforderungen die CAHP-Projektleiter*innen konfrontiert und wie sie mit diesen Herausforderungen umgehen und gute Leistungen erbringen herauszufinden.</li> </ul>  |
| Interview structure                         | <p>This interview will be structured as follows:</p> <ul style="list-style-type: none"> <li>First, we will ask some general questions about you and your partnership project.</li> <li>Afterwards, we will talk about the leadership in this project, the influences of any (major) challenges on your project, and how your project team (and you as a project leader) reacted to them.</li> <li>Finally, we will discuss the key factors that impact your project team's performance.</li> <li>Duration: 30-60 minutes</li> </ul> | <p>Struktur des Interviews erwähnen:</p> <ul style="list-style-type: none"> <li>Zunächst werden wir einige allgemeine Fragen zu Ihnen und Ihrem Partnerschaftsprojekt stellen.</li> <li>Anschließend sprechen wir über die Führung in diesem Projekt, die Einflüsse von (großen) Herausforderungen auf Ihr Projekt und wie Ihr Projektteams (und Sie als Projektleiter*in) auf diese Ereignisse reagiert haben.</li> <li>Zum Schluss werden wir die Faktoren besprechen, die die Leistung Ihrer Projektteams beeinflussen</li> <li>Geplante Dauer (ca. 30-60 Minuten)</li> </ul> |
| General Data Protection Regulation (GDPR)   | <p>Before we start:</p> <ul style="list-style-type: none"> <li>Declaration of consent sent in advance (received and signed)</li> <li>Explain GDPR orally and obtain permission: This conversation is strictly confidential, and content recorded will not leave this meeting and, therefore, will not be passed on to third parties.</li> <li>All data collected will only be used for research purposes, and quotes might be mentioned in scientific reports anonymously.</li> </ul>   | <p>Bevor wir anfangen:</p> <ul style="list-style-type: none"> <li>Einwilligungserklärung vorab zugeschiedt (und signiert erhalten)</li> <li>DSGVO mündlich erklären &amp; Erlaubnis einholen: Dieses Gespräch ist streng vertraulich und wird diesen Raum nicht verlassen und somit auch nicht an Dritte weitergeleitet werden.</li> <li>Alle gesammelten Daten werden nur zu Forschungszwecken verwendet und Zitate können in wissenschaftlichen Berichten anonymisiert erwähnt werden.</li> </ul>  |
| Confidentiality                             |   |  |
| Anonymity                                   |   |  |
| Consent & Recording                         | <ul style="list-style-type: none"> <li>Do you have any questions?</li> <li>Ask for permission to record the conversation.</li> <li>Start recording.</li> </ul>  | <ul style="list-style-type: none"> <li>Haben Sie Fragen?</li> <li>Aufzeichnung des Gespräches erwähnen und Einverständnis einholen.</li> <li>Tonaufnahme starten.</li> </ul>   |
| <b>General questions (5-10 minutes)</b>     |   |  |
| Introduction of the interviewee             | <ul style="list-style-type: none"> <li>Age</li> <li>Job</li> <li>Years of experience in leading/managing CAHP projects.</li> <li>For how long have you been working on this project?</li> </ul>   | <ul style="list-style-type: none"> <li>Alter</li> <li>Beruf</li> <li>Wie viele Jahre Erfahrung im sektorübergreifende Projektleitung/-management zwischen Forschern und gesellschaftlichen Akteuren.</li> <li>Beschäftigungsdauer im Projekt</li> </ul>  |
| Project details                             | <ul style="list-style-type: none"> <li>Could you please briefly describe the project? <ul style="list-style-type: none"> <li><i>Project duration</i></li> <li><i>Formal project goals at the start of the project</i></li> <li><i>Project partners: With whom are you currently working on this partnership project?</i></li> <li><i>Can you briefly explain how this collaboration with the partners' works? (e.g., to what extent is</i></li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>Wie würden Sie kurz das Projekt mit Ihren eigenen Worten beschreiben? <ul style="list-style-type: none"> <li><i>Dauer des Projektes</i></li> <li><i>Formale Projektziele zu Beginn des Projektes</i></li> <li><i>Projektpartners: Mit wem arbeiten Sie im Rahmen des Projektes zusammen?</i></li> <li><i>Können Sie kurz erklären wie diese Zusammenarbeit mit den Partnern funktioniert? (z. B. Inwieweit ist jeder</i></li> </ul> </li> </ul>   |
| Partnership structure                       |   |  |

|  |   |   |
|--|---|---|
|  | <p><i>each partner involved in the project?)</i></p> <ul style="list-style-type: none"> <li>○ <i>Can you describe which phase your project is currently in? (e.g., Initiation /Planning/Implementation/Monitoring/Closing phase)</i></li> </ul>   | <p><i>Partner in das Projekt eingebunden?)</i></p> <ul style="list-style-type: none"> <li>○ <i>Können Sie beschreiben, in welcher Phase sich Ihr Projekt gerade befindet? (z. B. Initiierungs-/Planungs-/Aktions-/Monitoring-/Abschlussphase)</i></li> </ul>  |
| <b>Questions about leadership (5-10 minutes)</b>                             |   |   |
| Leadership and decision-making processes                                     | <ul style="list-style-type: none"> <li>• How did you become a leader of this project?</li> <li>• What are your tasks as project leader/manager? /How would you describe your role in the project?</li> <li>• How are major decisions made in the project? <ul style="list-style-type: none"> <li>○ <i>Why?</i></li> </ul> </li> <li>• How would you describe the ways of leading the project? <ul style="list-style-type: none"> <li>○ <i>How does that work in practice?</i></li> <li>○ <i>Can you give me some examples to illustrate your answers?</i></li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>• Wie sind Sie in diesem Projekt zum Leiter*in geworden?</li> <li>• Aufgaben als Projektleiter*in/Manager*in/ wie würden Sie Ihre Rolle in diesem Projekt beschreiben?</li> <li>• Wie werden wichtige Entscheidungen im Projekt getroffen? <ul style="list-style-type: none"> <li>○ <i>Wieso?</i></li> </ul> </li> <li>• Wie würden Sie die Art und Weise beschreiben, wie Sie das Projekt leiten? <ul style="list-style-type: none"> <li>○ <i>Wie funktioniert das in der Praxis?</i></li> <li>○ <i>nach Beispiele fragen</i></li> </ul> </li> </ul>  |
| <b>Questions about challenges, enablers, and performance (10-15 minutes)</b> |   |   |
| Status quo/ performance  | <ul style="list-style-type: none"> <li>• How is your project going at the moment? <ul style="list-style-type: none"> <li>○ <i>Any achievements?</i></li> <li>○ <i>Any major hindrances/challenges?</i></li> </ul> </li> <li>• <i>Did the pre-defined goals change, or have they been adapted in the course of the project?</i> <ul style="list-style-type: none"> <li>○ <i>If so, how?</i></li> <li>○ <i>Why were they changed?</i></li> </ul> </li> <li>• How would you rate the project team's performance in achieving the intended project goals? (Very Low 1-5 Very High) <ul style="list-style-type: none"> <li>○ <i>Why?</i></li> <li>○ <i>What can be improved?</i></li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>• Wie läuft Ihr Projekt im Moment? <ul style="list-style-type: none"> <li>○ <i>Gibt es Erfolge?</i></li> <li>○ <i>Gibt es größere Hindernisse/Herausforderungen?</i></li> </ul> </li> <li>• <i>Haben sich die vordefinierten Ziele im Laufe des Projekts geändert oder angepasst?</i> <ul style="list-style-type: none"> <li>○ <i>Wenn ja, wie?</i></li> <li>○ <i>Warum wurden sie geändert?</i></li> </ul> </li> <li>• Wie beurteilen Sie die Leistung des Projektteams bei der Erreichung der angestrebten Projektziele? (Sehr niedrig 1-5 Sehr hoch) <ul style="list-style-type: none"> <li>○ <i>Warum?</i></li> <li>○ <i>Was kann verbessert werden?</i></li> </ul> </li> </ul>  |
| Challenges   | <ul style="list-style-type: none"> <li>• Have you faced any major setbacks/challenges in this project? What are they? <ul style="list-style-type: none"> <li>○ <i>How did you feel at that time? (Emotions)</i></li> <li>○ <i>How did you (and the team members) react to these challenges? Why? (Reactions)</i></li> <li>○ <i>Do they have any significant impact on your work/ project performance? If yes, how?</i></li> </ul> </li> <li>• Have these challenges been solved successfully? <ul style="list-style-type: none"> <li>○ <i>If so, how?</i></li> <li>○ <i>If not, what do you plan to do?</i></li> </ul> </li> <li>• What do you find most challenging about your work as a project leader in this (type of) project? Why?</li> <li>• What have you found to be important in helping you (or your team members) cope with the challenges?</li> <li>• Where do you see optimisation</li> </ul> | <ul style="list-style-type: none"> <li>• Sind Sie bei diesem Projekt jemals auf größere Rückschläge/ Herausforderungen gestoßen? Welche sind das? <ul style="list-style-type: none"> <li>○ <i>Was empfinden Sie angesichts dieser Herausforderungen (Emotionen)</i></li> <li>○ <i>Wie haben Sie (und die Teammitglieder) auf diese Herausforderungen reagiert? (Reaktionen)</i></li> <li>○ <i>Wie wirken sich diese Herausforderungen auf Ihre Arbeit aus? Haben sie einen wesentlichen Einfluss auf den Erfolg dieses Projekts? Wenn ja, wieso?</i></li> </ul> </li> <li>• Wurden diese Herausforderungen erfolgreich gelöst? <ul style="list-style-type: none"> <li>○ <i>Wenn ja, wie?</i></li> <li>○ <i>Wenn nicht, was planen Sie zu tun?</i></li> </ul> </li> <li>• Was empfinden Sie als größte Herausforderung bei Ihrer Arbeit als Projektleiter in diesem (Typ von) Projekt? Warum?</li> </ul> |

|                                    |   |   |
|------------------------------------|---|---|
|                                    | potential?  | <ul style="list-style-type: none"> <li>• Was haben Sie als wichtig empfunden, um Ihnen (oder Ihren Teammitgliedern) zu helfen, die Herausforderungen zu bewältigen?</li> <li>• Wo sehen Sie Optimierungspotenzial?</li> </ul>   |
| Enablers                           | <ul style="list-style-type: none"> <li>• What do you think is important for the effective implementation of the project?</li> <li>• <i>How do you deal with this lack of ___?</i></li> </ul>  | <ul style="list-style-type: none"> <li>• Was ist Ihrer Meinung nach wichtig für die effektive Durchführung des Projekts? <ul style="list-style-type: none"> <li>◦ <i>Wie überwinden Sie diesen Mangel an _____?</i></li> </ul> </li> </ul>  |
| <b>Open questions (5 minutes)</b>  |   |   |
| Open questions                     | <ul style="list-style-type: none"> <li>• From your point of view, what are the most important characteristics for project leaders to lead this type of project effectively? Why?</li> <li>• What message(s) or experience(s) would you share with those working on similar projects to yours/ working on projects similar to yours/? Why?</li> </ul>            | <ul style="list-style-type: none"> <li>• Was sind nach Ihrer Meinung die wichtigsten Eigenschaften für Projektleiter, um diese Art von Projekt effektiv zu leiten? Warum?</li> <li>• Welche Botschaft(en) oder Erfahrung(en) würden Sie gerne mit denjenigen teilen, die an ähnlichen Projekten wie dem Ihren arbeiten? Und warum?</li> </ul>             |
| <b>Closing (5 minutes)</b>         |   |   |
| Conclusion                         | <ul style="list-style-type: none"> <li>• Any questions?</li> <li>• Would you like a copy of the transcript?</li> <li>• Thank you for taking time off at this exceptional time.</li> <li>• If you have any further questions or wish to make any changes to your transcripts, please contact [Investigator X] at [E-mail].</li> <li>• Stop recording.</li> </ul> | <ul style="list-style-type: none"> <li>• Haben Sie Fragen?</li> <li>• Kopie der Transkript?</li> <li>• Danke, dass Sie sich in dieser besonderen Zeit Zeit nehmen.</li> <li>• Wenn Sie weitere Fragen haben oder Änderungen an Ihren Transkripten vornehmen möchten, kontaktieren Sie bitte [X] unter [E-mail].</li> <li>• Aufzeichnung enden.</li> </ul> |
| Thank-you and closing of interview |   |   |



# List of Abbreviations

|        |   |
|--------|---|
| CA(H)P | Community-Academic (Health) Partnership                       |
| CBPR   | Community-Based Participatory Research                        |
| CEnR   | Community-Engaged Research                                    |
| CFA    | Confirmatory Factor Analysis                                  |
| CFI    | Comparative Fit Index   |
| CLT    | Complexity Leadership Theory                                  |
| GST    | Goal-setting Theory   |
| GDPR   | General Data Protection Regulation                            |
| ICPHR  | International Collaboration for Participatory Health Research |
| JD-R   | Job Demands-Resources   |
| OB     | Organisational Behaviour                                      |
| RMSEA  | Root Mean Square Error of Approximation                       |
| SEM    | Structural Equation Modelling                                 |
| SRMR   | Standardised Root Mean Square Residual                        |
| PAR    | Participatory Action Research                                 |
| PHR    | Participatory Health Research                                 |
| PSAT   | Partnership Self-Assessment Tool                              |



# Acknowledgements

*"It is good to have an end to journey towards; but it is the  
journey that matters, in the end."*

— Ursula K. Le Guin

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# Curriculum Vitae

Choi Wai (Maggie) Chak is a research associate and lecturer at the Science-to-Business Marketing Research Centre (S2BMRC) affiliated with the FH Münster University of Applied Sciences. She engaged in various local, regional, and international projects concerning community engagement, co-creation, health promotion and innovation, such as Change Lab Münster, münster.land.leben, and Innovating Food for Seniors projects. She also taught Research Seminars and supervised students' theses and consultation projects. Maggie holds a BSc. in Public Health at the Chinese University of Hong Kong, specialising in Health Promotion and Healthcare Management and an MSc. in Epidemiology at the Ludwig Maximilian University of Munich, Germany. Since 2018, she pursued her PhD in cooperation with the Faculty of Behavioural, Management and Social Sciences (University of Twente) and the Münster School of Business (FH Münster University of Applied Sciences).

Being deeply influenced by her training and working experiences in multi-disciplinary and multi-sectoral work in the public and private sectors, Maggie aspires to bridge the silos between research and practice in public health by fostering collaboration among diverse stakeholders. Her research interests include public health, community engagement, change management, organisational psychology, and team science. Therefore, her doctoral research focuses on the dynamics of factors driving high performance of Community-Academic Health Partnerships in German-speaking areas. Her works have been presented at various seminars and conferences, such as the University-Industry International Conference (2018) and the Annual Meetings of the Academy of Management in 2020, 2021, and 2022. Maggie is also a member of the International Collaboration for Participatory Health Research's (ICPHR) Working Group on Social Participation in Older Adults.

Maggie is a science and art enthusiast who enjoys programming, drawing, playing the piano, cooking, and playing video and board games, badminton, and (beach) volleyball with friends in her free time.







# Towards Highly Performing *Community-Academic* Health Partnerships



**F**or decades, Community-Academic Health Partnership (CAHP) has been a common form of collaborative, networked organisation that aims to address complex health problems and bridge the knowledge-practice gaps in health care. However, many CAHP projects fail to prove their added value to society due to resource intensiveness, structural complexity, and lacking performance or sustainability. This dissertation employs different theoretical lenses from an Organisational Behaviour (OB) perspective to scrutinise how project workers and leaders perceive and respond to these challenges and constraints inherent in their CAHP environments to pursue high project performance.

This dissertation introduces, reports, and discusses three stand-alone yet intertwined empirical chapters based on two quantitative and qualitative field studies. Each chapter unravels the complex dynamics of an enabler of highly performing partnership processes (namely workers' perceptions of project goals, workers' perceived sufficiency of project resources, and effective project leaders(hip), respectively) in meeting various challenges and constraints and enhancing project performance in diverse CAHP settings. This research presents theory-driven, evidence-based findings of CAHP practice and offers recommendations to guide practitioners, leaders, policymakers, and funders toward better planning, management, and functioning of CAHPs.

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**CHOI WAI (MAGGIE) CHAK** is a research associate and lecturer at the Science-to-Business Marketing Research Centre (S2BMRC) affiliated with the FH Münster University of Applied Sciences, Germany. She engaged in various local, regional, and international projects concerning community engagement, co-creation, health promotion and innovation, such as Change Lab Münster, münster.land.leben, and Innovating Food for Seniors projects. She also taught Research Seminars and supervised students' theses and consultation projects. Maggie holds a BSc. in Public Health at the Chinese University of Hong Kong, specialising in Health Promotion and Healthcare Management and an MSc. in Epidemiology at the Ludwig Maximilian University of Munich, Germany. Since 2018, she pursued her PhD in cooperation with the Faculty of Behavioural, Management and Social Sciences (University of Twente, the Netherlands) and the Münster School of Business (FH Münster University of Applied Sciences, Germany).