

An investigation of the impact of teachers' motivation and occupational needs on wellbeing: A mixed-methods study

by

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Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree.

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I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

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Abstract

Teacher attrition, stress and burnout is a persistent issue which is gaining growing concerns internationally and in Australia. Teacher wellbeing plays a significant role in retaining quality teachers because it may sustain teaching motivation and professional enthusiasm. Teachers in Australia have been experiencing intensive workload and compromised professional recognition. It is crucial to further understand how workload and professional recognition impact on teacher wellbeing, which may reduce teacher burnout and attrition. The study aimed to identify teachers' motivational functions, understand their occupational needs, and examine how motivation can enhance those needs to promote wellbeing.

Using a convergent mixed-methods approach framed by Ryan and Deci's Self-determination Theory, data were collected from South Australian teachers in three phases: an online survey via Qualtrics (251 participants), an open-ended questionnaire via Qualtrics (41 participants), and semi-structured interviews (19 participants).

Quantitative analysis included confirmatory factor analysis and structural equation modelling, which identified four major motivation factors: teacher autonomy, positive emotion management, positive social relationships, and teaching capability. The analysis validated inferential interrelationships between seven motivation constructs: autonomy, agency, perceived distributed leadership, perceived recognition, connectedness to the teaching profession, managing change, and positive coping. Content analysis identified four major motivation functions: teaching capability, positive emotion management, positive social relationships, and teacher autonomy while thematic analysis revealed four occupational factors: teacher efficacy, student-teacher relationships, teacher resilience, and teacher empowerment.

The findings suggested sustained teacher wellbeing could be achieved by addressing psychological and occupational needs through various practices, including establishing professional learning communities, providing contextualised professional development, creating autonomy-supportive environments, and embedding positive psychology programs in initial teacher education. The study argues that enhanced teacher wellbeing could lead to improved workload management, higher perceived professional recognition, and more positive student educational outcomes. The study contributes to understanding teacher wellbeing by integrating motivational and occupational factors, providing a comprehensive framework for addressing teacher attrition and burnout.

The study highlights the importance of considering intrinsic and extrinsic motivational factors in promoting teacher wellbeing. It emphasises the need for educational institutions to create supportive environments that foster teacher autonomy, efficacy, and resilience. Additionally, the study underscores the significance of positive student-teacher relationships and teacher empowerment in sustaining wellbeing within the profession. Future research could explore motivational factors and needs of Self-determination Theory in various educational settings. This study offers valuable insights for policymakers, school administrators, and teacher education programs, providing evidence-based strategies to address teacher attrition and burnout challenges. By focusing on the interplay between motivation, occupational needs, and wellbeing, this research contributes to developing more effective and sustainable approaches to supporting teachers throughout their careers. One of the thesis outcomes is the development of a holistic model of motivation to enhance teacher wellbeing.

Keywords: Empowerment, Resilience, Self-determination theory, Student-teacher relationships, Teacher efficacy, Teacher motivation, Teacher wellbeing

Glossary

AAR	Anticipate-Act-Reflect
ATWD	Australian Teacher Workforce Data
ANOVA	Analysis of Variance
ACER	Australian Council for Educational Research
AITSL	Australian Institute for Teaching and School Leadership
CA	Content Analysis
CFA	Confirmative Factor Analysis
CFI	Comparative Fit Index
COVID-19	The Coronavirus Disease 2019
DfE	Department for Education South Australia
EFA	Exploratory Factor Analysis
OECD	Organisation for Economic Cooperation and Development
PISA	Programme for International Student Assessment
PD	Professional Development
PLC	Professional Learning Community
PERMA	Positive Emotion, Engagement, Relationships, Meaning, Accomplishments
RMSEA	Root Mean-square Error of Approximation
SA	South Australia
SDT	Self-determination Theory
SEM	Structural Equation Modelling Analysis
SiAS	The Staff in Australia's Schools
NAPLAN	The National Assessment Program – Literacy and Numeracy
TA	Thematic Analysis
TALIS	Teaching and Learning International Survey
TLI	Tucker–Lewis Index
TPLP	Teacher Professional Life Phases

Chapter 1: Introduction

1.1 Introduction

Globally, teachers' declining wellbeing is a persistent problem concerning teacher burnout and attrition (Beames et al., 2024; Bertieaux et al., 2024; Collie & Carroll, 2023; White & McCallum, 2020). Australian teachers have experienced deteriorating wellbeing owing to excessive workload, poor professional recognition, and complex classroom and school factors (Oberg et al., 2024; Vo et al., 2024; Zhou et al., 2024). A high prevalence of teacher burnout and attrition hampers teacher wellbeing, and further understanding these challenges is pivotal to advancing teacher wellbeing. Ryan and Deci (2000) conceptualise Self-determination Theory (SDT) as an understanding of human motivation considering an individual's experience of anongoing sense of integrity and wellbeing. SDT (Ryan & Deci, 2000) provides a framework for three basic psychological needs: competence, autonomy and relatedness, which have been widely utilised to explore teacher motivation (Abdulaziz Alfayez et al., 2024; Fernet et al., 2016; Poulou, 2020; Watt & Richardson, 2023) and student–teacher relationships (García-Moya, 2020; Spilt et al., 2011; Zou et al., 2024) in educational research.

1.2 Teacher burnout and attrition

Widespread international research has addressed longstanding concerns about teacher burnout (Davis et al., 2024; Nunes et al., 2024; Sullivan et al., 2021). The studies suggest that teachers have been overwhelmed with managing excessive administrative expectations and frequently performing to regulatory professional standards. For instance, teachers have been expected to accomplish a significant number of duties—such as inefficient data management for newly introduced curriculum (Brady & Wilson, 2021; Patil, 2023), excessive administrative tasks (Heffernan et al., 2022; McCallum, 2020), biased expectations for standardised testing outcomes (Graham et al., 2020; Johnson & Coleman; 2023) and intense teaching performance assessment (Sullivan et al., 2021)—which create burnout for teachers. According to Heffernan

et al. (2022), teachers should avoid unproductive tasks and be provided sufficient opportunities to refine pedagogical and curricular deliveries to attain desired educational outcomes.

Studies by Daumiller et al. (2021), Herman et al. (2018), Pan (2023), Zhou et al. (2024) and Zhang et al. (2023) suggest that it is essential for teachers to develop high levels of teaching capacity to provide positive educational outcomes, and they need to be supported to achieve these expectations. For example, Oberg et al. (2024) claim teacher efficacy positively affects growing occupational capacity for reducing the risk of emotional exhaustion and disengagement, while Zhou et al. (2024) identify that significant job resources are needed to meet various professional expectations to help reduce teacher burnout. The authors agree a high level of efficacy can develop effectiveness and efficiency in teaching instructions, class management, curriculum preparations and deliveries, and administrative tasks, which may contribute to a lower level of teacher burnout. Teachers can benefit from continuously developing their teaching capacity by increasing their level of efficacy.

Various research indicates emotional demands as another major contributor to teacher burnout because of the complexity of professional relationships (Aldrup et al., 2018; Corcoran & O'Flaherty, 2022; Li et al., 2019; Sappa & Barabasch, 2020; Zee & Koomen, 2016). The studies argue that teachers who are not well equipped with emotional competence in professional relationships, including student–teacher relationships and collegial relationships, may experience negative emotional encounters and suffer from emotional burnout. The authors advise that developing emotional capacity, such as specific strategies and skills to recognise and manage emotions, can help teachers regulate their emotions in daily work to achieve more desirable professional satisfaction and reduce emotional burnout. It is helpful for teachers to enhance positive emotion management skills to address emotional demands.

The Teaching and Learning International Survey (TALIS) reports concerning teacher attrition rates; for example, 37.2% of teachers aged 24 or below left the teaching profession in Finland in 2017, and 51% of teachers aged 24 or below left the teaching profession in Norway in 2016 (OECD, 2021, p. 438). International research demonstrates positive associations between enhanced autonomy and improved job satisfaction for greater teacher retention (Brady & Wilson, 2021; Burger et al., 2021; Collie, 2023a; Dou et al., 2016; McCallum, 2020). The authors claim that teachers with increased autonomy attain more autonomous teaching motivation, which contributes to beneficial outcomes for remaining in the teaching workforce, such as elevated professional recognition (Brady & Wilson, 2021) and sustained professional commitment (Burger et al., 2021; Collie, 2023a). Providing teachers with increased autonomy through decision-making opportunities may foster authentic and positive interactions with leadership and colleagues.

Insufficient career advancement, such as a lack of promotion structure and progression, hinders the retention of quality teachers. Teachers' career advancement reinforces their professional needs for long-lasting commitment and continuous motivation (Sahito & Vaisanen, 2020; Thomson & Hillman, 2020). For example, Connolly and Hughes-Stanton (2020) and Schellings et al. (2021) suggest allocating teachers to teacher-leader positions to exercise teacher agency and sustain teaching motivation throughout their careers. As indicated, teachers with leadership roles and tasks play a significant role in introducing innovative practices and embedding school-improvement strategies. Schleicher (2018) advises that teachers may feel empowered to demonstrate their strengths and contribute their expertise. It is valuable to cultivate teacher empowerment to sustain teaching motivation and professional commitment to teacher retention.

The COVID-19 pandemic created significant challenges for teachers that illuminate these concerns further. In March 2020, the COVID-19 pandemic created extraordinarily challenging

work conditions for teachers across the globe. During the pandemic, teacher burnout worsened as a result of constant disruptions and isolation in the work environment (Beames et al., 2021; Collie, 2021; Gearhart et al., 2023; Johnson & Coleman, 2023; Turner et al., 2022). For example, Longmuir (2023) argues that working through the pandemic was the final straw due to further intensifying teacher expectations and workload. These studies commonly identify online learning as an impersonal experience for teachers and students due to the absence of social interactions, and these learning arrangements negatively impacted teachers' cognitive, emotional and social experiences. Still concerning, there seem to be few noticeable changes to managing teachers' burnout and attrition in the post-COVID-19 period (Beames et al., 2024; Gearhart et al., 2023; Lemon & Turner, 2024).

Teacher burnout and attrition remain unresolved due to the excessive burden of managing complex relationships among stakeholders and pedagogical abilities to prepare students to achieve educational standards (Graham et al., 2020). Once more, teacher burnout and attrition signal the urgency and necessity to enhance teacher wellbeing to develop the capacity to effectively address demands from the teaching profession's cognitive, emotional and social conditions. With greater wellbeing, quality teachers could be retained and their professional enthusiasm sustained, enabling them to deliver high-quality learning experiences for students. This would make immeasurable differences in students' lives and wider communities.

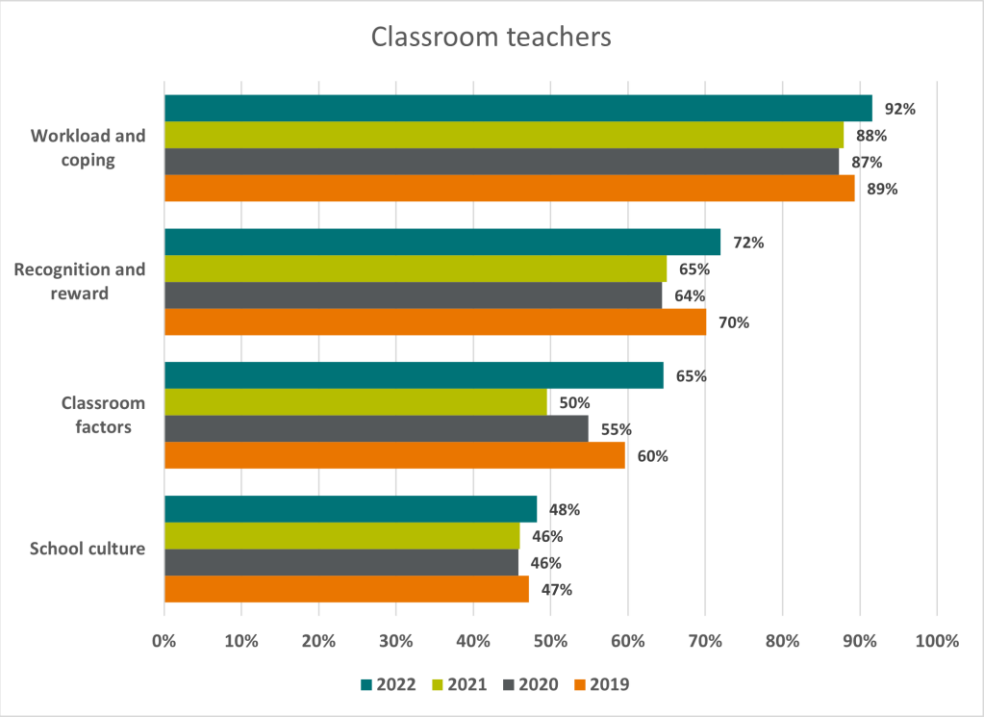
1.3 Major factors for teacher burnout and attrition

There is a wide range of factors for teacher burnout and attrition, such as excessive workload, emotional demands, lack of autonomy, limited career progression and poor professional recognition (García-Moya, 2020; Han et al., 2020; Li et al., 2019; Roorda & Koomen, 2021; Sappa & Barabasch, 2020; Tay et al., 2022). McLean-Davies and Watterston (2022) acknowledge the complexity of the teacher shortage in Australia, including teacher workload and teaching status. Intense workload and poor professional recognition have consistently

ranked as the top two reasons teachers intend to leave the teaching profession before retirement in Australia (Australian Institute for Teaching and School Leadership [AITSL], 2023). According to an AITSL report in 2023, 35% of the participating teachers intended to leave before retirement, and this has increased over time, up from 26% of the participating teachers in 2019. Research by the Victorian Academy of Teaching and Leadership and the Department of Education Victoria (2024) found that 74% of participants agreed that teachers are among the most important adults in a child's life, yet only 32% believe they are always respected and valued by parents and the public.

Figure 1.1

Factors Influencing Australian Classroom Teachers' Intentions to Leave the Profession



Note. From "Spotlight: Australia's Teacher Workforce Today", by Australian Institute for Teaching and School Leadership Limited, 2023. (https://www.aitsl.edu.au/research/spotlights/australia-s-teacher-workforce-today). Copyright 2018 by the Australian Institute for Teaching and School Leadership Limited.

As illustrated in Figure 1.1, teachers' workload and professional recognition rank as the top two challenges for influencing teachers' intentions to leave the profession, according to the 2023 Australian Teacher Workforce Data (ATWD). Specifically, 92% of participating teachers selected "workload and coping", while 72% selected "recognition and reward" as factors of intention to leave the profession. It is crucial to understand further how workload and professional recognition impact teacher wellbeing, which may reduce teacher burnout and attrition to address the crisis.

Workload consistently ranks as the top challenge for Australian teachers' retention (AITSL, 2023; Education Services Australia, 2021). Australian teachers report higher working hours and larger class sizes than the OECD average, and workload issues significantly contribute to teachers' intention to leave, according to the 2018 TALIS report.

Since 2010, Australian teachers have reported high workloads and raised concerns about workload on their wellbeing, according to a national survey by the Staff in Australia's Schools (SiAS) (Mckenzie et al., 2014). Administrative duties, either in or out of school, were 3.6 hours for primary school teachers and 4.5 hours for secondary school teachers in Australia (Mckenzie et al., 2014, p. 51). According to SiAS, Australian teachers spend a greater proportion of working hours on administrative duties than engagement with performance and development plans. These results align with McCallum et al.'s (2017) findings that "schools and school systems becoming increasingly more bureaucratic" (p. 178) is an educational stressor that may hinder teacher wellbeing. In 2021, across full-time and all ranges of part-time employment, teachers reported working an average of 140% to 150% of their paid hours, and 68% of teachers cited concerns about workload impacting their wellbeing or mental health (Education Services Australia, 2021, p. 25). Concerns have been raised over the association between early-career teachers' intention to leave the profession and excessive workload.

Despite the statistics, Australian teachers are continuously occupied with administrative duties for measurements and assessments, considerably contributing to ineffective teaching and reduced teacher wellbeing. Heffernan et al. (2019) report that only 2% of teachers (n = 2444) in Australia consider their workload manageable (p. 10), and Heffernan et al. (2022) identify workload as the most commonly cited reason for intention to leave the profession, with "excessive" and "unsustainable" frequently used to describe their workload (p. 201). According to the ATWD, "95% full-time teachers (n = 3216) work more than their contracted hours in a typical teaching week" (Education Services Australia, 2021, p. 25). It is critical to equip individual teachers with relevant skills to operate productively and manage additional workloads arising from educational demands. Therefore, enhancing teaching capacity could assist teachers in sustaining a more manageable workload when facing increasing professional demands for greater wellbeing.

The OECD (2020) reports that only 45% of Australian teachers in lower secondary schools believe the public values teaching. Heffernan et al. (2019) found that 71% of teachers across Australia perceive that "teachers are not appreciated by the public" (p. 8). Concerns about teachers' professional recognition may be associated with the current Australian education system, which tends to emphasise measurement and accountability of teaching performance (Mockler, 2022; Patil, 2023). Excessive teaching appraisals can hamper teachers' perceived professional recognition within schools and wider societal communities. Education Services Australia (2021) report that 68% of the teachers who intend to leave the profession identified a broader category of issues relating to "reward and recognition" (p. 109). This research study advises the need and urgency for teachers to receive desired professional recognition by developing a positive professional identity.

In Australian school communities, Gore and Rosser (2022) suggest teachers may receive elevated professional recognition by developing a positive and genuine professional identity in

professional learning communities (PLCs). Beames et al. (2024) identify formal recognition from school leaders as an effective engagement strategy based on a wellbeing program at an Australian school. Positive professional identity and formal recognition may sustain teachers' intrinsic motivation for providing more effective pedagogical practice and curriculum delivery, leading to more positive professional recognition from their colleagues and leadership.

O'Neil (2022) posits that a national focus to uplift the status of the teaching profession could include considering using awards and honours to reward and recognise the teaching profession. As mentioned in the National Action Plan on Teacher Shortage, Australian states and territories will work to increase the number of teachers with Highly Accomplished and Lead Teacher certification and other forms of recognition from state and territory bodies (O'Neil, 2022). Such gestures from the Australian government display a willingness to elevate the teaching profession by providing formal rewards for high-performing teachers and acknowledging the value teachers bring to students and communities. Hence, developing authentic professional interactions and uplifting the status of the teaching profession may foster an elevated perception of professional recognition for enhanced teacher wellbeing.

As argued previously, intense workload and poor professional recognition significantly contribute to teacher burnout and attrition, which hampers teacher wellbeing in Australia. It is pivotal to investigate how teachers can continuously develop their capacity to manage demanding workloads and uplift their perceived professional recognition to sustain teaching motivation, which ultimately contributes to greater teacher wellbeing.

1.4 Teacher wellbeing

Teachers' motivation and occupational capacity are significant in sustaining teacher wellbeing (Collie, 2023a; McCallum, 2022). Teacher wellbeing is not only a key contributor to fulfilling positive educational outcomes for students and school communities (Brady & Wilson, 2021;

Collie et al., 2020a; Mansfield & Beltman, 2019; McInerney et al., 2018) but could prevent teachers from burnout and attrition (Collie, 2023a; Dreer, 2023; White & McCallum, 2020; Song et al., 2020). McCallum (2020) addresses the importance of teacher wellbeing for attracting and retaining high-quality teachers for "a nation's prosperity, peace and human flourishing" (p. 17). Several recent studies (Burke et al., 2023; Gearhart et al., 2023; Johnson & Coleman, 2023; Pöysä et al., 2021) explore how teacher wellbeing assisted teachers in managing emergency schooling during the COVID-19 pandemic. For example, teachers' efficacy and emotional factors are addressed to sustain teacher wellbeing, such as teaching capacity for navigating new technology and facilitation of remote feedback in online teaching (Burke et al., 2023; Johnson & Coleman, 2023) and emotional capacity for managing stress when adjusting to emergency remote schooling (Gearhart et al., 2023; Pöysä et al., 2021).

There has been an increase in scholarly research on teacher wellbeing from varied disciplines, including social, psychological, physiological and organisational perspectives (Graham & Truscott, 2020; Francesconi, 2018; Milatz et al., 2015; Nunes et al., 2024; Ramberg et al., 2020; White & McCallum, 2020; Walter et al., 2023). In Australia, McCallum (2022) emphasises the motivational desire for "belonging" as a key element of teachers' intrinsic need to connect to the teaching profession for greater wellbeing (p. 54). A study by Carroll et al. (2022a) sought the views of 157 stakeholders (students, parents, teachers and school executive members) in three urban government high schools in Queensland, Australia, to explore the current social and emotional wellbeing status. Notably, the teacher groups expressed a need to value their work and support their wellbeing. The in-depth interviews revealed positive culture, explicit skills, embedded practices and proactive support as essential components to ensure wellbeing in school contexts (Carroll et al., 2022a). Collie (2023a) identified self-determined motivation among 502 Australian teachers to enhance teacher wellbeing and achieve positive professional outcomes. By gaining positive professional experiences, teachers can activate intrinsic

motivation and pursue their eudemonic wellbeing, which may reduce burnout and sustain a long-lasting commitment to teaching. These studies suggest that teacher wellbeing can enable teachers to develop teaching abilities and attain teaching motivation to achieve positive educational and professional outcomes.

Educational demands continuously place significant challenges on teacher wellbeing (Brady & Wilson, 2021; Collie et al., 2020a; Dreer, 2024; OECD, 2019; Perryman & Calvert, 2019; Pöysä et al., 2021). These demands increase teachers' burnout, such as emotional burnout due to repeatedly managing complex behavioural issues (Aelterman et al., 2019; Nohilly et al., 2023) and workload-related stress from constantly performing to satisfy standardised measures (Burger et al., 2021). According to international research, teacher efficacy positively impacts growing teachers' occupational capacity for enhanced teacher wellbeing (Daumiller et al., 2021; Herman et al., 2018; Pan, 2023; Zhang et al., 2023). For example, Keller-Schneider (2021) and Huang et al. (2018) report that teacher efficacy in developing teachers' job-demands resources reduces stress and burnout. These studies suggest that teachers with higher levels of efficacy may implement innovative practices, prioritise students' individualised needs, and provide autonomy-supportive teaching approaches for sustaining occupational capacity.

The COVID-19 pandemic worsened teacher wellbeing and teaching capacity. For instance, Pöysä et al. (2021) and Gearhart et al. (2023) examine teacher wellbeing in relation to changing to alternative teaching modes during the COVID-19 pandemic. Their studies highlight that occupational stress hampers teacher wellbeing because of lower teacher self-efficacy profiles when teaching modes shift. Their studies address the effectiveness of enhancing teachers' efficacy in developing teaching capacity to adjust to alternative teaching modes, such as embedding online teaching platforms and managing hybrid classrooms. Likewise, studies by Johnson and Coleman (2023) and Burke et al. (2023) reinforce that teachers' stress from managing the high workload of hybrid assessment design and teacher feedback during the

COVID-19 pandemic hindered teacher wellbeing. Yet, the studies assert that high levels of self-efficacy are commonly negatively associated with teacher stress, burnout and coping. High levels of teachers' self-efficacy played a key role in sustaining teacher occupational capacity during the pandemic and normal teaching periods to support teacher wellbeing. Hence, exploring how to enhance teaching capacity for greater teacher wellbeing is beneficial.

Teacher performance associated with students' standardised testing outcomes is one of the public's most prominent concerns towards teachers and has negatively impacted teacher wellbeing (Cochran-Smith, 2021; Graham et al., 2020; Mockler, 2022). Patil (2023) states that Australian teachers report worsened wellbeing and negative professional recognition based on critical views of teachers' performance. Notably, teachers' performance has always been questioned by social media when there is a decline in standardised testing, such as the National Assessment Program—Literacy and Numeracy (NAPLAN) or the OECD's Programme for International Student Assessment (PISA) (Patil, 2023). Cochran-Smith (2021) questions human capital perspectives on teacher quality, such as various regulatory documents emphasising different elements of subject matter, pedagogy and education qualification. Similarly, Frenzel et al. (2020) specify substantial links between goal attainment appraisals and teachers' emotions. They found that teachers who experience anger and anxiety are negatively linked with appraisals for disciplinary knowledge. Teachers' performance pertaining to standardised tests, human-capital-driven qualifications and teacher appraisals hamper teachers' perceived recognition, which contributes to compromised teacher wellbeing.

Instead, Castro et al. (2022), Glaveli et al. (2021) and Ma (2022) argue that teachers' performance should be viewed holistically: teaching is a complex profession that encompasses teachers' pedagogical skills and social-emotional contributions to students. The authors suggest that process-focused rather than accountability-focused approaches could provide more effective modelling, support and guidance for sustaining teaching motivation,

contributing to enhanced teaching capacity. For example, Glaveli et al. (2021) and Ma (2022) recommend acknowledging teachers' efforts to improve quality teaching and encouraging different ways of understanding teaching practice by colleagues, leadership, the local community and wider societal communities to yield higher levels of teaching motivation for teachers. Teachers who have developed higher levels of teaching capacity can more effectively provide teaching expertise and proactively apply innovative behaviours to enhance teaching performance. With improved teaching performance, teachers are more likely to receive optimistic professional recognition. Teachers appreciate professional recognition, which can enhance teaching motivation and sustain their wellbeing.

1.5 Significance

Teacher wellbeing has been identified as a key contributor to enhancing teachers' occupational capacity to manage excessive workloads and sustaining teaching motivation to uplift perceived professional recognition. This section outlines research questions and research objectives.

1.5.1 Research questions

Individual teachers with a high level of teaching capacity can operate effectively and manage intense workloads. It is vital to sustain teaching motivation by acknowledging individual teacher's efforts and approaches to improve their teaching capacity in school and societal communities. The overarching research question that guides this mixed-methods research study is: *How do teachers' motivation and occupational needs impact teacher wellbeing?* Six research questions are listed in Table 1.1.

1.5.2 Research objectives

Understanding teachers' occupational needs and motivation is essential to expanding knowledge of how teachers may function well to develop greater teacher wellbeing. This research study aims to investigate how teachers' motivation influences their wellbeing. It is

based on the premise that improving teaching motivation and supporting teachers in building higher levels of efficacy, resilience, quality social relationships and empowering behaviours will contribute to the advancement of teachers' wellbeing. Five research objectives are listed in Table 1.1.

Table 1.1

Research Objectives and Questions

Research objectives	Research questions
Research Objective One: To examine teachers' motivation factors from the self-determination theory perspective	Research Question One: What are the major motivational factors impacting the advancement of teacher wellbeing? Research Question Two: How are the three needs for competence, autonomy and relatedness of self-determination theory impacting teacher motivation to advance teacher wellbeing?
Research Objective Two: To identify teachers' major motivation functions for sustaining professional enthusiasm	Research Question Three: What are the major motivation functions for sustaining teacher wellbeing?
Research Objective Three: To distinguish teachers' occupational needs for meeting professional requirements across different professional life phases	Research Question Four: What are the major occupational factors across different professional life phases that enhance teacher wellbeing?
Research Objective Four: To evaluate teachers' motivation for enhancing their occupational needs	Research Question Five: How do occupational factors impact teaching motivation for the advancement teacher wellbeing?
Research Objective Five: To analyse the impact of teachers' motivation underpinned by self-determination theory factors on their occupational needs for their wellbeing	Research Question Six: How does teacher motivation underpinned by self-determination theory factors impact the advancement of teacher wellbeing?

1.6 Thesis overview

Table 1.2 outlines the overall structure of this thesis. Chapter 1 introduces the research topic and the background of the study. It highlights reasons for teacher burnout and attrition and identifies the important role of teacher wellbeing in addressing it. The chapter also explores key challenges, including intense workload and lack of professional recognition. It presents the rationale for the study based on the influences of motivation and occupational needs on teacher wellbeing.

Chapter 2 critiques the relevant up-to-date literature, explores eudemonic wellbeing, investigates major challenges and examines potential factors for advancing teacher wellbeing to establish an informed scope. It adopts Viac and Fraser's (2020) occupational definition to investigate teacher wellbeing. It establishes how workload and professional recognition impact teacher wellbeing, and identifies four occupational factors to enhance teacher wellbeing and consolidate the knowledge gap for this research study.

Chapter 3 establishes the theoretical framework and how it guides this research study. It explores the role of motivation by considering four motivation functions: self-efficacy, emotion, social relationships and agency. It examines the relationships between teachers' motivation functions and occupational needs, including teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment. This research study adopts an integrated view across self-determination theory (SDT), motivation and teachers' occupational capacity to validate a proposed theoretical framework.

Chapter 4 focuses on the research methodology. This study employs a mixed-methods approach to collect both quantitative and qualitative data. It enables a broad view of teacher motivation from the quantitative data and integrates individuals' voices from the qualitative data. This research study employs quantitative methods in the online survey in Phase One,

qualitative approaches of open-ended questionnaires in Phase Two, and a qualitative approach of semi-structured interviews for Phase Three. The mixed-methods explore links between teachers' motivation and occupational needs for the advancement of teacher wellbeing.

Chapter 5 provides the quantitative data analysis of the online questionnaire (n = 251). It explores the major motivation factors for teacher wellbeing and validates inferential models to indicate interrelationships between motivation factors for enhancing teacher wellbeing. CFA determines the major quantitative factors for motivation. Structural equation modelling tests inferential hypotheses based on relationships between latent variables of motivation constructs through the SDT lens.

Divided into two parts, Chapter 6 provides a qualitative data analysis of the open-ended questionnaire (n = 41) and a qualitative data analysis of the semi-structured interviews (n = 19). Part One presents the qualitative results (Sections 6.2 to 6.7). It employs content analysis for the open-ended questionnaire to investigate the major motivation functions and their interrelationships to the advancement of teacher wellbeing. Part Two presents the qualitative results (Sections 6.8 to 6.13). It adopts thematic analysis (TA) for the semi-structured interview transcripts to examine the key occupational factors and their interrelationships to the development of teacher wellbeing.

Chapter 7 discusses the findings in response to the overarching and supporting research questions, and is divided into five parts. Section 7.2 presents findings aligned and unique to prior research on teachers' motivation and occupational needs and consolidates contextual-based perspectives to address concerns associated with professional recognition and workload. Section 7.3 highlights a holistic view of teacher motivation and occupational capacity. Section 7.4 underlines an enhancing relationship between motivation functions and occupational factors for advancing teacher wellbeing. Section 7.5 emphasises the three basic psychological

needs of SDT for sustaining teacher motivation. Section 7.6 concludes the discussions by developing the *Holistic Approach of Motivation to Enhancing Teacher Wellbeing Model*.

Chapter 8 concludes this study by highlighting the significance, implications and limitations of this research and suggests future research directions.

Table 1.2

Summary of the Thesis Structure

Chapter	Content
Chapter 1 Introduction	Introduction and background Key challenges and rationale Overarching research questions, supporting research questions, and research objectives Significance
Chapter 2 Literature Review	Current literature on subjective wellbeing Challenges of teacher wellbeing Factors for advancing teacher wellbeing Identifying the knowledge gap
Chapter 3 Theoretical Framework	Self-determination theory Motivation Teachers' occupational needs
Chapter 4 Methodology	Mixed-methods Research design Phase One: Online-survey Phase Two: Open-ended questionnaire Phase Three: Semi-structured interview
Chapter 5 Quantitative Results	Quantitative analysis of online survey (n = 251) Three SEM models for interrelationships between motivation factors
Chapter 6 Qualitative Results	Content analysis for open-ended questionnaire (n = 41) to investigate major motivation functions Thematic analysis for semi-structured interview (n = 19) to examine key occupational factors
Chapter 7 Discussion	Discussions in response to the supporting research questions and the overarching research question Comparison with existing literature

Chapter	Content
Chapter 8 Conclusion	Conclusions in response to the supporting research questions and the overarching research question Implications of this study Limitations of the study Future research directions

Chapter 2: Literature Review

2.1 Introduction

Teacher wellbeing is both a vital contributor to cultivating thriving learning experiences for students (Dreer, 2023; Nunes et al., 2024; White & McCallum, 2020) and a fundamental factor for fostering a healthy and positive professional environment for teachers (Beames et al., 2024; Turner & Lemon, 2023). McCallum (2020) argues that "a well-educated population is key to a nation's prosperity, peace and human flourishing, and thus high-quality teachers must be attracted and retained, and the extent to which this is achieved is highly dependent on their wellbeing" (p. 17). Teachers are continuously experiencing deterioration in their wellbeing due to excessive workload, emotional demands, lack of autonomy, limited career progression and poor professional recognition. It is pivotal to develop a comprehensive understanding of the challenges to teacher wellbeing and identify potential approaches to address those challenges to enhance teacher wellbeing.

This literature review chapter explores eudemonic wellbeing in both psychology and education research to ground an inclusive knowledge of wellbeing, considering philosophical, psychological and educational perspectives. It investigates major challenges and examines potential factors for advancing teacher wellbeing to establish an informed scope and goal for teacher wellbeing research. This chapter identifies the knowledge gap and concludes by presenting an integrated view of teachers' occupational factors for addressing teacher wellbeing.

2.2 Defining wellbeing

Wellbeing is frequently used in the psychology discipline to describe a combined effect of life satisfaction and emotional balance (Das et al., 2020; Sirgy, 2021). Definitions of wellbeing vary according to psychological, physical, occupational and societal perspectives (Lamu &

Olsen, 2018; Thorsteinsen & Vittersø, 2020; Weziak-Bialowolska et al., 2020). This section details a range of wellbeing definitions and posits focusing on eudemonic wellbeing to navigate this research study.

2.2.1 Perspectives of wellbeing

There are various perspectives of wellbeing, such as eudemonic wellbeing of human functioning (Ryan & Deci, 2000), subjective wellbeing from pleasure and displeasure (Diener et al., 1985), social capital to support basic needs (Kasser & Ryan, 1993) and physiological health for wellness (Ryff & Singer, 1998).

Eudemonic wellbeing emphasises three psychological needs of human functioning: competence, autonomy and relatedness (Ryan & Deci, 2000). The three needs support human functions in an occupational context to achieve eudemonic wellbeing (Brady & Wilson, 2021; Collie, 2023a; Dreer, 2023; Slemp et al., 2024; Song et al., 2020; Viac & Fraser, 2020). Dreer-Goethe (2024) claims that teachers' positive emotions impact teaching productivity and engagement, whereas Curren et al. (2024) highlight the experience of autonomy, competence and positive relatedness as important predictors of wellbeing. Maricuțoiu et al.'s (2023) systematic review of teachers' subjective wellbeing finds that most research studies focus on the eudemonic form. The current research study utilises notions of eudemonic wellbeing to define characteristics of teacher wellbeing.

2.2.2 Aspects of eudemonic wellbeing

Eudemonic wellbeing is highly associated with purpose in life, social connection, value, belief and meaningful impact in abundant psychology discipline research (Burton, 2018; Gallard & Cartmell, 2015; Myers & DeWall, 2018; Reber, 2019; Spielman et al., 2019). Human motivation supports achieving eudemonic wellbeing (Burton, 2018; Myers & DeWall, 2018;

Reber, 2019). Notably, SDT underlines meaningfulness, optimism, social support and satisfaction (Ryan & Deci, 2000), which echoes the notions of eudemonic wellbeing.

International studies posit a close relationship between eudemonic wellbeing and human motivation for meaning (Oishi & Diener, 2013), optimism (Hone, 2015) and interpersonal support (Huppert & So, 2013; Slemp et al., 2024) towards the conditions that life presents. For example, Oishi and Diener (2013) suggest the significance of having meaning towards subjective wellbeing, with 91% of participants from 132 countries agreeing on the need for purpose and meaning. Hone (2015) identified an important relationship between competence and optimism for subjective wellbeing from a national sample of 9,646 participants in New Zealand. Huppert and So (2013) revealed the complex and important associations among social interactions—such as engagement, positive emotions and positive relationships towards subjective wellbeing—from a representative sample of 43,000 respondents from 23 European countries. Holzer et al. (2021) conducted a cross-country study across Europe, Asia and North America (n = 25,305) during the COVID-19 pandemic. Results indicate that key psychological characteristics, positive emotion and intrinsic learning motivation are closely related to individual wellbeing (Holzer et al., 2021). The authors highlight the significant mediating roles of positive emotion and intrinsic learning motivation for promoting active learning behaviour and sustaining individuals' wellbeing during the outbreak of the COVID-19 pandemic. In a recent study, Slemp et al. (2024) comprehensively examined a meta-analytic database consisting of 4,561 effect sizes from 881 independent samples (n = 443,556). Their results indicate that interpersonal support for autonomy, competence and relatedness was strongly positively related to subjective wellbeing.

Hence, eudemonic happiness, positive psychology and social support may attain eudemonic wellbeing through a lens of human motivation. The following sections present detailed discussions of these three aspects.

2.2.2.1 Eudemonic happiness

Drawing on Aristotle's concept, Waterman (1993) suggested enjoyment consisted of both hedonic and eudemonic happiness. Curren et al. (2024) note Aristotle's concept of eudemonic happiness as "a flourishing life is devoted to fulfillment of potential that is both excellent and subjectively satisfying" (p. 22). Eudemonic happiness describes the capabilities of giving meaning and direction with self-effort to fulfil a meaningful life (Diener et al., 2018; Thorsteinsen & Vittersø, 2020). Eudemonic happiness defines subjective wellbeing; it refers to everyone's potential to recognise and realise their life fulfilment (Das et al., 2020). Historically, Maslow (1943) claimed a hierarchy of needs; the concept of self-fulfilment described how an individual utilised the conditions to achieve their eudemonic happiness. More recently, Ryan and Deci (2000) defined SDT with an emphasis on human actions towards meaning and purpose to fulfil eudemonic happiness; that is, wellbeing as a process of understanding how to actualise the self, how that can be accomplished, and taking actions towards actualising the self. Similarly, Clark (2018) underlines self-realisation for self-flourishing as "a process of successful growth out of your individual potential into actuality" (p. 377). Therefore, eudemonic happiness comprises an individual's beliefs and functions that attain a quality life.

2.2.2.2 Positive psychology

Csikszentmihalyi (1997) suggested that an individual who learned to control inner experiences tended to be more capable of determining the quality and happiness of life. For Seligman and Csikszentmihalyi (2000), experiences may be optimised based on an individual's interpretations for subjective wellbeing in positive psychology. Positive psychology implements systematic approaches to identifying an individual's character strengths and nurturing them to create a positive life. The seminal work from Seligman and Csikszentmihalyi (2000) argues that individuals should fulfil a flourishing life with systematic practice and

scientific inquiries from positive psychology. Seligman (2011) advocates an integrated approach from organisations to yield a culture that immerses individuals in positive feelings of happiness.

Seligman (2011) provides an operational definition of subjective wellbeing from a positive psychology perspective as constructs of "positive emotions, engagement, relationships, meaning in life and accomplishments" (p. 16), which may be interpreted separately but correlated to understanding an individual's wellbeing. Positive psychology introduces scientific practice and interventions for advancing individuals' wellbeing (Bono et al., 2020; Lambert et al., 2021) and collective wellbeing (Donaldson et al., 2019; Waters et al., 2021).

There is international research on positive psychology approaches for cultivating an individual's wellbeing (Althammer et al., 2021; Curren et al., 2024; Dreer & Gouasé, 2021; Lomas, 2021; Oades et al., 2020). Positive psychology approaches specifically target the wellbeing of participants to promote positive thinking, emotions and behaviours (Sirgy, 2021). For example, Bono et al. (2020) assert that schools are crucial organisations for implementing positive psychology interventions. These positive psychology approaches may encourage individuals to thrive and flourish by identifying character strengths, creating a respectful environment, enhancing a sense of meaning and purpose, and promoting a healthy lifestyle (Seligman & Csikszentmihalyi, 2000). Hence, an individual's optimism from a positive psychology perspective—finding their character strengths and cultivating them to create positive emotions in their life—may lead to eudemonic wellbeing.

2.2.2.3 Social relationships

Earlier, Mikulincer and Florian (1998) claimed that stability in relationships secured an attachment "as an inner resource for facilitating adjustment and sustaining wellbeing in times of stress" (p. 160). More recently, Savahl et al. (2019) agreed that stability in relationships

reinforced subjective wellbeing mediated by social interactions. Stability fosters support, which is essential for eudemonic wellbeing in everyday interactions (Ryan & Deci, 2017). For example, Lamu and Olsen (2018) found that giving and receiving social support in everyday interpersonal interactions offers terrific value to health and wellbeing. Similarly, Hsieh and Waite (2019) assert that relational stability facilitates positive beliefs towards life, which helps manage distress and illness to maintain an individual's wellbeing.

Secure attachment in a stable relationship is the first source for establishing an individual's cognitive appraisal of the world (Savahl et al., 2019). For instance, Dutton (2017) summarises that high-quality connections in social relationships foster eudemonic wellbeing, including strengthened cognitive and physiological functioning, adaptive capability in adversities, and psychological safety for mutual inquiry in an organisational context. High-quality connections in social relationships may provide opportunities to share resources and experience a positive impact at work.

Social support and interpersonal help may strengthen high-quality connections. For instance, Lam (2019) posits that social support enables eudemonic wellbeing in professional interactions by fostering transparency in decision-making and accountability in task completion and quality. Likewise, Weziak-Bialowolska et al. (2020) indicate that interpersonal help encourages professional recognition, and mutual support facilitates individuals' eudemonic wellbeing in a working environment. Hence, individuals' social relationships from everyday and professional interactions may provide social support and ensure high-quality connecting, contributing to eudemonic wellbeing.

Thus, eudemonic happiness, positive psychology and social support contribute to achieving enhanced eudemonic wellbeing. The following section presents a discussion on eudemonic wellbeing for teachers.

2.3 Characteristics of teachers' eudemonic wellbeing

Eudemonic wellbeing theorises three psychological needs of human functioning: competence, autonomy and relatedness (Ryan & Deci, 2000). A wide range of studies explores the characteristics of teachers' eudemonic wellbeing (Benevene et al., 2018; Collie, 2023a; García-Moya, 2020; Holzer et al., 2021; Salavera et al., 2024). This section outlines the characteristics of teachers' eudemonic wellbeing, including eudemonic wellbeing, positive psychology and social interactions.

2.3.1 Teachers' eudemonic wellbeing

There is research on eudemonic wellbeing in various school contexts (Braaten et al., 2019; Collie et al., 2020b; Maricuțoiu et al., 2023; Ramirez et al., 2020; Takizawa et al., 2024). Pollock et al. (2020) propose that schools play a vital role in facilitating teachers to flourish with capabilities to determine happiness and commitment in their own lives. Ramberg et al. (2020) found strong and consistent negative associations between teacher wellbeing and schools' levels of teacher-reported stress. For example, teachers (n = 1,045) across 46 schools in Stockholm reported negative associations between teachers' stress and students' school satisfaction and perceived teacher caring (Ramberg et al., 2020). These findings indicate that teacher stress negatively impacts teachers' wellbeing and professional satisfaction.

Francesconi (2018) advocates a capability approach as intrinsic motivation to attain teachers' eudemonic wellbeing, including the notion of self-care, sustainable goals and reflective dialogues in education. Teachers may sense eudemonic wellbeing by pursuing the capability approach. Likewise, Ramirez et al. (2020) suggest that eudemonic motivation supports motivational dynamics to pursue the eudemonic wellbeing of pre-service teachers and in-service teachers who tend to advance their degrees. For example, teachers from the "passionate cluster" reported higher levels of eudemonic motivation and were more likely to enjoy a higher level of eudemonic wellbeing (Ramirez et al., 2020). There are various levels of eudemonic

motivation in relation to eudemonic wellbeing and satisfaction in the school contexts; they share the common stance that eudemonic motivation is positively associated with eudemonic wellbeing and satisfaction.

Moreover, the need for a quality relationship underpins teachers' eudemonic wellbeing. Collie et al. (2020a) claim that for teachers in Australia (n = 276), interactions with the principal and the students are important for a sense of belonging to the school. For instance, teachers' perceived autonomy support predicts quality relationships with students (Collie et al., 2020a). Eudemonic happiness may enhance both students' and teachers' experiences of schooling. Likewise, Walzer (2021) identifies six critical qualities in social relationships between students and teachers: teaching from teachers to students encompassing trust, empathy, patience, inclusion, community and authentic connections supporting quality education and eudemonic wellbeing. Eudemonic wellbeing may be most supported by a nurturing environment in which teachers and students establish positive and quality relationships (Collie et al., 2020a).

These studies highlight eudemonic wellbeing in relation to motivational dynamics and social relationships across school contexts. These results consolidate that eudemonic wellbeing may strengthen teachers' competence in dealing with day-to-day stress and contribute to establishing a positive and quality relationship.

2.3.2 Positive psychology for teachers

Seligman and Csikszentmihalyi (2000) suggest that the ability to concentrate attention on the positives and highlight strengths may assist individuals in sustaining intrinsic motivation and fostering individual wellbeing. Dweck (2019) highlights that a strengthened sensitivity to positive changes nurtures a positive mindset in positive psychology. When supported by leadership and colleagues, teachers may develop a positive mindset to deal with situations in which they are confronted with aggressive behaviours. Dreer-Goethe (2024) indicates that

teachers may achieve job-related wellbeing by developing positive emotions in teaching job satisfaction and retention. The following sections detail positive psychology for cultivating teacher wellbeing through interventions and positive education.

2.3.2.1 Positive psychology-based interventions

Cann et al. (2024) outline interventions to improve teacher wellbeing through a positive psychology lens. The authors identify some levels of effectiveness in interventions for mindfulness, gratitude and professional development (classroom practice-oriented) to improve teacher wellbeing. Dreer and Gouasé (2021) synthesised 29 positive psychology-based interventions towards teacher wellbeing across the world and found that participating in tailor-made positive psychology-based intervention programs may enhance teacher wellbeing. From a self-help paradigm, offering administrative assistance may support the effectiveness of wellbeing programs for teachers (Dreer & Gouasé, 2021). For instance, a group of teachers participated in a gratitude intervention with a lens of positive psychology to cultivate gratitude during the COVID-19 pandemic (García-Álvarez et al., 2021). These teachers reported a higher level of subjective wellbeing; notably, they responded with an increase in teachers' psychological wellbeing and gratitude (García-Álvarez et al., 2021). Likewise, Ho et al. (2017) found that positive psychology intervention could help teachers be sensitive to positive changes while Lee et al. (2024) claimed positive psychology intervention had direct effects on changes in wellbeing dimensions, including positivity, outcome, strength, engagement, and resilience.

These findings confirm the positive effects on individuals' emotions when dealing with interrupted school routines in this exceptional situation by embedding positive psychology principles. Notably, identifying characteristics related to positive emotions may support individuals in fulfilling basic psychological needs and satisfaction in school settings during the COVID-19 pandemic.

The above studies address the notion that positive psychology yields teacher wellbeing in both Eastern and Western school environments. Their findings verify the effectiveness of positive psychology interventions for enhancing teacher wellbeing by developing the self in coping with change and adversities, gratitude for increasing teachers' psychological wellbeing and gratitude during the COVID-19 pandemic, and a growth mindset for teacher resilience.

2.3.2.2 Positive education

Seligman (2011) refers to positive psychology as "positive education", which defines education as developing skills for achieving individuals' wellbeing. For example, Park and Peterson (2009) developed positive education on individuals' character strengths, such as social intelligence and self-regulation, for cultivating positive minds. More recently, Curren et al. (2024) suggested character virtues can be "caught" through positive education to identify one's own strengths and then form personal aspirations (p. 25). Positive education has gained popularity in integrating teaching practice and evidence-informed approaches for enhancing teacher wellbeing (Martela, 2024; Waters & Loton, 2019; White, 2023).

White and McCallum (2020) synthesise wellbeing education strategies for implementing effective teaching and creating a supportive and safe learning environment in school-wide contexts to maintain teacher wellbeing. Cann et al. (2020) apply positive education to outline positive leadership actions for enhancing teacher wellbeing. For example, teachers feel positive when leadership encourages and values teachers' own learning, improvement and refinement of teaching practice (Cann et al., 2020).

Kern et al. (2024) and Oades and Jarden (2021) suggest a wide range of positive education practices for students, teachers and school communities to develop subjective wellbeing. As discussed, wellbeing is a shared responsibility that involves students, teachers, school leadership, supporting staff, parents and other stakeholders (Kern et al., 2024). The authors

highlight the necessity of sustainable improvement in overall wellbeing and the important role of schools in employing a multifaceted approach, including emotional, social, cognitive and physical aspects for enhancing wellbeing. Their study proposes a range of evidence-based interventions and strategies, including cultivating positive relationships, enhancing resilience and coping skills, fostering a growth mindset and promoting healthy lifestyle habits (Kern et al., 2024).

Martela (2024) argues for transforming abstract aspirations, such as foundational capacities and virtues, into educational goals through evidence-based practices. One example is embedding gratitude interventions professional contexts to cultivate teacher wellbeing. Wessels and Wood (2019) introduced "acts of kindness" activities to teachers' professional development to develop sustainable actions for teachers to maintain positive relationships with colleagues and students. Similarly, Yeh and Barrington (2023) investigated the impact of a gratitude program on teacher wellbeing programs. They found the strongest effect related to the subjective emotional dimension of teacher wellbeing. This dimension contributes to experiencing changes in managing and regulating teachers' negative emotions, such as stress, and cultivating positive emotions, such as enjoyment.

Further, the multifaceted approaches from positive education programs should be guided by solid theories and models, such as Seligman's (2011) PERMA model and Kern's (2022) PERMAH. Examining the applications of multimodal positive psychology programs for enhancing teacher wellbeing, Taylor (2018) found that incorporating a variety of practices—such as psychoeducation, conflict resolution and character strengths—is associated with effectiveness in helping teachers develop explicit positive coping strategies. Conversely, Evans et al. (2022) found certain wellbeing intervention programs for teacher wellbeing ineffective. Specifically, teachers accepted the intervention components but found their application inadequate to address the complexities of the school contexts (Evans et al., 2022).

Waters and Loton's SEARCH framework (2021) has been embedded in enhancing wellbeing in a whole-school approach, such as celebrating individuals' strengths, improving emotional management and developing quality relationships. For example, Waters and Johnstone (2022) investigated the SEARCH framework of positive education for student and staff wellbeing during on-campus learning and distance learning during the COVID-19 pandemic. The results suggest positive education may cultivate a common language for students and teachers to create a sustained and adaptive culture of wellbeing, which could be a preventative tool in good times and a crisis management tool in times of adversity (Waters & Johnstone, 2022).

2.3.3 Teachers' social interactions

Positive social interactions encourage professional collaboration and connectedness in a working environment (Benevene et al., 2018). It significantly influences and interacts with perceived stress, depression and job satisfaction from a psychological and physical health perspective (García-Moya, 2020; Lam, 2019). In the school environment, social support from students, colleagues and leadership cultivates a sense of belonging, demonstrating positive associations with teacher wellbeing (McCallum et al., 2017). The following sections present plentiful studies on teacher wellbeing and social relationships between teachers and students (Haldimann et al., 2023; Narea et al.,2021), colleagues (Liang et al., 2022; Nwoko et al., 2023) and leadership (Lephoto, 2019; Van der Vyver et al., 2020).

2.3.3.1 Positive student–teacher relationships

Positive student–teacher relationships play a vital role in cultivating teachers' professional wellbeing through meaningful interactions (Haldimann et al., 2023) and establishing positive teacher identity (van der Want et al., 2015). A qualitative study by Haldimann et al. (2023) suggests teachers who feel relational connectedness with students tend to have positive experiences in work enthusiasm, emotional wellbeing and reduced anxiety. Similarly, teachers who are equipped with more capable interpersonal skills report higher satisfaction with

student–teacher relationships and fewer emotional and behavioural problems in children in preschool settings (Narea et al., 2021). Therefore, a healthy and positive professional relationship between teachers and students is essential to maintain and strengthen teacher wellbeing.

Further, van der Want et al. (2015) assert interpersonal appraisal and interpersonal identity standard as two main aspects of teacher–student relationships for building a positive teacher identity. For the interpersonal appraisal factor, teachers need to evaluate an interpersonal situation considering the effect on teacher wellbeing; for the interpersonal identity standard factor, teachers need to define the role considering their personal beliefs and meaning (van der Want et al., 2015). With well-executed interpersonal appraisal and interpersonal identity standard, teachers may hold a positive professional identity when facing students' misbehaviours.

2.3.3.2 Supportive collegial relationships

Teachers' collegial relationships mediate their professional wellbeing by improving working engagement (Fiorilli et al., 2019) and encouraging mutual acknowledgement (Garbett & Thomas, 2020). Collegial support is fundamental to ensuring effective professional interactions among teachers (Cai et al., 2021; Lam, 2019; Nwoko et al., 2023). For example, Laine et al.'s (2018) three-year intervention of a PLC in a Finnish school context identified appreciating others' work, working atmosphere, sharing information and time allocation as significant factors in collegial interactions that were positively associated with teachers' occupational wellbeing. Similarly, Liang et al. (2022) found that collective vision and values, responsibility and decision-making functioned as mediating roles in the effective support of the PLC and teacher wellbeing in a Chinese school context. Hence, organisational support facilitates healthy information sharing and improves workplace productivity, which may lead to higher job satisfaction and professional wellbeing.

2.3.3.3 Leaderships' empowering behaviours

Cann et al. (2022), Çoban et al. (2023) and Nwoko et al. (2023) assert that relationships between teachers and school leadership influence teacher wellbeing. For example, the comfort level of the principal displaying transformational leadership serves as an operational factor impacting teachers' intellectual stimulation and individualised considerations, which is positively associated with teacher wellbeing (Van der Vyver et al., 2020). McCallum (2022) claims that when school leadership encourage teachers' voice and agentic involvement, such as embracing individuals' expertise and acknowledging their efforts, it may increase teachers' perceived professional recognition from their leaders. Similarly, Lephoto (2019) argues that the degree of collective responsibility and purposeful communication for teacher wellbeing is closely related to school leaders. A mediating relationship between teachers and school leaders may underpin the exercise of teacher empowerment and align with the school's purpose-oriented initiatives (Lephoto, 2019). Therefore, social relationships—that is, teacher–student, teacher–colleague and teacher–leadership relationships—may influence teachers' professional wellbeing by providing relational connectedness with students, encouraging collegial support and cultivating teacher empowerment by school leadership.

The above studies posit the salience of eudemonic wellbeing in school contexts, including eudemonic happiness encouraging teachers' professional satisfaction, positive psychology for strengthening teachers' emotional capabilities, and social support from all school members fostering teachers' positive experiences. Eudemonic wellbeing demonstrates its salience and prevalence in educational contexts. The current research study adopts eudemonic wellbeing as a scaffold for determining the definition of teacher wellbeing. The following section details definitions of teacher wellbeing and explains an occupational emphasis on teacher wellbeing.

2.4 Defining teacher wellbeing

Research on teacher wellbeing encompasses psychological, physiological, occupational and societal perspectives of an individual's subjective happiness and professional fulfilment (Aelterman et al., 2007; McCallum & Price, 2016; Viac & Fraser, 2020; White & McCallum, 2020). Aelterman et al. (2007) define teacher wellbeing as a positive emotional state of balance between environmental attributes and teachers' needs. Similarly, teacher wellbeing describes a balanced point for psychological, social and physical resources meeting a particular challenge (Dodge et al., 2012). In turn, being able to "accomplish a sense of personal and professional fulfilment" led to teacher wellbeing (Acton & Glasgow, 2015, p. 101). McCallum and Price (2016) claim that "wellbeing is diverse and fluid respecting individual, family and community beliefs, values, experiences, culture, opportunities and contexts across time and change" (p. 17). The emphasis on social relationships aligns with Vo et al.'s (2024) position that teachers view trust, feeling valued and respected in their social relationships as fundamental contributors to teacher wellbeing.

Various studies adopt an occupational emphasis on teacher wellbeing to identify challenges from educational demands (Chan et al., 2023; Collie et al., 2020b; Penttinen et al., 2023; Pöysä et al., 2021; Song et al., 2020). Brady and Wilson (2021) and Maricuțoiu et al. (2023) claim that accountability, competence and fulfilment in teaching may achieve teacher work-related wellbeing. Zhou et al.'s (2024) meta-analysis of teacher wellbeing factors reports hope, autonomous motivation, psychological capital and job competencies as the four strongest positive predictors of teacher wellbeing. Specifically, they adopt an occupational perspective by employing the job-demands resources theory as a conceptual framework to classify teacher wellbeing factors. They synthesise that job resources, such as social support and teacher autonomy, are important contributors to teacher wellbeing. This study will adopt Viac and Fraser's (2020) definition of occupation teacher wellbeing as "teachers' responses to the

cognitive, emotional, health and social conditions pertaining to their work and their profession" (Viac and Fraser, 2020, p. 18).

Initially, McCallum and Price (2010) claimed that teachers' ownership, responsibility and productivity support might sustain teacher wellbeing. Building on their occupational view of teacher wellbeing, Collie et al. (2020b) assert that teachers' positive functioning at work promoted work-related wellbeing in their professional environment. Likewise, Song et al. (2020) posit "a working definition" of teacher wellbeing as teachers' attainment in their quality of professional lives and capabilities for professional fulfilment (p. 6).

Markedly, Viac and Fraser's (2020) description of teacher occupational wellbeing embraces the three basic psychological needs of autonomy, competence and relatedness, considering eudemonic wellbeing (Ryan & Deci, 2000). It echoes the current research study's overarching focus, emphasising occupational wellbeing for teachers in a work environment. Therefore, this study adopts Viac and Fraser's (2020) occupational definition to investigate teacher wellbeing. The following section discusses the challenges of reflecting teacher wellbeing from the eudemonic wellbeing perspective.

2.5 Challenges to teacher wellbeing

Current research outlines many factors hampering teacher wellbeing, such as excessive workload, emotional demands, lack of autonomy, limited career progression and poor professional recognition (Heffernan et al., 2019, 2022; McCallum, 2020; Patil, 2023; Turner & Lemon, 2024). Heffernan et al. (2022) document worsening public perceptions about the profession in Australia, notably negative portrayals of teachers in the media. For example, one participating teacher in their study commented: "The public perception of teaching is often extremely negative and the media portrayal of teachers and teaching as a profession, often leaves me feeling quite despondent about my chosen career" (Heffernan et al., 2022, p. 204).

As stated in Chapter 1, teachers' workload and professional recognition have ranked as the top two challenges for influencing teachers' intentions to leave the profession in Australia, according to the ATWD in 2023. A greater understanding of how workload and professional recognition impact teacher wellbeing is crucial. Developing an informed understanding can robustly identify factors to enhance teacher wellbeing and consolidate the knowledge gap for this research study.

2.5.1 Workload

Increased teacher workload, such as inefficient data management (Brady & Wilson, 2021) and excessive administrative tasks (McCallum, 2020), prevent teachers from effectively managing professional demands. These demands have increased teachers' stress and burnout for reduced teacher wellbeing, including workload-related stress from constantly performing to satisfy standardised measures (Sullivan et al., 2021). It is vital to reduce unproductive tasks for teachers to allow them sufficient time and energy to refine and adjust to new pedagogical deliveries rather than creating stress (Burger et al., 2021).

Various cross-disciplinary studies agree that teacher capacity leads to effective emotional regulation strategies, which could reduce stress related to intense workload to some degree. Increased teacher capacity can help teachers develop specific strategies to recognise and manage emotions, which regulates their emotions in daily work to achieve more desirable working satisfaction (Virtanen et al., 2020). For example, Lee et al. (2023) identify positive associations between teacher capacity and self-preservation strategies. Improved self-preservation strategies may help reduce the overall level of stress associated with professional demands. Aldrup et al. (2018) assert the need to improve emotional competence to deal with emotional exhaustion by investigating teacher–student interactions and students' perceptions of behavioural problems. The above studies ascertain teachers' capacity for developing effective emotion regulation strategies for managing professional demands.

The OECD Future Education 2030 recently predicted teachers would deliver self-directed learning in the "non-linear, dynamic model" as stated (OECD, 2019, p. 13). Similarly, McCallum's research (2020) predicts that "teachers will most likely spend less time grading (down from 5 h in 2006 to 1 h in 2030) and more time facilitating self-directed learning (4 h in 2006 increasing to 14 h in 2030)" (p. 20). Future educational demands may place more challenges on teachers when adapting to new pedagogical deliveries and improving the effectiveness of such practices. As indicated, educational demands continuously challenge teacher wellbeing due to increased teaching accountabilities and high academic expectations. An array of educational research studies suggests that a higher level of teacher capacity positively impacts increasing effectiveness. For example, teachers who develop teacher efficacy tend to manage change from educational demands (Lee et al., 2020), make decisions on their professional development that can grow teaching capabilities to reduce professional burnout (Keller-Schneider, 2021), and create a more favourable instructional environment by adopting personalised teaching strategies (Daumiller et al., 2021; Lauermann & Berger, 2021).

Therefore, this research study has identified high levels of teaching capacity commonly negatively associated with teacher stress and burnout. It is beneficial to explore further how to improve teaching capacity to enhance teaching productivity for greater teacher wellbeing.

2.5.2 Lack of professional recognition

There has been growing concern for poor professional recognition, which contributes to teacher attrition in Australia (Heffernan et al., 2019, 2022; Mockler, 2022; Patil, 2023; Turner & Lemon, 2024). For example, 68% of the teachers who intend to leave the profession have selected a broader category of issues relating to "reward and recognition", according to the ATWD Teacher Workforce Report (Education Services Australia, 2021, p. 109). Mockler (2022) suggests the issue of quality, which refers to teacher quality, as one of the public's most prominent concerns about teachers in social media contexts in Australia. Sullivan et al. (2021)

argue that the measures of teacher quality—particularly policies, processes and assessments for early-career teachers' performance—have placed great stress on their wellbeing. Instead, appropriate appraisal systems should be embedded to sustain teaching motivation to retain quality teachers. For example, the Australian government has initiated a national campaign to promote the teaching profession's status (O'Neil, 2022). The campaign aims to highlight the meaningful work done by teachers, hopefully as a means of acknowledging teachers' professional expertise not only for improving students' academic results but also for fostering the development of students' social-emotional capabilities.

Further, it is necessary to uplift teachers' perceived professional recognition within school communities. McCallum (2022) claims that leadership are "duty-bound to be involved in the wellbeing of the teaching profession" (p. 121). If school leadership encourages teachers' voice and agentic involvement by embracing individuals' expertise and acknowledging their efforts, it may increase teachers' perceived professional recognition from their leaders. Similarly, Nwoko et al. (2023) suggest school leadership can cultivate teachers' teaching motivation and professional recognition by creating positive work environments in which teachers gain a sense of empowerment. Thus, a respectful collegial environment may positively impact teachers' professional recognition to foster enthusiasm and teaching motivation. For example, teachers may feel valued and respected when experiencing positive acknowledgement in exchanging practice (Vähäsantanen et al., 2020). Mommers et al. (2021) argue that teachers tend to gain a sense of success and sustained teaching motivation when they collaborate with their colleagues to develop new curricula and practices. These collegial interactions can provide teachers with a sense of authentic acknowledgement from their peers, resulting in elevated professional recognition for sustaining teaching motivation.

Hence, this research study has spotted that positive social relationships between teachers, colleagues and leadership may elevate teachers' perceived professional recognition for

sustained teaching motivation. It is helpful to examine further how to enhance teachers' perceived professional recognition to bolster teaching motivation.

2.6 Factors in advancing teacher wellbeing

Teachers may attain more teaching productivity and effective practice for managing intense workloads and growing positive perceptions of professional recognition through enhanced teaching capacity and sustained teaching motivation. As already discussed, this research study adopts Viac and Fraser's (2020) occupational definition of teacher wellbeing to explore how teachers may be motivated to teach and improve their teaching capacity to function well to achieve work-related wellbeing. This research study synthesises four key occupational factors for advancing teacher wellbeing: teacher efficacy (Han et al., 2020; Zee & Koomen, 2016), teacher resilience (Li et al., 2019; Sappa & Barabasch, 2020), student–teacher relationships (García-Moya, 2020; Roorda & Koomen, 2021) and teacher empowerment (Gouëdard et al., 2020; Tay et al., 2022). This section discusses the four factors in advancing teacher wellbeing with an occupational emphasis.

2.6.1 Teacher efficacy

A mixed-methods study by Vo et al. (2024) employed a three-phase analysis to define teacher wellbeing and identify important components in an Australian context. Their study generated wellbeing features (n = 138) in Phase 1, identified central wellbeing components (n = 438) in Phase 2, and confirmed recognition of central components (n = 418) in Phase 3. The results identify a central component of teacher wellbeing, specifically "thriving" (Vo et al., 2024, p. 3), as feeling capable and having the ability to cope, as mentioned by Australian teachers. Notably, the study reveals the strong need for teachers to achieve work-life balance, highlighting teachers' need to balance the demands of work and family.

The current research study adopts teacher efficacy to discover teachers' needs for teaching well, which may contribute to improved abilities to pursue work-life balance for better wellbeing. This study engages Tschannen-Moran et al.'s (1998) seminal interpretations of teacher efficacy to explore the relationships between teacher efficacy and teacher wellbeing.

2.6.1.1 Defining teacher efficacy

Tschannen-Moran et al. (1998) proposed the definition of teacher efficacy inspired by Bandura's (1977) ground-breaking research on "self-efficacy". Bandura (1977) claimed that the expectations of personal efficacy determined whether coping behaviours were initiated and how much effort was expended. Tschannen-Moran et al. (1998) define teacher efficacy as teachers' perceptions about their own abilities to assist students' learning and yield positive learning outcomes. Therefore, teachers' ability to enable students to pay attention, focus on tasks, seek help as needed and apply relevant strategies to tasks are essential for establishing teacher efficacy.

2.6.1.2 Teacher efficacy and teacher wellbeing

Teachers' beliefs based on their personal and professional experiences affect teacher efficacy (Zee & Koomen, 2016). According to international research on teacher wellbeing, teacher efficacy positively impacts strengthening teacher wellbeing (Daumiller et al., 2021; Herman et al., 2018; Oberg et al., 2024; Pan, 2023; Zhang et al., 2023). Teacher efficacy ensures improvement in effective teaching practice (An & Tao, 2024; Billett et al., 2023) and enables teachers to gain personal resources to buffer against increasing job demands (Castro Silva et al., 2024; Keller-Schneider, 2021). The next sections discuss teacher efficacy for developing engagement in the teaching profession, motivating teaching approaches and effectiveness in professional collaborations in relation to teacher wellbeing.

2.6.1.3 Engagement in teaching

Teacher efficacy plays an essential role in engagement in the teaching profession to sustain teacher wellbeing and equip teachers in the face of increased accountabilities for educational demands (Oberg et al., 2024). Oberg et al. (2024) found that teachers with higher perceived efficacy are less likely to burn out, reducing the risk of emotional exhaustion and disengagement. Mixed studies are situated in developed and developing educational contexts to examine the mediating role of teacher efficacy between engagement in the teaching profession and teacher wellbeing.

An and Tao (2024) explored the relationship between teacher efficacy and work-related wellbeing for preventing burnout in Chinese teachers. Their results reinforce that teacher efficacy is positively associated with career proficiency and work engagement, which makes teachers less prone to burnout. Similarly, Ortan et al. (2021) found that teachers who display a high level of efficacy experienced increased self-worth and a feeling of belonging by receiving parents' preferences, accessing promotion opportunities, and establishing positive career encounters. Likewise, Aguirre-Muñoz et al. (2024) argue that high levels of efficacy may contribute to the effectiveness and efficiency of bilingual teaching programs. As indicated, teachers with a high level of efficacy in teaching instructions, class management, curriculum preparations and deliveries, and administrative tasks may reduce workload-related burnout, resulting in stronger feelings of self-worth and enhanced teacher wellbeing.

Du Plessis and McDonagh (2021) applied purposive sampling to explore the relationship between teacher efficacy (n = 48) and their wellbeing in Australia. The study was situated in an out-of-field teaching context where teachers were assigned to teaching positions for which they were not suitably trained or qualified. Their findings suggest an increase in negative dispositions of self-critique when teachers receive inadequate support to teach in out-of-field contexts, resulting in compromised teacher efficacy (Du Plessis & McDonagh, 2021). Billett

et al. (2023) identified the negative impact of COVID-19 on teacher efficacy when shifting to online teaching. Nearly three-quarters of participating teachers across Australia (n = 534) reported experiencing high levels of stress due to online teaching, which resulted in reduced self-efficacy. These results indicate close associations between engagement in the teaching profession and compromised or reduced teacher efficacy. Thus, understanding the relationships between reduced teacher efficacy and insufficiency in teaching instructions and content deliveries may assist teachers in preserving their wellbeing when confronted with anxiety and discouragement.

2.6.1.4 Autonomy-support teaching strategies

Brady and Wilson (2021) assert that teaching strategies are strongly associated with teacher stress and burnout, which negatively impacts teacher wellbeing. For instance, "self-efficacious teachers were less vulnerable", even if they faced problematic behaviours (Zee & Koomen, 2016, p. 1,008). Teacher efficacy is a strong factor in conducting effective classroom management—such as autonomy-support structure and autonomy-support chaos styles—in relation to teacher burnout (Aelterman et al., 2019) and professional commitment (Burger et al., 2021).

Aelterman et al. (2019) and Aguirre-Muñoz et al. (2024) discovered teacher efficacy in motivating and demotivating teaching styles concerning teacher burnout and student motivation. For example, teachers (n = 1,332) believed that autonomy-support teaching styles were beneficial for sustaining students' engagement in learning (Aelterman et al., 2019). The research found that teacher efficacy in autonomy-support structure and autonomy-support chaos teaching styles is relative to meeting students' basic psychological needs: teachers prevent control and chaos, allowing students to take the lead. Similarly, Burger et al. (2021) assessed Spanish (n = 842) pre-service teachers' efficacy in motivating teaching styles; that is, autonomy-support structure approaches and autonomy-support control approaches concerning

teacher professional commitment. Their findings suggest that competence as a mediating role may predict teachers' efficacy in motivating teaching styles and establish a prominent level of commitment to the teaching profession.

Teachers stated the need to improve teacher efficacy in structure and chaos to determine the effectiveness of motivating teaching style and teachers' confidence in delivering such teaching approaches (Aelterman et al., 2019). For example, pre-service teachers revealed concern over competence in the autonomy-support structure approach regarding their teacher efficacy (Burger et al., 2021), while English as foreign language teachers in a Chinese context reported some levels of uncertainty on their academic buoyancy for engaging students in learning (Zhi et al., 2024). Therefore, it is essential to address teachers' anxiety related to conducting motivating teaching styles when teachers pursue such beneficial approaches. Enhanced efficacy in an autonomy-supportive teaching style may assist teachers' proficiency in maintaining students' motivation and effective classroom management, which may reduce teacher burnout and achieve professional commitment.

2.6.1.5 Quality professional collaborations

Challenges from increased professional initiatives and the constant introduction of new practices and assessments impede teacher wellbeing (Brady & Wilson, 2021). Teacher efficacy may promote professional collaborations and prepare teachers to manage increased educational demands. Teacher efficacy positively influences the development of effective professional collaborations, such as promoting mentorship (Liang et al., 2020), establishing effective professional development (Steyn, 2017) and applying new teaching practices (Heffernan et al., 2019). Several studies examine how teacher efficacy may enhance professional collaborations to maintain teacher wellbeing. Teacher efficacy may support mutual help and mentorship. For example, as a job resource, teacher efficacy was found to promote mentorship from leading teachers and school leadership with higher confidence in their own abilities to others in an

Eastern school setting (Ke et al., 2019; Liang et al., 2020; Rosales et al., 2024). It echoes improving teacher efficacy through teacher collaborations for inquiry-based approaches and being reflective in PLC in the Western school setting (Owen, 2016; Steyn, 2017). Thus, there are benefits to improving teacher efficacy through effective collaborations, such as positively changing their beliefs and continuous participation.

Yet, teachers display a strong belief in achieving effectiveness in teacher efficacy, such as introducing fewer latest programs, practices or initiatives simultaneously (Heffernan et al., 2019). Such approaches may assist teachers in consolidating their practice with their colleagues and developing effectiveness school-wide through consistent collaborations (Heffernan et al., 2019). Authenticity and trust in a group norm may achieve effectiveness in professional collaborations for cultivating teacher efficacy. Vo et al. (2024) identified trust and feeling valued and respected as central elements of teacher wellbeing. Therefore, an expanded understanding of social interactions with trust and authenticity between teachers and colleagues may enable enhanced teacher efficacy through professional collaborations.

Teacher efficacy plays a key role in assisting engagement in the teaching profession, performing motivating teaching styles to sustain effective classroom management, and encouraging mutual help between teachers and colleagues through professional collaborations. Nevertheless, sustaining teacher motivation to enhance teacher efficacy may help teachers who face discouragement from content delivery insufficiencies and anxiety related to conducting motivating teaching styles.

2.6.2 Teacher resilience

This research study employs teacher resilience to explore their needs to develop cognitive and physiological capabilities for managing behaviours and emotions.

2.6.2.1 Defining teacher resilience

Teacher resilience has gained increasing attention for its role in enhancing teacher wellbeing over the past 20 years (Hascher et al., 2021; Li & Lv, 2022; Mansfield, 2020). In the early 2000s, Sammons et al. (2007) introduced teacher resilience as "the capacity to continue to bounce back" (p. 694) when facing challenges and adversities. Ungar's (2011) research addresses the salience of contextual and cultural influences; that is, to explore how individuals interact with "characteristics of the individual's environment" (p. 1) to develop their resilience. Social relationships may shape teacher resilience. For example, enhanced relationships with colleagues and students help develop teacher resilience in managing various challenges (Downes, 2017). The key processes of building teacher resilience are the individuals' capacity to navigate their way to sustain their wellbeing, and their ability to negotiate for these resources considering contextual and cultural perspectives.

2.6.2.2 Teacher resilience and teacher wellbeing

When teachers experience stress and adversity, it can lead to a reduced sense of wellbeing (Bertieaux et al., 2024; Mansfield et al., 2020). Teacher resilience assists teachers' professional commitment, retention and wellbeing (Hascher et al., 2021; Huang et al., 2024). Teacher resilience may help achieve teacher wellbeing considering both individual characteristics and collective contextual situations. Teacher resilience influences teacher practice and approaches to dealing with demanding work conditions (Huang et al., 2024; Sappa & Barabasch, 2020), social support through professional connections (Gratacós et al., 2021; Park et al., 2020) and finding meaning in the teaching profession (Day, 2019; Wingerden & Poell, 2019). For instance, teacher resilience ensures the positive impact of teachers' collaborations in the working community for enhanced occupational wellbeing (Park et al., 2020), and teacher resilience mediates between positive relationships and positive adaptation for teacher wellbeing (Sappa & Barabasch, 2020). The next sections discuss teacher resilience with respect

to contextual influences—teachers' social support and emotional competence—to enhance individuals' social-emotional resources and sustain teacher wellbeing.

2.6.2.3 Teachers' social support

Hascher et al. (2021) consider teacher wellbeing and resilience through an integrative model and posit a maintenance relationship between teacher resilience and wellbeing. The authors present the resilience process as a critical factor for restoring or developing wellbeing in teaching contexts. Specifically, enabling positive adaptivity, balancing demands and resources, and developing strategies for overcoming challenges are flagged as possible effects of teacher resilience on teacher wellbeing (Bertieaux et al., 2024; Hascher et al., 2021). For example, Li et al. (2019) and Huang et al. (2024) examine the associations between teacher resilience and positive work conditions. They find that teachers with a strong commitment to work and social support within their schools display greater resilience in managing challenging circumstances, such as the pressure of students' academic improvement and professional performance. Strong commitment to work and support within their schools may positively impact teacher resilience; however, there is no profound examination of establishing strong commitment and connectedness to the teaching profession (Huang et al., 2024).

Collegial interactions may improve teacher resilience for better teacher wellbeing. Sappa and Barabasch (2020) conducted a resilience-building intervention with 230 teachers to investigate and generate active coping strategies for improving resilience against interpersonal conflicts. Their findings confirm the positive impact of techniques on initiative-taking participation, critical awareness and activated reflectivity to enhance teacher resilience in relational conflicts. Nevertheless, there is no thorough explanation of the psychological capacity of teachers to retrieve and apply active coping strategies in the face of interpersonal conflicts. Further, Li et al. (2019) advise that trust in colleagues serves as a strong indicator for cultivating teacher resilience in challenging situations, such as supporting each other by exchanging ideas about

heavy workloads and coordinating their practice for long working hours. Hence, active coping strategies and relational trust with colleagues may positively impact improved resilience, whereas they may negatively relate to interpersonal conflicts.

Resilience may come from a sense of feeling supported. As a workplace resource, social support buffers against negative situations and promotes positive approaches to managing work-related issues at schools (Huang et al., 2024; Lam, 2019). For instance, Park et al. (2020) discovered a positive correlation between social support and teacher resilience in South Korea (n = 466). The results indicate that praise, advice, counselling and respect from leadership and fellow teachers significantly positively impact teachers' emotions, particularly in controlling their own emotions and understanding others' emotions in social interactions. Still, there is little explanation of how emotional functions may improve emotion management through social support.

Social support may function as a determining factor for improving adaptative skills to sustain teacher resilience. A deeper understanding of emotional functions in teacher resilience, which may strengthen professional and personal strategies in the face of adversities and managing emotions, is needed.

2.6.2.4 Teachers' emotional competence

Teachers with higher emotional competence tend to recognise and manage negative emotional encounters (Cui, 2022; Ma et al., 2023). Mansfield et al. (2020) suggest self-regulation as one key process to develop teacher resilience. Teachers should focus on developing qualities in chosen behaviours that could increase resilience in their emotional competence. For instance, McGrath and Van Bergen (2019) highlight the role of teachers' emotional competence in reducing student aggression and improving behaviour in a primary school setting in Australia. Specifically, teachers demonstrated emotional competence by expressing their awareness of

their own positive and negative emotions when engaging with students and maintaining closeness with students (McGrath & Van Bergen, 2019). Similarly, Aldrup et al. (2018) found that enhanced teacher emotional competence helped teachers (n = 222) comprehend and manage students' emotions. These studies illustrate complex student–teacher relationships and imply that the chosen quality of emotional competence may be central to combating increased emotional exhaustion and reduced work enthusiasm. Teachers who perceive students' disruptive behaviours due to developmental, temperamental or ecological factors reported a higher likelihood of establishing closeness with those students (McGrath & Van Bergen, 2019). Conversely, teachers who reported higher work-related stress and emotional exhaustion were observed with a lower quality of emotional competence (Chan et al., 2024).

Further, Carroll et al. (2022c) call for teachers to develop higher levels of emotional competence, particularly emotion regulation, as a matter of urgency. The authors claimed that effective teachers must manage various cognitive demands, including recognising their own emotions and students' emotional needs in a dynamic school environment. Their study recommends quality stress-reduction strategies, such as mindfulness meditation or exercise, to enhance teachers' stress and wellbeing meaningfully. For example, it identified greater improvement in the sustained attention task in the Mindfulness-Based Stress Reduction program (MBSR) for managing teachers' perceived stress against another intervention (Carroll et al., 2022c). The overall results strongly indicate that a quality intervention program for stress-reduction strategies can be highly beneficial for teachers to reduce work-related stress and improve emotion regulation abilities.

Teacher resilience is crucial to enhancing teachers' practices in the face of work demands and establishing professional connections through social support. Thus, initiating proactive help-seeking, practising assertive communication during social interactions, demonstrating emotional regulations and developing mindfulness practice may improve teacher resilience.

2.6.3 Student–teacher relationships

Australian teachers consider social components—such as feeling trusted, safe, supported and valued—central to their wellbeing (Vo et al., 2024). For example, "feeling safe" was ranked as important by participants in both frequency (Phase 1) and centrality (Phase 2) in Vo et al.'s (2024) study. These findings draw attention to the increasingly negative attitudes and behaviours shown by students and parents that made teachers feel unsafe. Similarly, Allen et al. (2021) highlight the value of positive student–teacher communications, while Martin and Evans (2021) suggest student-centred instructional practice for achieving positive learning experiences.

The current study adopts the social feature of wellbeing, student–teacher relationships, to explore teachers' social needs in relation to their wellbeing. This research study employs Spilt et al.'s (2011) influential dyadic model of the student–teacher relationship. This model is based on Pianta's (1999) seminal work on student–teacher relationships and SDT (Ryan & Deci, 2000). Thus, this study applies the dyadic model of student–teacher relationships to explore how they shape teacher wellbeing.

2.6.3.1 Definitions of student–teacher relationships

Since the 1990s, student–teacher relationships have become a prominent component of educational psychology (Pianta, 1999; Spilt et al., 2011). Pianta's (1999) work characterised the student–teacher relationship as having three aspects: closeness, conflict and dependency. These aspects explain teachers' own feelings about their worth, teacher efficacy and their behaviours towards the child during student–teacher interactions in the classroom (Pianta, 1999). Pianta's three aspects of the student–teacher relationships contribute to shaping the quality of learning experiences for students and the productivity of teaching experiences for teachers across international research (Dever et al., 2022; McGrath & Van Bergen, 2019; Pedditzi et al., 2021; Zheng, 2022).

Spilt et al.'s (2011) dyadic model draws on attachment theory and SDT. A substantial body of educational research on student–teacher relationships implements this model to measure teachers' perceptions of closeness, conflict and dependency with individual students. For example, various studies examine the degree of warmth and positive affect (McGrath & Van Bergen, 2019), the degree of negativity and conflict (Roorda & Koomen, 2021), and the degree of clinginess and lack of independence (de Ruiter et al., 2021) between the teacher and a student.

2.6.3.2 Student–teacher relationships and teacher wellbeing

Since the early 2000s, increasing research has addressed the vital role of student–teacher relationships in teachers' professional wellbeing (Koomen et al., 2006; Van Petegem et al., 2005). For instance, teachers with greater interpersonal skills and positive perceptions of student–teacher relationships reported higher enjoyment in teacher wellbeing (Van Petegem et al., 2005). Further, a source of teachers' motivation may enhance student–teacher relationships for better teacher wellbeing. Markedly, Spilt et al. (2011) employed "self-determination theory of motivation and the attachment paradigm" (p. 462) to establish the model of student–teacher relationships in relation to teacher wellbeing. This model emphasises the roles of autonomy, connectedness and competence from SDT in enhancing student–teacher relationships for teacher wellbeing.

Recently, a qualitative study by Haldimann et al. (2023) asserted the quality of student–teacher relationships may enable teaching productivity and contribute to advanced teacher wellbeing. Aldrup et al. (2018) found that student–teacher relationships played a significant role in mediating teacher competence and teacher wellbeing. Wang et al. (2024) reported a negative association between positive student–teacher relationships and emotional exhaustion; that is, teachers who were motivated by strong connectedness with students displayed a positive association with emotional joy and a negative association with anxiety.

García-Moya (2020) synthesised various approaches, including the contributions of attachment theory, parenting style theory, SDT, social support models and informal or natural mentoring approaches to foster the quality of student–teacher relationships for better teacher wellbeing. Thus, student–teacher relationships may be essential for attaining positive educational experiences. The next sections discuss teachers' classroom management, social interactions and meaningful work in supporting students' emotional, social and academic needs to foster positive student–teacher relationships.

2.6.3.3 Effective classroom management

García-Moya (2020) summarised that control and care factors were the main associations between classroom management and student–teacher relationships. Some teachers adopt a more caring approach, whereas others operate a more controlling approach to classroom management (García-Moya, 2020). Similarly, Zheng (2022) stated that young learners' dependence on teachers contributes to one of the most significant characteristics of the educator–student rapport. Educators, particularly those working with young children, tend to practise suitable behaviours and adjust instructional engagement in classroom management to support children's development in independence. Balancing dependence and independence in student–teacher relationships may enable learners to be more confident and proactive—factors associated with higher educational performance (Zheng, 2022). Caring approaches may yield warmth and safety in educator–learner interactions through classroom management.

For Saavedra (2021), student–teacher relationships in classroom management assist in fulfilling academic goals and learning expectations. Academic achievements and expectations influence student–teacher relationships. For example, positive and caring approaches may contribute to reciprocal "good feelings", such as praise and validation from students' academic engagement (Saavedra, 2021, p. 137). Again, caring approaches demonstrate their effectiveness in classroom management, particularly in early schooling with a care emphasis

and later schooling with an academic performance emphasis. Therefore, ongoing professional development in classroom management helps establish quality student–teacher relationships to nurture teacher occupational wellbeing.

2.6.3.4 Quality social interactions

Teachers play an important role in modelling emotional and social skills for students (Carroll et al., 2022c). It is critical that teachers develop emotion regulation skills and model these skills to their students. Challenges with the student–teacher relationships occurred during the COVID-19 pandemic due to a lack of social interactions between students and teachers (McCallum, 2021; Pöysä et al., 2021; Vagos & Carvalhais, 2022). For example, Vagos and Carvalhais (2022) investigated teachers' (n = 47) and students' (n = 56) perceptions of the student–teacher relationship in online teaching during the COVID-19 pandemic. Their results confirmed positive associations between teaching modalities and student–teacher relationships across closeness, psychological wellbeing and social stimuli. As suggested, teachers intended to use a caring approach to sustain social interactions via online teaching modalities. However, Vagos and Carvalhais (2022) specified that online teaching was an impersonal experience for students due to the absence of social interactions during the COVID-19 pandemic. Teachers apply different caring approaches to pursue higher educational outcomes; however, there is a need for further discussions on how to enhance the implementation of caring approaches despite teaching modalities for developing dependency and closeness in student–teacher relationships.

In the meantime, McCallum et al. (2017) argue that the expectations on teachers to manage difficult students' behaviours hamper teacher wellbeing. A study by García-Moya (2020) found that teachers tend to retain a more controlling teaching style and protect the hierarchical nature in more challenging behaviour situations. Similarly, surface acting from teachers appeared in

cases of more conflict relationships with students, which negatively impacted teacher wellbeing (de Ruiter et al., 2021).

Collie and Martin (2023) explored teachers' relatedness with students in relation to their wellbeing. Here, teachers' relatedness with students refers to teachers' sense of connection with their students, in which they have mutually respectful and positive interactions. The findings indicated teachers' higher initial levels of relatedness with students predicting steeper declines in subjective vitality and professional growth. For example, teachers who declined steeply in relatedness also declined steeply on each of the three wellbeing factors of subjective vitality, behavioural engagement, and professional growth (Collie & Martin, 2023). The authors suggest that as relatedness declines over time, teachers feel less connected to their students, which negatively impacts their energy and engagement at work, resulting in compromised wellbeing.

These studies highlight the importance of social interactions to foster closeness in student–teacher relationships to avoid reduced teacher wellbeing in challenging behaviour situations. So, there is a need for discussions on how teachers determine the specific disruptive behaviours of the particular student and decide on their application of interpersonal skills to manage disruptive behaviours in classroom management.

Student–teacher relationships may be vital to fostering teacher occupational wellbeing. Positive student–teacher relationships enable effective classroom management to meet students' emotional, social and academic needs. It allows teachers to achieve professional satisfaction and helps them develop emotional competence for managing challenging situations. Thus, activating teacher motivation to use interpersonal skills to manage disruptive behaviours and reduce stress caused by conflicting student–teacher relationships may improve teachers' social functions.

2.6.4 Teacher empowerment

A study by Collie (2023b) examined 426 Australian school teachers' job resources—including autonomy-supportive leadership, relatedness with colleagues and relatedness with students—in relation to teacher wellbeing, considering subjective vitality, behavioural engagement and professional growth. Their study adopted job demands-resources theory to explore the job resources of teachers' functioning in managing job demands via teaching factors. It reinforces the importance of job resources for teachers and highlights two factors, including teachers' self-initiative and self-empowerment, in cultivating teachers' sense of trust and agency (Collie, 2023b).

Reflecting on the social factor, the current research study employs teacher empowerment to explore teachers' social needs in relation to their wellbeing. Teacher empowerment refers to teachers' involvement in decision-making, participation in professional development and opportunities for leadership roles (Gouëdard et al., 2020; Runhaar et al., 2019; Tsang et al., 2022). This study uses three behaviours of teacher empowerment to explore its relationship to teacher occupational wellbeing based on Spreitzer's (1995) original study.

2.6.4.1 Teacher empowerment definitions

Spreitzer (1995) focused on teachers' psychological empowerment and recommended four psychological cognitions with an SDT emphasis: meaning, competence, autonomy and impact. Currently, the various behaviours of teacher empowerment are involvement in decision-making during school reform to strengthen trust (Atik & Çelik, 2020), encouraging teachers to participate in professional development to increase teacher efficacy (Somech, 2016), and promoting leadership trust in teachers to enhance organisational commitment (Kõiv et al., 2019).

This definition underlines three behaviours of teacher empowerment: decision-making for their professional goals, engaging in professional development and bearing teacher leadership responsibilities. The following sections explore these three behaviours in shaping teachers' psychological cognitions in relation to teacher occupational wellbeing.

2.6.4.2 Teacher empowerment and teacher wellbeing

Teacher empowerment demonstrates effectiveness in cultivating teacher wellbeing through inclusive decision-making for encouraging teachers' ownership (Tay, 2021), professional development for fulfilling increased accountability (Collie et al., 2020b), and promoting teacher leadership to celebrate strengths (Cann et al., 2021).

McCallum et al. (2017) argue that one common educational stressor hindering teacher occupational wellbeing in the school environment is "the exclusion of teachers from policymaking procedures" (p. 178). Encouraging teacher involvement in decision-making may determine the achievement of teachers' professional goals for ensuring school improvement, educational outcomes and professional wellbeing. For instance, Collie et al. (2020b) affirm the salience of continuous and relevant professional development in sustaining teacher occupational wellbeing. Similarly, Schleicher (2018) advocates teacher leadership across worldwide education systems to build effectiveness in school improvement and education reform. These studies address the key role teachers with leadership responsibilities and tasks may play in initiating new practices and school improvement strategies. Professional development situated in individual and group contexts may facilitate teachers' professional growth and capabilities in implementing new practices of measurements and assessments. Thus, teacher empowerment may allow teachers to exercise decision-making for their professional goals, participate in professional development, and demonstrate teacher leadership to sustain teacher wellbeing.

2.6.4.3 Participating in decision-making

Inviting teachers' input and decision-making to develop a collective voice positively influences teachers' professional wellbeing and organisational commitment (Dou et al., 2016). For example, the collective voice of teachers significantly impacts school improvement and decision-making processes, such as changes in school structures and innovation in curriculum and practice (Gozali et al., 2017). Thomson and Riddle (2019) similarly champion more teachers' collective voice and effectiveness in the policymaking and reform process. These studies support the idea that creating a collective voice among teachers may be an effective approach to encourage teachers' initiation and participation in educational changes and reform. Moreover, Runhaar et al. (2019) assert the necessity to consider individuals' needs when encouraging teachers' participation in decision-making. Their findings explain positive associations between teachers' occupational self-efficacy and individualised goal orientation during the decision-making process. By engaging teachers' decision-making towards their individualised professional goals, teachers may develop higher occupational self-efficacy due to receiving support from their direct leadership during such decision-making processes. So, including teachers in decision-making may encourage their ownership of professional goals and accountability for individualised improvement.

Nevertheless, the effectiveness of involving teachers in the decision-making process remains debated. For example, Heffernan et al. (2019) presented a message from Australian teachers (n = 2,444) who advocated for improved effectiveness in the decision-making process; that is, "position teacher voice more clearly in decision-making" (p. 14). The decentralisation of decision-making from education officials to school-based management and teachers created extra demands on teachers when exercising their power in decision-making in Hong Kong (Wu et al., 2017). Similarly, Huang et al. (2024) found that making critical decisions at work to meet high cognitive demands was not beneficial for teachers. Notably, given excessive autonomy,

teachers may feel a lack of guidance and direction, resulting in cognitive burden (Huang et al., 2024).

When teachers cannot deal with challenges introduced by the decentralisation of decision-making, it may disempower and overwhelm them. Thus, preparing teachers for increased capabilities may facilitate an effective decision-making process and achieve both collective and individualised professional goals for enhanced teacher occupational wellbeing.

2.6.4.4 Professional development

Teacher professional development strengthens teacher efficacy, improves teaching practices and encourages teachers' confidence in attaining desired educational outcomes (Collie, 2023a). A study by Ke et al. (2019) discovered that the task factor and school factor primarily determine the effectiveness of teachers' participation in professional development. For instance, regular activities—such as workshops, conferences, observational visits to other schools, professional networks and individual or collaborative research in teaching practice—provide teachers with opportunities to access professional development in the TALIS 2018 report (OECD, 2019). Continuous and relevant professional development may assist in implementing new practices of measurements and assessments. A balance between the pressure of work and leadership support may sustain ongoing professional development.

Moreover, PLCs may help teachers consolidate new practices and develop their effectiveness for continuous professional development. For example, teachers can provide feedback on instructional strengths and weaknesses of the latest programs or practices and encourage persistence in implementing them (Pan, 2023). Trust relationships among teachers and colleagues may facilitate professional development, such as enabling effective professional development (van der Want et al., 2019) and allowing positive changes in teachers' beliefs and practices (Cai et al., 2022). These studies confirm that teachers benefit from professional

development with a sense of authenticity and positive interactions with colleagues in PLCs. Further, Darling-Hammond et al. (2017) synthesise the importance of meaningful relationships in professional development for enhancing professional identity regarding individuals' growth, and Kalkan (2016) verifies that meaningful relationships among teachers in PLCs directly mediate a sense of authenticity and purpose. Therefore, the sense of authenticity and purpose of professional development may cultivate teacher wellbeing in individual and PLC contexts.

2.6.4.5 Encouraging teacher leadership

Teacher leadership may foster school improvement and educational reform ownership (Bryant & Rao, 2019; Cann et al., 2021). Teacher leaders effectively contribute to school improvement by sharing expertise with colleagues, participating in the decision-making process in school improvement, and networking with stakeholders beyond the school (Çoban et al., 2023). For example, Wu (2024) suggests offering teacher leadership training programs to potential teachers to foster their leadership abilities through clearer evaluation indicators and methods. These programs could empower teachers to develop multi-dimensional leadership capacity by engaging external factors and developing practical administrative skills. Thus, teacher leadership may nurture the ownership of school improvement and educational reform as an effective teacher-empowering behaviour.

Teacher leaders can model certain professional dispositions of decision-making, such as willingness to share their resources with colleagues, participate in changes and collaborate in teams (Tay, 2021). Promoting teachers' engagement in decision-making may allow teachers to attain professional goals, contributing to school improvement and educational outcomes. Opportunities in professional development may enable teachers to expand their teaching capabilities to meet new standards and accountabilities.

In conclusion, four factors that play a key role in enhancing teacher wellbeing are teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment. These factors scaffold the process of identifying a knowledge gap and shaping the formation of a theoretical framework for this research study, as revealed in the next chapter.

2.7 Summary

An eudemonic perspective has been adopted to define teacher wellbeing with an emphasis on occupational needs. Occupational factors, including teacher efficacy, student–teacher relationships, teacher resilience and teacher empowerment, are essential for advancing teacher wellbeing. The current literature demonstrates a close relationship between teachers' motivation and their occupational needs. The current research study contributes to the knowledge gap by holistically examining the relationship between teachers' motivation and occupational needs to enhance teacher wellbeing.

Chapter 3: Theoretical Framework

3.1 Introduction

SDT (Ryan & Deci, 2000) argues that eudemonic wellbeing can be achieved by fulfilling three psychological needs: competence, autonomy and relatedness. SDT describes the motivation functions underlying the achievement of eudemonic wellbeing, which may contribute to sustaining teaching motivation and fulfil teachers' occupational needs. There is a growth for examining teacher wellbeing by considering the three basic psychological needs of SDT; it is worthy for further investigations of SDT and teacher wellbeing (Deci & Ryan, 2020). This chapter establishes an eudemonic perspective for teacher wellbeing. It explores the role of motivation by considering four motivation functions, including, self-efficacy, emotion, social relationships and agency. Following, it examines the relationships between teachers' motivation functions and occupational needs, including teacher efficacy, resilience, student-teacher relationships and teacher empowerment. This chapter concludes by developing a theoretical framework that teachers' motivation underpin by SDT may enhance their occupational capacity to sustain teacher wellbeing.

3.2 Self-determination theory

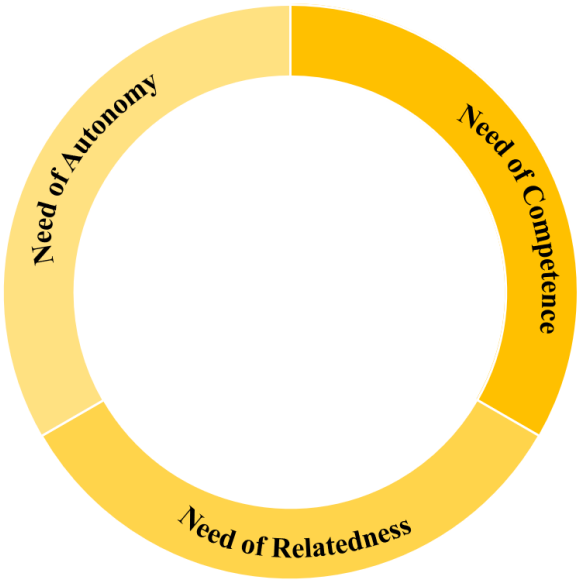
Ryan and Deci (2000) conceptualise SDT as an understanding of human motivation with a consideration: "The basic needs for competence, autonomy, and relatedness must be satisfied across the life span for an individual to experience an ongoing sense of integrity and wellbeing" (p. 74). Ryan et al. (2022) summarise mini-theories based on SDT to explore psychological needs and satisfaction with wellbeing. As discussed previously, four mini-theories are closely associated with aspects of teachers' occupational needs. First, cognitive evaluation theory focuses on the roles of autonomy and competence satisfaction. Second, relationship motivation theory underlines the close social relationships and attachments. Third, a broader theory of

wellness emerges with human flourishing for strength. Last, goal contents theory specifies life goals based on intrinsic and extrinsic aspirations.

A large body of literature from various disciplines examines the role of motivation within the framework of SDT (Elliot, 2017; Girelli et al., 2018; Khan et al., 2021; Maclellan, 2016; Sheldon & Schüler, 2015; Tamir & Millgram, 2017; Vedder-Weiss et al., 2024; Watt & Richardson, 2023). For example, studies investigate the reinforcement of behavioural patterns to achieve autonomy in organisational contexts (Howard et al., 2016), the improvement of emotional competence to achieve a higher-order desired state (Elliot, 2017), and the promotion of cognitive skills for establishing relatedness through social connections (Greenaway et al., 2016). The three basic psychological needs within SDT are competence, autonomy and relatedness, as illustrated in Figure 3.1.

Figure 3.1

Three Basic Psychological Needs of SDT



SDT argues that outcomes are determined by applying regulatory processes across these three basic psychological needs (Ryan & Deci, 2000). It also describes the relationships between

these three basic psychological needs, which may determine actions. SDT argues that motivation is key in pursuing goals and attaining basic psychological needs as individuals pursue valued outcomes through regulatory processes.

SDT (Ryan & Deci, 2000) provides a framework for three basic psychological needs: competence, autonomy and relatedness. Since early 2000, SDT has been widely utilised to explore teacher motivation (Abdulaziz Alfayez et al., 2024; Fernet et al., 2016; Jansen in de Wal et al., 2020; Poulou, 2020; Vedder-Weiss et al., 2024; Watt & Richardson, 2023) and student–teacher relationships (García-Moya, 2020; Holzer et al., 2021; Spilt et al., 2011; Zou et al., 2024) in educational research.

Various studies employ SDT to explore teacher motivation by considering the needs of autonomy and competence. For example, Collie (2023a) suggests teachers' self-determined form of motivation may involve putting effort into work because they gain satisfaction from doing so. The author specifies different motivation profiles for teachers, for example, teachers may display an identified regulation motivation profile for teaching because they value seeing students develop their skills and knowledge (Collie, 2023a). Fernet et al. (2016) investigate teacher motivation for job functioning underpinned by SDT and reveal that the need of autonomy, including the interest and satisfaction of doing the job, is an important determinant of choosing the teaching profession. As indicated, the autonomous determinants strongly impact teachers' job functioning, contributing to applying adaptive strategies in the face of challenges. Likewise, Bayly et al. (2022) suggest that the need of autonomy and teachers' levels of self-efficacy are closely related. Specifically, once teachers experience positive and supportive relationships with their leadership, they are less likely to feel burnt out and more likely to create positive change in their classroom, and they are intrinsically motivated to deliver the intervention.

Jansen in de Wal et al. (2020) and Vedder-Weiss et al. (2024) explore factors of job resources, such as transformational leadership of direct supervisors and collaborative reflective inquiry from colleagues, in relation to the psychological needs of SDT. They confirm that teachers report better performance and engagement in professional development activities when their teachers' psychological needs are met. Similarly, Power and Goodnough (2019) examine the three basic needs regarding the effectiveness of changes in the reform process. The authors suggest the key feature was fulfilling the need of autonomy, whereby teachers have the freedom to determine their own pedagogical needs and self-direct their learning.

Collie et al. (2015) investigate supportive work environments for encouraging self-determined behaviours and promoting a sense of ownership over workload. Their findings highlight the important mediating relationship between the need of competence and job satisfaction. Likewise, Hobsona and Maxwell (2017) suggest that a positive school culture can foster the need of competence by providing collegial and leadership support, which significantly help address the challenges of workload and resilience. Thus, the needs of autonomy and competence can sustain teachers' professional motivation for fulfilling educational demands.

Further, an array of studies has investigated student–teacher relationships considering the three basic psychological needs of SDT. As seminal research, Spilt et al. (2011) employed "SDT of motivation and the attachment paradigm" to establish a dyadic model of the student–teacher relationships in relation to teacher wellbeing (p. 462). This model emphasises the roles of SDT's autonomy, connectedness and competence in enhancing student–teacher relationships to improve teacher wellbeing. The dyadic model describes interpersonal relationships between students and teachers and the need for relatedness to contribute to quality teaching and desired educational outcomes. As implied, the need of relatedness can foster positive social relationships through the sense of attachment. A meta-analysis study by Maricuțoiu et al. (2023) collected and categorised various aspects of teacher wellbeing and student–teacher

relationships driven by Ryan and Deci's (2000) SDT. Their study examines teacher wellbeing variables, such as teacher self-efficacy and teacher burnout, to differentiate links to various student outcomes.

Zou et al. (2024) investigated teachers' (n = 44) and students' (n = 2,461) perceptions of the student–teacher relationships in relation to the needs of SDT. They find teachers' autonomy-supporting motivating style, positive teacher–student relationships, and negative teacher–student relationships play mediating roles between teachers' intrinsic motivation for teaching and students' intrinsic motivation for learning. Similarly, Froiland et al. (2018) and Poulou (2020) examined the need of autonomy for improving student–teacher interactions, particularly autonomy-supportive teaching styles, which enable better student engagement by practising patience, explaining deeper purposes and encouraging students' voices.

García-Moya (2020) employed SDT to examine the mediating role of the need of relatedness between student–teacher interactions and teachers' psychological satisfaction. Likewise, Jungert et al. (2016) analysed the effect of the need for autonomy, focusing on caring behaviour. As suggested, caring bonds foster teachers' need of autonomy, which can develop positive emotional and cognitive resources for teachers to help students. At the same time, caring interactions cultivate students' need of autonomy, which can promote autonomous motivation to internalise values and regulations that fit with class norms (Jungert et al., 2016). Thus, several research studies confirm that the needs of relatedness and autonomy play a significant role in fostering positive student–teacher relationships.

3.3 Motivation

In the contemporary psychology context, motivation is commonly defined as an internal feeling or state that directs an individual's behaviour to accomplish a goal (Burton, 2018; Gallard & Cartmell, 2015; Myers & DeWall, 2018; Reber, 2019). There are different motivation functions

from psychodynamic and psychosocial motives, including humanistic, cognitive, social-cognitive and behaviourism. This research study focuses on the humanistic and social-cognitive perspectives according to SDT's domains.

The social-cognitive approach to motivation is based on the joint perspectives of personal dispositions, such as beliefs and expectations, and cognitive functioning, such as information seeking and processing (Gallard & Cartmell, 2015; Reber, 2019). Bandura (1977) first proposed the social-cognitive approach to motivation, which argued that an individual's expectations and actions reflect their self-efficacy schemas which play an important role in deciding whether an individual can achieve their goals. To date, the social-cognitive approach has been widely employed across various disciplines. For example, self-efficacy has been addressed to assure goal-orientated behaviours (Dybowski et al., 2017), to provide an adequate ability to execute selected behaviours (Raven & Pels, 2021) and assist with continuous self-regulation throughout the selected process (Girelli et al., 2018). Therefore, studies have confirmed that individuals can establish self-efficacy based on prior experiences, self-regulation and reflective schemas.

Further, the humanistic approach to motivation describes individuals' quality of choices and self-realisation. This approach is strongly influenced by Maslow's hierarchy of needs (Gallard & Cartmell, 2015). Maslow's hierarchy of needs contributes to contemporary humanistic approaches, particularly, the view that self-actualisation is closely associated with eudemonic wellbeing (Myers & DeWall, 2018). People may be motivated to sustain positive social relationships to attain eudemonic wellbeing. For instance, Greenaway et al. (2015) suggested that, according to the humanistic approach to motivation, meaningful relationships can be cultivated from social interactions. Likewise, Ryan and Deci (2017) suggested that positive social relationships may facilitate greater relational satisfaction, attachment security and

wellbeing. These studies support a humanistic approach to motivation which may encourage individuals to attain quality social relationships to assist with promoting eudemonic wellbeing.

This research study adopts the humanistic and social-cognitive perspectives to determine key motivation functions that may scaffold the development of occupational capacity to achieve teacher wellbeing. Next, four motivation functions, including, self-efficacy, emotion, social relationships and agency (See Figure 3.2), are discussed.

Figure 3.2

Four Motivation Functions



Self-efficacy is an individual's belief in their own ability to complete a task; it is commonly accepted as a definitive example of the social-cognitive approach to motivation (Bandura, 1977; Burton, 2018; Reber, 2019). Bandura (1977) theorised the salient influence of self-efficacy on an individual's behaviour, that is, an individual's capacities and expectations of the outcomes determine their future goals as the vital elements for motivating behaviours. Thus, self-efficacy reflects on individual's capability and beliefs, which may determine their actions and desired outcomes.

Emotion is described as a human biological trait that can motivate people through conscious and unconscious information processing (Gallard & Cartmell, 2015; Myers & DeWall, 2018). Emotion is frequently associated with the behaviourism approach to motivation because of emphasising human biological traits and needs. Notably, Goleman (1995) defined emotions as "feelings and distinctive thoughts, psychological and biological states" (p. 289). Therefore, emotion function, as the ability to process emotional information and act based on this processed information, may shape the way people think and act.

Social relationships are the interpersonal processes of working together and using social cues to achieve meaningful relationships (Greenaway et al., 2015). Humanistic approaches to motivation suggest that social relationships contribute to social identities and are a way in which individuals can derive a sense of control, direction, and purpose (van der Want et al., 2019). Hence, social relationship functions may enable people to experience a sense of belonging, connectedness to a group, and a meaningful existence.

Agency influenced by needs, incentives, fears, goals, pressure, interest, esteem, values, beliefs and expectations can motivate people to behave in particular ways (Gallard & Cartmell, 2015). Both intrinsic and extrinsic motivation are thought to influence agency to determine selected actions (Myers & DeWall, 2018; Spielman et al., 2014). Intrinsic and extrinsic motivation describe a continuum of agency, that is, totally intrinsic agency, such as SDT (Ryan & Deci, 2000) to totally extrinsic agency, such as locus of causality (Reeve & Jang, 2006). Thus, according to the cognitive approach to motivation, agency may encourage personal interests to sustain and exceed personal capabilities when one is faced with challenges.

Self-efficacy is selected as the first motivation function, which reflects on an individual's capability and beliefs to examine the first occupational factor, teacher efficacy, as proposed in Chapter 2. As discussed in the previous chapter, teacher resilience could positively influence

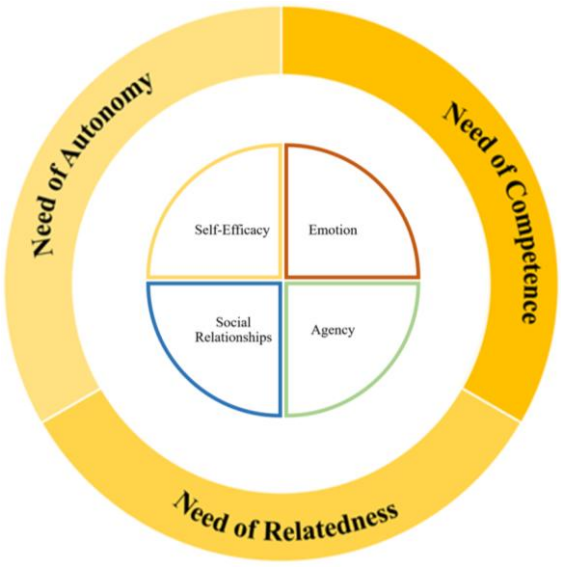
how teachers think and act when confronted with challenges. The emotion function is the second motivation function to explore teacher resilience. Social relationship functions, which may enable people to experience a sense of belonging and meaningful existence, are selected as the third motivation function to investigate the third occupational factor, student-teacher relationships. The agency may encourage personal interests to sustain and exceed personal capabilities, which is selected as the last motivation function to examine teachers' empowering behaviours identified in Chapter 2. Hence, four motivation functions, that is, self-efficacy, emotion, social relationships and agency, form part of the theoretical framework of this research study.

3.4 SDT and motivation

Three basic psychological needs of SDT may enhance motivation functions, including self-efficacy, emotion, social relationships and agency to achieve an individual's greatest potential. The associations between SDT and the four motivation functions (see Figure 3.3) are discussed in the following section.

Figure 3.3

SDT and Motivation Functions



3.4.1 SDT and self-efficacy

Originally, Ryan and Deci (1985) suggested that humans naturally pursue three goals in life, including competence, relatedness and autonomy, through "behavioural self-regulation" (p. 60). As argued, self-efficacy can promote cognitive abilities for self-regulated behaviours (Bandura, 2008). SDT and the concept of self-efficacy both emphasise one's beliefs in self-regulated behaviours. Accordingly, cognitive, social, educational and psychological studies have identified a strong common stance between self-efficacy and self-determined motivation (Conway et al., 2015; Girelli et al., 2018; Khan et al., 2021; Raven & Pels, 2021). The application of the three basic psychological needs of SDT and their relations to self-efficacy are discussed in the following paragraphs.

There are positive associations between the need of competence and self-efficacy (Conway et al., 2015; Raven & Pels, 2021). High levels of self-efficacy, such as taking initiative and being persistent, are associated with high-quality performance for the need of competence. Raven and Pels (2021) assert that self-efficacy leads to better performance due to increased competence. Specifically, confidence—a source of competence—may enable individuals to feel they can make an impact with their own behaviour and meet self-chosen expectations (Raven & Pels, 2021). Competence may determine goal-directed behaviours for improvement in self-efficacy. Similarly, Conway et al. (2015) contend that perceived competence moderates the relationship between behaviours and self-efficacy. Specifically, when people feel more competent, they may develop high mastery and great performance, resulting in enhanced self-efficacy (Conway et al., 2015). Therefore, when satisfying their basic psychological need for competence, people may develop greater self-efficacy for high-quality performance and desired reactions in a challenging situation.

Further, the need of autonomy is aligned with autonomous motivation, which contributes to developing an individual's efficacy beliefs (Cents-Boonstra et al., 2019; Guay et al., 2019). For

example, a person-centred approach and students' motivation profiles were examined to investigate the relationship between autonomy-support approaches and students' self-efficacy (Cents-Boonstra et al., 2019). The authors claim that identified regulation, integrated regulation and intrinsic motivation are forms of autonomous motivation for satisfying the need of autonomy, which can encourage students' motivation to study and enhance self-efficacy. Similarly, Girelli et al. (2018) consider the predictive relationship between self-efficacy and autonomy concerning the academic adjustment of undergraduate students. They find that the need of autonomy positively affects self-efficacy, resulting in persistent behaviours and higher effort in actions (Girelli et al., 2018). Subsequently, Guay et al. (2019) apply SDT to predict students' self-efficacy via the need of autonomy. They determine that the need of autonomy is associated with intrinsic motivation, which is positively related to changes in self-efficacy. These results emphasise the need of autonomy on intrinsic motivation—that is, self-efficacy—to develop stronger beliefs in individuals' own ability and performance.

Fulfilling the need of relatedness can enhance individuals' self-efficacy. Jansen in de Wal et al. (2020) suggest that the need of relatedness can be achieved in meaningful communications. Examples include leadership communicating a vision for the organisation, expressing concern and respect for employees' feelings and needs, and challenging employees to professionalise themselves. In turn, employees can develop self-efficacy by growing professional capacity and job dedication for the purpose of organisational change (Jansen in de Wal et al., 2020).

The literature indicates that competence supports self-efficacy to achieve high mastery and great performance, autonomy underpins self-efficacy to develop intrinsic motivation for enhanced capabilities and performance, and relatedness cultivates professional capacity and effectiveness for organisational change.

3.4.2 SDT and emotion

Emotion is generated by conscious and unconscious information processing and influences an individual's subjective wellbeing (Burton, 2018; Gallard & Cartmell, 2015). A body of research adopts SDT to analyse the three basic psychological needs in relation to the translation, retrieval and action of emotional states (Elliot, 2017; Tamir & Millgram, 2017; Trigueros et al., 2019; Waterschoot et al., 2021). The application of the three basic psychological needs of SDT and their relations to emotion are discussed in the following paragraphs.

Coping is commonly described as a way of retrieving emotional, cognitive and behavioural repertoires to act upon stressors (Myers & DeWall, 2018). When people are confronted with adversities, problem-focused coping (i.e., a sense of control or change in circumstances) and emotion-focused coping (i.e., a sense of personal control or change) are both commonly employed (Myers & DeWall, 2018). As indicated, emotional competence may reduce stressors and strengthen positive coping. Similarly, Trigueros et al. (2019) investigate the relationship between positive coping and the need of competence. Notably, social agency behaviours are a set of personal competencies that help individuals overcome unfavourable and stressful situations (Trigueros et al., 2019). In this study, individuals displayed autonomous behaviours for competence, such as self-regulation, by planning for and setting goals and then monitoring their progress, thus promoting positive coping.

Moreover, Johnston-Wilder et al. (2021) investigate the relationship between learning competence and developing mathematical resilience. They claim the competence of learners' emotion regulation positively affects a reduction in mathematics anxiety (Johnston-Wilder et al., 2021). As discussed previously, the need of competence creates autonomous motivation, which enables self-initiated actions for retrieving positive emotions to enhance coping and

strengthen resilience. Thus, the need of competence may strengthen positive emotional functions, such as coping and resilience.

People with more autonomous motivation tend to reduce distressing experiences by obtaining emotion goals (Roth et al., 2019; Waterschoot et al., 2021). Benita et al. (2019) employ SDT to examine the effects of motivational contributors in relation to emotion goals in four experimental studies (n = 242). They find that autonomy-supportive contexts allow participants to fulfil the need of autonomy. This enabled them to regulate their emotion by internalising their emotion goals, while controlling the context failed to meet participants' need of autonomy to persist with emotion regulation (Benita et al., 2019). Pursuing emotion goals with autonomy-supportive allows individuals to fulfil the need of autonomy, resulting in developing effective emotion regulation skills. Further, by satisfying the need of autonomy, people can apply adaptive strategies to regulate their emotions and achieve emotional goals (Waterschoot et al., 2021). Individuals tend to apply more adaptive goal pursuits over time in autonomy-supportive conditions, whereas individuals engage in more defensive processing of emotional stimuli in controlling conditions. Thus, individuals can pursue emotion goals of their own volition facilitated by the need of autonomy support.

Roth et al. (2019) investigated the relationships between integrative emotion regulation strategies for volitional functioning and the need of relatedness from parenting. The authors present a process view of integrative emotion regulation strategies to foster the need of relatedness in the context of childhood developmental stages (Roth et al., 2019). In particular, the study examines emotion regulation strategies—such as relaxation, mindfulness, cognitive reappraisals and positive imagery—to understand how children can actively manage negative emotion and promote more positive affect, underpinned by the need of relatedness (Roth et al., 2019). Consistently, the satisfaction of relatedness may enable more integrative emotion regulation strategies across the developmental stages of childhood. The need of relatedness is

compromised when people experience low levels of autonomous types of emotion regulation strategies, such as emotion suppression, due to the pressure of hiding an individual's negative emotion towards others in social interactions.

The literature indicates that competence supports emotion functions to achieve emotion-goal orientations, autonomy underpins emotion functions to achieve positive coping and resilience, and relatedness encourages positive emotion for integrative emotion regulation strategies.

3.4.3 SDT and social relationships

People are motivated to sustain positive social relationships through meaningful social interactions (Myers & DeWall, 2018). SDT highlights immediate social contexts and relationships across the three basic psychological needs; for example, relatedness and autonomy needs interact to affect perceptions of security of attachment (Kluwer et al., 2019), autonomy supports interpersonal contexts (Sicilia et al., 2020) and the competence for pursuit of social impact and esteem (Greenaway et al., 2015). As Ryan and Deci (2017) suggest, quality relationships facilitate greater relationship satisfaction, attachment security and wellbeing. The application of the three basic psychological needs of SDT and their relations to social relationships are discussed in the following paragraphs.

Social interactions are enhanced by one's own capacity and interpersonal experiences underpinned by self-esteem. The need of competence is associated with self-esteem, which impacts an individual's perceptions of being valued and accepted within social relationships (Greenaway et al., 2016). Fulfilling the need of competence by enhancing one's capacity and controlling one's outcomes can result in meaningful social relationships (Greenaway et al., 2016). As suggested, the need of competence may enhance an individual's capacity and develop meaningful social interactions for positive social relationships.

Waterschoot et al.'s (2021) person-centred approach to applying effective emotion regulation strategies is informed by individuals' need for autonomy during social interactions. The need of autonomy in social interactions is more likely to be satisfied when people display high levels of integrative emotion regulation strategies (Waterschoot et al., 2021). As suggested, the need of autonomy of SDT can motivate individuals to apply more adaptive emotion regulation strategies.

Ariccio et al. (2021) examine the need of relatedness in relation to attachment at the in-person level through social relationships. Satisfying the need of relatedness can reduce arousal and promote safety (Ariccio et al., 2021). As indicated, the need of relatedness promotes secure attachment and enhances positive social relationships.

Evidence indicates that competence strengthens one's capacity and self-esteem during social experiences, autonomy underpins the attainment of autonomous motivation for meaningful social interactions, and relatedness promotes secure attachment to encourage positive social relationships.

3.4.4 SDT and agency

Agency is described as the motivation for autonomy, contributing to achievement and mastery (Burton, 2018). In an early study, Ryff and Singer (1998) highlighted agency's value in achieving eudemonic wellbeing. These authors' descriptions echo the fundamental descriptions of SDT; that is, the realisation of an individual's true potential and the need to be fully functioning to attain eudemonia (Ryan & Deci, 2000). SDT highlights the construct of agency across the three basic psychological needs; for example, the need of competence to underpin the application of agency towards the attainment of goals (Reber, 2019), the need of autonomy for growing a healthy agentic self (Sheldon & Schüler, 2015), and the need of relatedness for initiating self in regulative functions in social interactions (MacLellan, 2016). The application

of the three basic psychological needs of SDT and their relations to agency are discussed in the following paragraphs.

Bandura's model of agency focuses on the coordination of efforts to achieve competence in expected goals. The need for competence underlines an individual's true potential and the application of self-regulation approaches. Accordingly, expectancy–value theory in the educational context emphasises applying agency to attain goals by valuing the potential process and outcome and then adopting self-regulation actions (Reber, 2019). Consistently, Hansen and Jessop (2017) investigated the relationship between the competence in exercising agency and self-regulation. The authors argue that the development of capacities—that is, competence for exercising agency—is a learned ability and an important outcome of self-regulation. Moreover, the need for competence promotes intrinsic motivation (Ryan & Deci, 2020). Exercising agency enables cognitive functions, which result in enhancing competence. For example, retrieving adaptive approaches, higher-order abstract reasoning and coordinating actions within complexity can increase one's capacity for self-regulation, which contributes to increased agency (Hansen & Jessop, 2017). Therefore, the need for competence reinforces the development of agency through self-regulation actions.

The need of autonomy may encourage individuals to develop a stronger sense of agency (Deci & Ryan, 2008). Lopes et al. (2018) verify that the need of autonomy contributes to enhanced agency in an organisational context. Their study utilises the quality of employees' autonomous motivation to explain its association with working attitudes, behaviours and wellbeing. As a result, the need of autonomy cultivates employers' agency, which is positively associated with occupational wellbeing. Similarly, Sheldon and Schüler (2015) highlight the need for autonomy and its relation to agency. The authors posit that a high amount of autonomous motivation could assist in cognitive development and developing a healthy agentic self. As

previously discussed, the need for autonomy offers a way of directing individuals, as active agents, to achieve their needs and goals with a focus on autonomous motivation.

Agency engages individuals in developing reflexive practice through dialogues with colleagues and themselves to allow changes and educational reform (MacLellan, 2016). By having reflexive practice, individuals must interpret what their colleagues do and how their own learning/practice can be enhanced based on colleagues' suggestions and actions (MacLellan, 2016). In the reflexive process, the need of relatedness is achieved by performing intentional actions informed by others' personal values and goals. Thus, agency can motivate individuals to develop effective dialogue with colleagues, which encourages colleagues' involvement, resulting in enhancing the need of relatedness. Clearly, competence supports self-regulated actions, autonomy sustains autonomous motivation, and relatedness encourages reflective practice.

Satisfying the three basic psychological needs of SDT may enhance motivation functions to achieve an individual's potential. As outlined in Chapter 3, motivation functions, including agency and emotion function, may address the need for autonomy from SDT to attain eudemonia wellbeing. Notably, people in autonomy-supportive contexts may more effectively regulate their emotions to achieve positive emotional encounters, while the agentic self enables autonomous approaches, which results in enhanced cognitive functions. Then, the self-efficacy function can lead to better performance due to increased competence, which may satisfy individuals' need for competence from SDT. Last, the social relationship function supports the need for relatedness, highlighting the pursuit of social impact and esteem. This premise is the final aspect of the theoretical model that supports the current study on occupational factors for teacher wellbeing. Therefore, occupational factors for teacher wellbeing and their relationships to motivation functions are discussed in the next section.

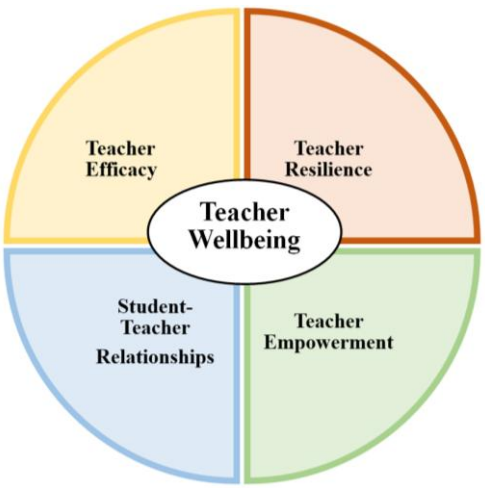
3.5 Motivation and occupational factors

SDT proposes that motivation can be improved by applying regulatory processes concerning the satisfaction of competence, autonomy and relatedness. Research has examined the three basic psychological needs and their relations to the four motivation functions discussed in the previous sections (Froiland et al., 2018; Girelli et al., 2018; Raven & Pels, 2021; Trigueros et al., 2019; Waterschoot et al., 2021).

As outlined in Chapter 2, this research study proposes four occupational factors for improving teacher wellbeing, including teacher efficacy, resilience, student–teacher relationships and empowerment. Based on Viac and Fraser's definition (2020), teacher efficacy (Aelterman et al., 2019; Du Plessis & McDonagh, 2021; Han et al., 2020), teacher resilience (Hascher et al., 2021; Mansfield, 2020; Sappa & Barabasch, 2020), student–teacher relationships (García-Moya, 2020; McGrath & Van Bergen, 2019; Roorda & Koomen, 2021) and teacher empowerment (Atik & Çelik, 2020; Gouëdard et al., 2020; Kõiv et al., 2019) are four occupational factors that may potentially strengthen teacher wellbeing. These four factors and their roles in advancing teacher wellbeing are shown in Figure 3.4.

Figure 3.4

Four Occupational Factors of Teacher Wellbeing



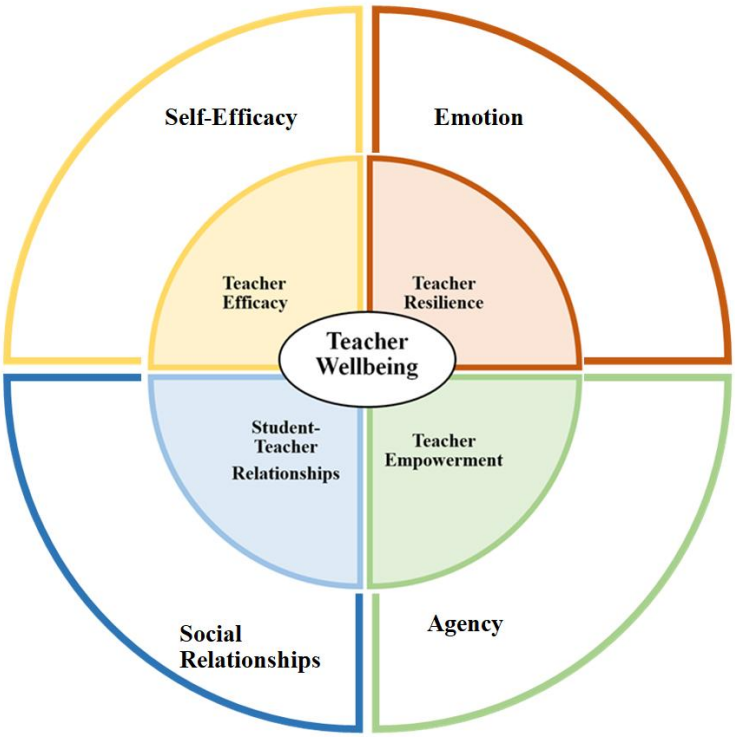
The four motivation functions of self-efficacy, emotion, social relationships and agency may help improve teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment, respectively (see Figure 3.5). The following section presents an understanding of how teachers' motivation assists their occupational needs for underlying teacher wellbeing.

3.5.1 Self-efficacy and teacher efficacy

High self-efficacy tends to sustain teacher efficacy, such as developing job resources in practising innovative teaching approaches (Klaeijsen et al., 2018) and autonomy-supportive strategies (Lauermann & Berger, 2021), reducing perceived challenges from teacher appraisals (Keller-Schneider, 2021), and increasing professional growth (Wang et al., 2024). Teachers' self-efficacy may enhance teacher efficacy by strengthening job resources and job-demands resources, as discussed below.

Figure 3.5

Motivation Functions and Teacher Occupational Factors



3.5.1.1 Job resources

Teachers' self-efficacy beliefs include that job resources may facilitate innovative practices, autonomy-support teaching approaches and positive work engagement.

Klaeijsen et al. (2018) explore the relationship between self-efficacy and innovative behaviours with consideration for the basic psychological needs of teachers in the Netherlands (n = 2,385). They posit that the job resource of self-efficacy influences teachers' innovative behaviours; that is, teachers introduced new ideas in their schools (Klaeijsen et al., 2018). Additionally, self-efficacy strongly predicts innovative behaviours, and self-efficacy in dealing with future changes in teaching promotes more innovative behaviours. In their study, the autonomy and relatedness items had higher factor loadings than the competence items, which indicates that teachers who receive a higher degree of support for autonomy and relatedness needs display a higher level of self-efficacy to effectively face change and introduce new ideas (Klaeijsen et al., 2018). Thus, self-efficacy is highly correlated with competence, which mediates innovative behaviours.

Barni et al. (2019) examine the relationship between teachers' self-efficacy and professional values such as conservation and openness to change among teachers in Italy. Their study focuses on how self-efficacy influences teachers' professional values and management of teaching tasks and challenges related to change. The results show that self-efficacy is positively associated with teachers' conservation value and openness to change. A stronger positive association was found among self-determined teachers who displayed high autonomous values; that is, conservation and openness to change (Barni et al., 2019). Thus, improvement in teachers' self-efficacy to prevent negative responses and assist with openness to change should be encouraged to maintain the effectiveness of job resources among teachers.

Lauermann and Berger (2021) investigate self-efficacy, a motivation belief resource among teachers concerning their advocacy of autonomy-supportive teaching styles. The authors introduce responsibility as another motivational belief to test its incremental predictive effect on self-efficacy. They found that teachers with a high level of self-efficacy are more willing to take responsibility for teaching instructions and students' educational outcomes and tend to embed autonomy-supportive practice and engage in need-supportive practice within their teaching (Lauermann & Berger, 2021). Accordingly, self-efficacy is positively associated with teachers' attentiveness to support individual student needs and applying specific practice depending on the teacher's evaluations. These results suggest that self-efficacy is positively associated with autonomy-supportive teaching styles. Similarly, Daumiller et al. (2021) address achievement goals (value-related) and self-efficacy beliefs (expectancy-related) in relation to teaching approaches. The authors posit that strong self-efficacy beliefs provide a more favourable instructional environment; that is, a more student-centred teaching approach (Daumiller et al., 2021).

Cai et al. (2022) explore the professional community as a social resource for teachers to develop professional practice to enhance self-efficacy. Notably, both shared norms and collective responsibilities positively affect reflective dialogue, which positively influences teacher self-efficacy (Cai et al., 2022). Therefore, teachers can develop self-efficacy to meet the demands of changes introduced by school leaders through shared norms and collective responsibilities in their professional community. Pan (2023) confirms that a professional community assists teachers in developing self-efficacy in professional practice for implementing process-oriented student learning.

Likewise, Valckx et al. (2020) study the role of teachers' self-efficacy in interpersonal contexts and suggest teacher autonomy as a mediating factor between teachers' self-efficacy and PLCs' characteristics. Their findings reinforce the close relationship between teacher autonomy and

teachers' self-efficacy; that is, highly autonomous teachers demonstrate higher levels of self-efficacy (Valckx et al., 2020). Teachers with higher levels of self-efficacy display a higher collective responsibility after engaging in collaborative practices, including reflective dialogues, openness to collaboration and mutual responsibility, trying out new approaches and changing their practice to adopt innovative strategies.

Lastly, van der Want et al. (2019) investigate the relationship between self-efficacy and interpersonal roles via the high control/affiliation interpersonal identity standard. They found that teachers with a high control/affiliation interpersonal identity standard achieve higher self-efficacy, which predicts better work engagement (van der Want et al., 2019). Self-efficacy plays an important role in developing a sense of meaningfulness in one's job. Similarly, Castro Silva et al. (2024) and Han et al. (2020) investigate the effect of teachers' self-efficacy in relation to work engagement and found a positive correlation (Han et al., 2020). For example, teachers who report high self-efficacy tend to be more energetic in performing their teaching and demonstrate competence in emotional regulation. Thus, these studies reveal that teachers' self-efficacy is a vital job resource in sustaining work engagement.

3.5.1.2 Job-demand resources

As a job-demands resource, teachers' self-efficacy may buffer against professional challenges, notably behavioural issues and contextual constraints.

Herman et al. (2018) identify teachers' self-efficacy as a job-demand resource for managing stress and burnout due to student academic pressure and behavioural issues. Their study of 121 teachers in the US reveals that teacher self-efficacy negatively affects students' disruptive behaviours. They found that 30% of the participating teachers with low self-efficacy reported significantly higher levels of disruptive student behaviours with high stress (Herman et al., 2018). These results confirm that teachers' self-efficacy is negatively associated with teacher

stress, burnout and coping, whereas teachers with high levels of self-efficacy demonstrate an ability to fulfil their students' needs effectively. Similarly, Chang and Hall (2022) suggest positive associations between teachers' self-efficacy and classroom engagement. Their study explores 154 practising Canadian teachers' perceived relationships with students and their own efficacy beliefs on engaging students, applying various pedagogical strategies and managing behavioural issues. The findings indicate that a higher level of self-efficacy can improve teachers' ability to involve students and reduce behavioural issues, resulting in greater levels of in-class engagement. Similarly, Lipscomb et al. (2021) examine teachers' self-efficacy as a job-demand resource in relation to teacher compassion fatigue in an early childhood setting. The findings suggest that early childhood teachers' self-efficacy predicts buffering against job demands—specifically teacher compassion fatigue and children's challenging behaviours—by increasing effectiveness in teaching and seeking a sense of meaningfulness in their job.

Further, Lazarides et al.'s (2020) longitudinal study in Australian primary and secondary schools assesses teachers' self-efficacy in relation to contextual influences on teachers' classroom management. The results show positive associations between early-career and mid-career teachers' classroom management and perceived self-efficacy as a job resource. Specifically, early-career teachers' self-efficacy is positively related to school advantage (Lazarides et al., 2020). These results highlight the necessity of measuring teachers' self-efficacy prior to professional entry so schools can support the development of early-career teachers' self-efficacy. Indeed, school advantage may help explain why early-career teachers experience better conditions, such as fewer disruptions and less problematic student behaviours, resulting in better self-efficacy development in classroom management.

Olivier et al. (2024) examine self-efficacy as a job-demand resource through the lens of contextual constraints—that is, the emotional job demands of teaching—in relation to teachers' self-efficacy. They found that self-efficacy buffers against job-related anxiety and depression

through its mediating role in trusting collegial relationships (Olivier et al., 2024). Sustaining mid-career teachers' self-efficacy development to avoid negative responses and resistance to change is essential to managing additional career demands. Likewise, Keller-Schneider (2021) analyses the relationship between self-efficacy as a job-demand resource and professional appraisals of early-career teachers. The results indicate that enhanced self-efficacy can help manage the perceived challenges associated with teacher appraisals by applying reflexive, metacognitive and self-regulation skills (Keller-Schneider, 2021). As suggested, teachers' self-efficacy is a basic resource among the job-demand resource profiles; it acts as a stable strengthening factor, helps to master professional requirements and mitigates perceived challenges. Together, these findings affirm that teachers' self-efficacy positively affects teaching performance and emotional needs, supported by contextual resources.

Self-efficacy supports teacher efficacy; that is, self-efficacy has a positive impact on enhancing teacher efficacy. This leads to improved teaching competence and increased job resources to create favourable instructional environments, and it may buffer against job-related demands to reduce burnout and stress.

3.5.2 Emotion and resilience

Higher emotional capabilities tend to sustain teacher resilience through increased emotional competence (Daniilidou & Platsidou, 2024). Enhancing teachers' emotion regulation (Olivier et al., 2024), fostering mindfulness among teachers (Neumann & Tillott, 2021), and developing positive coping strategies (Zadok-Gurman et al., 2021) can improve teacher wellbeing. The following section examines teachers' emotional competence to enhance teacher resilience through emotion regulation strategies, practising mindfulness and positive psychology approaches.

3.5.2.1 Emotion regulation strategies

Teachers' ability to manage their emotions is positively associated with occupational wellbeing. Emotional labour strategies can support teachers' emotional regulation in daily teaching (Yin, 2019). Due to ongoing interactions between teachers and students over long periods, teachers constantly apply emotional labour strategies while teaching and interacting with their students in the classroom setting (Olivier et al., 2024). It is argued that not suppressing one's emotions is central to all teachers' work (Olivier et al., 2024). Surface acting, which involves suppressing teachers' emotions in student–teacher relationships, makes teachers feel vulnerable and compromises teacher wellbeing. Surface acting is discouraged. For instance, de Ruiter et al.'s (2021) investigation of primary school teachers' experiences of emotional labour strategies when interacting with students found a correlation between surface acting and disruptive behaviours. Surface acting is also negatively associated with teachers' wellbeing, resulting in emotional exhaustion and depersonalisation (Huang et al., 2019).

Instead, deep acting—genuine expressions of emotions from teachers during student–teacher interactions—contributes to increased closeness and decreased conflict in student–teacher relationships. For example, skills for recognising their own and others' emotions and applying effective emotion regulation strategies significantly impact teachers' deep acting (Yin et al., 2019). Similarly, deep acting is positively associated with teachers' emotional intelligence as an effective exercise for expressing one's real feelings while teaching and interacting with students (de Ruiter et al., 2021; Huang et al., 2019). Teachers with higher emotional competence tend to recognise and utilise appropriate emotion regulation strategies when faced with negative emotional encounters, whereas teachers with lower emotional competence are uncertain about how to reduce their negative emotional reactions. Increasing emotion competence for effective emotion regulation strategies could lead to increased work-related satisfaction.

Donker et al. (2020) explore the relationships between emotion regulation strategies and emotional exhaustion among teachers with various teaching experiences. Early-career teachers tend to apply less cognitive reappraisal and more often directly express their emotions (Donker et al., 2020). In comparison, experienced teachers display an implicit positive attitude towards emotion regulation strategies to counter the possible negative effects of suppressing emotions (Donker et al., 2020). Donker et al. (2020) reinforce the application of cognitive reappraisal as an adaptive emotion regulation strategy for developing implicit positive attitudes. Teachers who are inclined to an implicitly positive attitude demonstrate more effective suppression strategies and experience lower levels of emotional exhaustion.

Research has addressed the relationship between teachers' emotion regulation strategies and interactions with students. Positive emotions can enhance quality educational experiences and protect against emotional exhaustion. Frenzel et al. (2021) synthesise the importance of teachers' emotions in relation to students' quality learning experiences. The authors claim a consistently positive association between teachers' positive emotions, such as enjoyment and enthusiasm, and quality learning experiences, such as focusing on students' knowledge-construction process and guiding students' conceptual change (Frenzel et al., 2021). Meanwhile, Olivier et al. (2024) investigate student–teacher relationships in relation to teachers' emotional states. They confirm that student–teacher relationships have a protective function for teachers; that is, increased enjoyment from student–teacher relationships contributes to lower levels of emotional exhaustion (Olivier et al., 2024).

Finally, emotion regulation strategies are closely associated with caring for students' feelings. Chen (2020) identifies positive and negative emotions in relation to student–teacher interactions and reveals an important characteristic of balancing between teachers' caring role and being authoritarian. Positive emotions are important when interacting with students, which contributes to a strong sense of responsibility for caring for students. Similarly, Koenen et al.

(2019) associates higher levels of negative deactivating emotions with lower levels of teacher sensitivity towards individual students' emotional needs. For example, teachers experiencing negative deactivating emotions tend to misinterpret and ignore students' signals of emotional distress (Koenen et al., 2019). Teachers can be less involved with their students, which may increase conflicted teacher–student interactions and undesirable academic outcomes. Further, academic success and teachers' performance may depend on their ability to perceive and deal with emotions. Positive emotion regulation strategies, such as expressing positive emotions via non-verbal signals, purposely attending to existing pleasing experiences, sharing and rejoicing in positive events with others, and clearly recalling or expecting positive events, can increase positive emotional experiences (Zhao, 2021). The research results indicate that teachers who tend to apply positive emotion regulation strategies have improved teaching efficacy and can better manage instructional tasks.

3.5.2.2 Practice of mindfulness

The concept of mindfulness has been investigated in assisting teachers to manage their emotions and enhance their resilience (Carroll et al., 2022a, 2022b, 2022c; Vo & Allen, 2022; Yeh & Barrington, 2023). Based on Kabat-Zinn's (2003) definition, mindfulness commonly refers to focusing on the present moment with intention and without judgement. Mindfulness interventions can help manage teachers' emotions in the face of stress and burnout. Smith and Whitley (2023) synthesise research on the potential for teachers' mindfulness practices to advance wellbeing and resilience to reduce burnout. Teachers' coping strategies, including compassion and kindness to themselves and others, can effectively manages stress and difficult emotions (Smith & Whitley, 2023). Research by Pennington et al. (2021) indicates that teachers can reconcile with adolescent students who display problematic behaviours when they themselves display caring behaviours, and they can improve the relational climate with co-workers by adopting compassionate approaches to caring for others.

Carroll et al. (2022b) assesses the effectiveness of a Mindfulness-Based Stress Reduction program (MBSR) in reducing stress and burnout among a group of Australian teachers. This program utilises various behavioural modalities, including emotion recognition and emotion regulation. The post-intervention results show that teachers display reduced neural reactivity to generally negative stimuli during emotional experiences. These findings highlight the importance of emotion recognition and emotion regulation in reducing negative encounters when teachers are faced with work stress.

3.5.2.3 Positive psychology approaches

Positive psychology argues that positive emotions should be fulfilled with systematic practices and scientific interventions to obtain a flourishing life (Seligman & Csikszentmihalyi, 2000). A study by Curren et al. (2024) addresses the close relationship between positive psychology and SDT in wellbeing science. The authors acknowledge wellbeing science for defining and applying constructs to measure and evaluate factors that can facilitate or hinder one's happiness and flourishing. The study suggests that the need of autonomy, as the innate intrinsic motivation, enables individuals to pursue goals and develop capabilities to obtain happiness and fulfil flourishing for better wellbeing (Curren et al., 2024). A wide range of positive psychology applications, such as gratitude interventions (Wessels & Wood, 2019; Yeh & Barrington, 2023), multimodal interventions (Taylor, 2018; Zadok-Gurman et al., 2021) and positive education (Curren et al., 2024; White & McCallum, 2020), can enhance teacher wellbeing.

Meanwhile, challenges remain for sustaining positive-education-based practice (Sandholm et al., 2023; White, 2021). Sandholm et al. (2023) identify positive changes in teachers' personal and professional growth after embedding positive-education-based practice. However, lack of time and support were major challenges preventing teachers from applying those practices on a larger scale and persisting with them (Sandholm et al., 2023). White (2021) reports a growing

number of positive education curricula and school leadership initiatives for promoting teacher and student wellbeing in schools. However, positive education in teacher education for preparing pre-service teachers to manage professional needs and sustain occupational wellbeing requires further understanding (White, 2021). Therefore, positive education addresses personal strengths in integrating teaching practice for developing adaptive strategies for classroom challenges and gaining a sense of accomplishment from change. However, due to the complexities of school contexts and some degree of ambiguity of wellbeing intervention components, future research investigating positive education for sustaining teacher wellbeing is needed.

Improving teachers' emotional capabilities, such as growing mindfulness practice and developing their ability to apply positive coping, may improve teacher resilience and wellbeing.

3.5.3 Social relationships and student–teacher relationships

Positive social relationships between students and teachers can foster healthy connections. Collie et al. (2020a) examine the role of relatedness in social relationships, particularly relatedness with students, as teachers' two job resources to manage time pressure and disruptive student behaviour. The findings suggest relatedness with students is negatively associated with turnover intentions (Collie et al., 2020a). The authors claim that social relationships play a critical role—particularly receiving positive relatedness from students—as teachers' job resources to manage educational pressure and student behavioural issues. Studies in this field examine teachers' care for students to nurture the student–teacher relationship (Thornberg et al., 2020), teachers' affective responses to quality teacher–child interactions (Narea et al., 2021), and teachers' interpersonal skills for effective classroom management (García-Moya, 2020). The following paragraphs discuss developing a positive student–teacher relationship, applying a caring relationship with students, utilising affective responses to

address problematic student behaviours and implementing social skills to improve teacher wellbeing.

3.5.3.1 Care for students

Genuine care from teachers enhances the educational process; that is, teachers adopt caring actions to motivate students to achieve pedagogical outcomes (Song et al., 2019). O'Connor (2008) introduces three care approaches between students and teachers—"performative, professional and humanistic" (p. 121)—to describe teachers' care for students in the classroom context. In classroom settings, teachers use these three care approaches simultaneously to address students' educational needs and personal needs. Care for students in the student–teacher relationship plays a significant role in teacher occupational wellbeing. For example, Dever et al. (2022) examine the role of teachers' care of students as a component of a positive student–teacher relationship in relation to teachers' motivation for mastery goals. They find that teachers' care is positively associated with mastery goals and negatively associated with performance goals (Dever et al., 2022). Teachers who display high levels of care for students have a more adaptive motivation to achieve mastery goals.

Lavy and Naama-Ghanayim (2020) indicate that a high interest in students and concern for student welfare result in enhanced internal motivation and improved capacity of students to achieve positive educational experiences. There is an association between teachers' sense of meaning and care for students when teachers are managing daily obstacles such as heavy workloads and burnout. Indeed, caring actions from teachers can motivate students to do their best and exceed their abilities. Accordingly, adopting care behaviours by teachers, such as helping children transition in their early years of schooling, can foster secure attachment and help maintain appropriate relationships (Lavy & Naama-Ghanayim, 2020).

Closeness in student–teacher relationships plays a buffering role in managing behaviours and achieving learning outcomes. For example, teachers who feel close to students tend to have a higher sense of their capability to accomplish desired goals with students and a high sense of intolerance for students' difficult behaviours (Gagnon et al., 2019). Teachers constantly decide on the appropriateness of displaying affection or disaffection for students and their behaviour/misbehaviour with consideration for fairness and caring. For example, dividing attention and time among students and accommodating students within professional care standards are highly important for teachers' fairness and care in classroom management (Thornberg et al., 2020). Therefore, care through closeness and displaying fairness can build healthy student–teacher interactions.

Finally, some teachers make personal choices to cultivate a caring role for students in light of their humanistic beliefs. For instance, Matteucci et al. (2017) found that teachers' personal sense of professional responsibility for care was positively associated with their relationships with students. Meanwhile, Song et al. (2019) label teaching as a self-sacrificing profession; that is, some teachers sacrifice their personal needs to care for students. The care displayed for students reflects a teacher's capacity to relate to their students and do a good job as a teacher.

3.5.3.2 Affective responses to students

Poulou and Norwich's seminal work (2002) introduced a model of teachers' responses to emotional and behavioural difficulties from students. The cyclical model of "thought–affect–action" (Poulou & Norwich, 2002, p. 116) highlights a potential reciprocal relationship between cognitive and affective responses of teachers to students, especially when encountering emotional and behavioural difficulties from students. To date, a range of studies (Evans et al., 2019; Nurmi et al., 2018; Roorda & Koomen, 2021) on student–teacher relationships support teacher use of affective responses for students with problematic behaviours.

Evans et al. (2019) analyse teachers' affective responses and student–teacher relationships in relation to teacher wellbeing. Relational closeness indirectly impacts teachers' affective responses to student problematic behaviours, whereas relational conflict directly affects teachers' affective responses to student problematic behaviours (Evans et al., 2019). Their study addresses the role of teachers' mental representations of conflict and closeness in their affective responses to students with problematic behaviours.

Roorda and Koomen (2021) highlight the importance of building teachers' affective responses to students' externalising behaviours in the early years of schooling. The authors describe the negative effects of teachers' reactions, like conflict, on students with externalising behaviours, including reduced dependency on the student–teacher relationships (Roorda & Koomen, 2021). Thus, students' externalising behaviours may trigger negative affective responses from teachers, whereas students' prosocial behaviours activate positive affective responses from teachers.

Narea et al. (2021) describe the relationship between preschool teachers' affective responses and burnout from emotional and behavioural problems. Teachers with affective responses demonstrate a high level of class organisation; that is, implement proactive strategies and encourage the development of self-regulation among children (Narea et al., 2021). Teachers who displayed affective responses in quality teacher–child interactions experience fewer emotional and behavioural problems in children and can better manage teacher burnout.

3.5.3.3 Effective interpersonal skills

Teachers' interpersonal skills allow them to teach to their best capacity and to foster healthy student–teacher relationships. McCallum and Price (2016) claim that interpersonal skills "equip teachers with the social-emotional skills … to operate and contribute productively" (p. 12). Indeed, schools and educators increasingly recognise teachers' social-emotional skills

as key to fostering healthy student–teacher relationships. For example, Haldimann et al. (2023) assert the importance of student–teacher relationships as a source of teachers' positive emotions based on the interpersonal interactions between teachers and students. Their findings suggest that both positive and negative interactions impact dyadic student–teacher relationships. As claimed, student–teacher interactions can improve teacher wellbeing when positive qualities outweigh the negative ones (Haldimann et al., 2023).

In another study, Simões and Calheiros (2019) explore teachers' interpersonal skills in relation to teacher–student closeness and specify increased teacher depersonalisation of student misbehaviours mediated by teacher–student closeness. As mentioned, interpersonal skills are based on social persuasion and interpreting emotional and physiological states (Simões & Calheiros, 2019). Enhanced interpersonal skills may contribute to develop a higher level of student–teacher closeness, which helps teachers apply depersonalisation strategies when confronted with behavioural challenges. The authors suggest that interpersonal skills depend on personal agency and external social cues, such as being open and aware of emotional states (Simões & Calheiros, 2019). Therefore, developing strategies to apply social cues can be effective for teachers to foster positive student–teacher interactions.

Further, García-Moya (2020) argues that teachers must develop interpersonal skills and apply individualised interactions depending on the student's characteristics rather than a "one size fits all" approach. This suggestion echoes the OECD's (2019) assertion that improved teacher capabilities in social and emotional skills create a learning environment in which students can thrive and shape their future. Explaining the reasons for students' behaviours, the rationale for norms, and expecting teachers to listen to students' opinions are suggested to create a positive learning environment (Morgan et al., 2022). Likewise, Zhang et al. (2023) claim the importance of enhancing teachers' social-emotional competence for improving student–teacher relationships for better teacher wellbeing. They find that social-emotional competence is

positively related to teacher job burnout, which is mediated by student–teacher relationships (Zhang et al., 2023). As indicated, teachers with a higher social-emotional competence are more likely to establish positive student–teacher relationships through empathising and various coping strategies in the face of misbehaviours. Hence, teachers' interpersonal skills for setting limits without exercising coercive authority and controlling behaviours are valued by students, creating a learning environment in which they thrive.

Care for students, affective responses to students and respectful interpersonal interactions with students strengthen the positive social relationship between students and teachers. Therefore, social relationships cultivate student–teacher relationships; positive social relationships between students and teachers can foster meaningful connections.

3.5.4 Agency and teacher empowerment

Agency may help cultivate teacher empowerment by enabling autonomy-support approaches and offering teacher leadership. A teacher may become an active agent by taking ownership of professional development (Tay et al., 2021) and actions (Yao et al., 2020), and adopting leadership responsibilities by offering subject expertise in the school-based curriculum program (Dail et al., 2018). The following paragraphs discuss how teachers' agency drives teacher empowerment by autonomously expanding teaching capacity, participating in appropriate professional development and providing individual expertise for leading professional activities.

3.5.4.1 Promoting autonomy-support approaches

Ryan and Deci (2017) refer to teachers' autonomy as a sense of driving their own actions. Examining 401 Australian teachers' autonomy profiles in relation to time pressure, Collie and Carroll's (2023) collected data on autonomy-pressure profiles at two specific times—the beginning of a school term (Time 1) and again at the end of the same term (Time 2)—using the

same profiles at the two time points. The autonomy-supportive leadership and autonomy-thwarting leadership against emotional exhaustion and turnover intentions at the two timepoints were examined. The findings indicate that teachers who perceived greater autonomy-supportive leadership at the start of the school term are more likely to have the balanced-convergent profile, which displays above-average autonomy and below-average time pressure (Collie & Carroll, 2023). Conversely, the study found that teachers who report greater autonomy-thwarting leadership at the beginning of the term are more likely aligned with the pressure-dominant-convergent profile, with teachers displaying the second-highest level of emotional exhaustion. The study reinforces the crucial role of teacher autonomy, which is closely associated with leadership support.

Similarly, Yao et al. (2020) explore the relationships between teachers' psychological empowerment and principal–teacher communication, focusing on personalised care and resources as autonomy-support approaches. Yao et al. (2020) describe the key process from managerial communication to teacher performance: a process of principals' encouragement of teachers' initiatives in evaluating their abilities and setting goals. The personalised principal–teacher communication process is consistent with the idea that teachers display better performance when receiving leadership support about their decision-making and professional goals (Runhaar et al., 2019).

McCallum et al. (2017) assert that measuring teaching accountability in relation to teaching performance is a common educational stressor that impacts teacher wellbeing. Promoting teacher autonomy by equipping teachers with differentiated programs and providing teachers with personalised care and resources to strengthen teaching agency is essential. Huang et al. (2024) support person-centred approaches to promote high teacher satisfaction, which leads to better autonomy. For instance, growth-focused rather than accountability-focused programs provide modelling, support and guidance for early-career teachers; these teachers benefit from

developing a sense of empowerment and enhanced agency through mentoring and coaching (Wilcoxen et al., 2019). In the above studies, teachers indicated that they would make mistakes, display low confidence and experience stress when assessed for teaching accountability and performance; nevertheless, non-evaluative programs involving coaching and mentoring can help them feel trusted and satisfied to cultivate teacher autonomy.

Offering teachers appropriate professional development (PD) can be another effective autonomy-support approach. Tay et al. (2021) investigate the role of agency in teacher empowerment through teacher PD. In this study, teachers argue that engaging in PD activities can assist them in meeting local and global educational trends and coping with changes in their professional portfolios (Tay et al., 2021). It echoes a study by Vedder-Weiss et al. (2024) that PD activities focused on collaborative reflection could foster teachers' autonomous motivation for teaching and a sense of personal accomplishment.

Gülşen and Çelik (2021) report that empowerment is the most important predictive variable related to teachers' agency situated in PD. In particular, openness to trust and effective communication of one's needs allow teachers to be active agents in their PD, leading to teacher empowerment (Gülşen & Çelik, 2021). As noted above, professional development is one of the strongest predictors of empowerment. Openness to trust and effectiveness in communication promote teacher engagement in constructive dialogue and willingness to work together to strengthen teacher agency. Teachers' agency in engaging in PD activities encourages teachers' voices and cultivates teacher leaders through the process of redistributing responsibilities. Teachers feel empowered when making decisions about their PD and are encouraged to assume agency to seek the most appropriate PD opportunities. In turn, this can sustain teaching motivation and engagement in lifelong learning.

3.5.4.2 Encouraging teacher leaders

Teacher leaders are experts in their field and can sustain and share high-quality teaching expertise and passion (Liang & Wang, 2019). Dail et al. (2018) explore agency in a literacy teacher leaders project designed to assist literacy teachers in developing leadership skills by considering school-specific challenges and individual-specific expertise in their leadership roles. Literacy teacher leaders were required to meet periodically to discuss the challenges and successes of their school-based literacy reform to grow schools' literacy capabilities and foster literacy teacher leaders by identifying and developing their leadership work based on their school's individual literacy needs (Dail et al., 2018). Teacher leaders demonstrated increased agency in PLCs, a commitment and openness to contribute their own professional expertise, and a willingness to share and coach their colleagues in the use of new curriculum, instructional or grouping practice (Fairman & Mackenzie, 2015). Teacher leaders tend to hold a genuine desire to provide individual-specific expertise and sustain their agency for school reform by conducting these subject-specific initiatives. Teachers' agency increases by taking on teacher leadership; that is, practising establishing professional relationships, breaking down barriers and distributing teaching resources.

Teachers who participate in school reform and proactively provide their expertise tend to create career pathway growth (Bryant & Rao, 2019). Dail et al. (2018) argue that while some teachers are passionate about initiatives for school-based professional development, many are not effectively empowered to implement school-level professional learning with their colleagues and share these processes with other teacher leaders across different schools. Another study reports that mid-career teachers tend to broaden their opportunities beyond the classroom, for example, by becoming active agents in mentoring pre-service or early-career teachers and taking on tasks for innovative school reform (Louws et al., 2017). Teacher leaders are willing

to promote reform to service the needs of the school and broader community, which cultivates teacher agency.

Organisational career management initiated by schools influences teachers' career growth. For example, support from the direct line manager affects teacher agency and career goal orientation (Runhaar et al., 2019). In this case, a teacher's professional expertise can be empowered by their direct line manager activating their agency to become a future leader. Empowering teachers to seek new challenges and leadership responsibilities—that is, to grow their capacities in subject-specific knowledge and leadership skills—can enhance teacher agency to commit to career growth and ownership of their profession.

Therefore, agency and teacher empowerment help teachers develop autonomy, seek appropriate professional development, and cultivate future leadership. Indeed, agency plays a salient role in teacher empowerment.

3.6 Motivation for enhancing teacher wellbeing

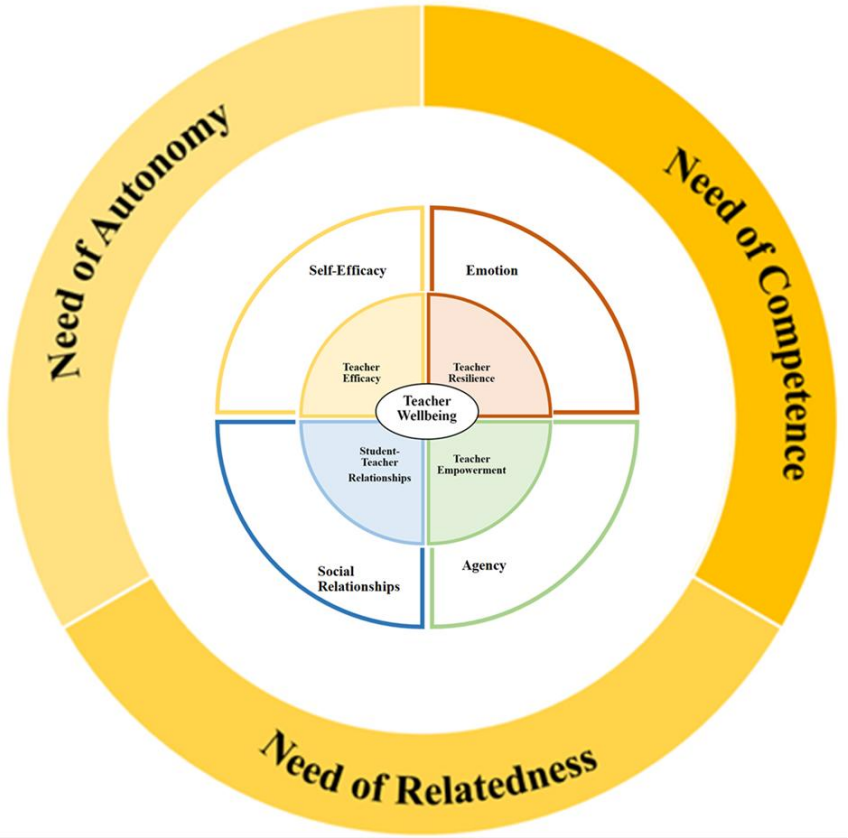
As indicated earlier in this chapter, SDT encompasses three basic psychological needs for competence, autonomy and relatedness and navigates four motivation functions of self-efficacy, emotion, social relationships and agency, which are crucial for attaining eudemonic wellbeing (see Figure 3.6). Relationships between the four motivation functions and four teacher occupational factors were discussed in the previous sections, and motivation may strengthen teacher occupational capacity for enhanced teacher wellbeing.

An integrated view of the role of motivation underpinned by SDT in enhancing teacher wellbeing is proposed. Four motivation functions may holistically strengthen four occupational factors to attain greater teacher wellbeing. The integrated relationships between motivation functions and occupational factors are discussed.

First, research suggests that self-efficacy plays a role in enhancing teachers' job resources (Daumiller et al., 2021; Lauermann & Berger, 2021) and is a job-demands resource (Herman et al., 2018; Keller-Schneider, 2021). Self-efficacy is strongly related to students' academic pressure and behavioural issues, professional appraisals, and compassion fatigue. Enhanced self-efficacy can improve teacher efficacy, effectiveness in fulfilling professional requirements, and work engagement. Self-efficacy is related to teaching enthusiasm and satisfaction, classroom management, and work engagement, with support from contextual resources such as collegial trust and school support. Improved self-efficacy promotes teacher efficacy and prevents job-related anxiety, negativity and resistance to change among teachers across different professional stages. Self-efficacy is positively related to a more favourable instructional environment, and encouraging genuine engagement from students leads to positive outcomes from learning activities. Better self-efficacy leads to better teacher efficacy and encouraging innovative behaviour supports the attainment of students' basic psychological needs for autonomy and relatedness. Self-efficacy can also improve teacher efficacy to achieve desired professional satisfaction. Self-efficacy can promote the development of teacher efficacy in order to sustain teachers' working enthusiasm and help them connect with students, and this leads to enhanced teacher wellbeing.

Figure 3.6

The Motivation for Teacher Wellbeing Model



Second, research also indicates that emotion regulation strategies (de Ruiter et al., 2021; Huang et al., 2019), the practice of mindfulness (Carroll et al., 2022a, 2022b, 2022c; Lemon, 2021) and applications of positive psychology (Curren et al., 2024; Vo & Allen, 2022) cultivate teacher resilience. Teachers who can express emotion and do not suppress it enjoy more desirable working experiences. The shift from surface acting to deep acting is critical in strengthening emotional labour strategies to improve teachers' emotional regulations. Enhanced emotion regulation strategies can improve teacher resilience in managing professional demands. Mindfulness interventions successfully internalise teachers' emotions and develop self-care strategies that foster teacher resilience at work. Enhanced self-care contributes to improving teacher resilience by sustaining a cognitive appraisal strategy and

removing emotionally charged distractions. Positive approaches effectively manage teachers' emotional experiences and can result in enhanced teacher resilience through the applications of positive psychology. Emotion functions can expand teacher resilience by developing emotion regulation strategies, practising self-care and applying positive psychology approaches, which improve teacher occupational wellbeing.

Third, research indicates that positive social relationship functions, such as care (Lavy & Naama-Ghanayim, 2020; Thornberg et al., 2020), affective responses (Evans et al., 2019; Roorda & Koomen, 2021) and interpersonal skills (García-Moya, 2020; Morgan et al., 2022), nurture quality student–teacher relationships. By caring for students, teachers demonstrate significant connections to students and are considered good teachers, which can contribute to meaningful student–teacher relationships. Teachers' implementation of proactive strategies, such as a well-organised class and encouraging self-regulation development among children, can help teachers develop appropriate affective responses for achieving quality teacher–child interactions. More horizontal interactions and mutual respect in interpersonal interactions enable effective classroom management and create a positive learning environment to build positive student–teacher relationships. Being a caring teacher requires support, kindness, responsibility and compassion towards students. Care for students promotes engagement in learning and cultivates a positive student–teacher relationship. Clearly, social relationships promote positive student–teacher relationships to help resolve conflict in the learning environment. Positive social relationships can foster meaningful connections in the student–teacher relationships to sustain teacher occupational wellbeing.

Finally, agency promotes teacher empowerment by offering autonomy-support approaches (Collie & Carroll, 2023; Huang et al., 2024) and encouraging teacher leadership (Dail et al., 2018; Liang & Wang, 2019). Leadership that supports teachers' professional process and personalises care and resources to teachers to help them achieve their professional needs can

encourage teacher agency. Teacher agency can enhance a sense of empowerment, which promotes high-quality teaching performance. Teachers' agency promotes engagement in self-directed learning, with teachers adopting a lifelong learning attitude towards their professional development. For teachers who are willing to provide their expertise and seek pathways for career growth, agency can further encourage subject-specific teacher leaders. Cultivating teacher agency may promote authentic teacher empowerment to advance teacher wellbeing.

Together, motivation functions can theoretically address occupational needs to enhance teacher wellbeing. Thus, the three basic psychological needs of SDT, four integrated relationships between motivation functions, and teacher occupational factors form the theoretical framework *Motivation for Teacher Wellbeing Model* for this current research study.

3.7 Contribution to the discipline

As mentioned in Chapter 1, teacher attrition and burnout is a persistent issue gaining growing concerns in Australia and internationally (Beames et al., 2024; Collie et al., 2020a; McCallum, 2022). Teacher wellbeing plays a significant role in retaining quality teachers because it may sustain teaching motivation and professional enthusiasm (Brady & Wilson, 2021; White & McCallum, 2020). Teachers in Australia have been experiencing intensive workloads and compromised professional recognition (Heffernan et al., 2019). After examining the challenges hindering teacher wellbeing and the factors advancing teacher wellbeing based on the definition of teacher wellbeing (Viac & Fraser, 2020), this research study employs an integrated approach to explore how teachers' occupational capacity could address those challenges for cultivating teacher wellbeing.

Studies by Du Plessis and McDonagh (2021), Matteucci et al. (2017), Ortan et al. (2021) and Runhaar et al. (2019) emphasise the mediating role of self-efficacy in increasing teachers' capacity. There may be an improvement in teachers' satisfaction at work when they obtain

better teacher efficacy in positively interacting with students (Matteucci et al., 2017), applying motivating teaching approaches for students (Aelterman et al., 2019) and regulating emotions during instructional activities (Runhaar et al., 2019). Still, it is critical to continuously extend the understanding of how motivation may improve teacher efficacy for enhanced teaching capacity to meet professional expectations.

Following, teachers experience enhanced resilience by showing rewarding interactions between teachers and students (Li et al., 2019), changing relational and communicative styles (Sappa & Barabasch, 2020), controlling their own emotions and understanding others' emotions in social interactions (Park et al., 2020), and displaying positive adaptation (Wang et al., 2024). Yet, despite the call for teacher resilience (Day, 2019; Hascher et al., 2021; Mansfield et al., 2020), there is limited analysis on improving emotional functions for strengthening teacher resilience to improve teacher wellbeing. Hence, an expanded understanding of strengthening emotional competence will enhance teacher resilience for greater wellbeing.

Maricuțoiu et al. (2023) recommend future directions for exploring how motivation may strengthen teachers' psychological functioning to foster positive student–teacher relationships. Still, there is a need to explore how social functioning may influence teachers' psychological functioning to yield positive student–teacher relationships towards teacher wellbeing. Last, there is a call to understand how teacher agency may help teachers engage in decision-making (Tay et al., 2021). Thus, it is helpful to examine how agency may influence teacher empowerment to advance teacher wellbeing (Lee & Nie, 2017).

To date, limited research has integrated examinations on how motivation may influence teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment. Therefore, this research study aims to holistically investigate teachers' motivations for teacher

efficacy, teacher resilience, student–teacher relationships and teacher empowerment. Furthering a holistic understanding of the relationships between teaching motivation and teachers' occupational needs can contribute to advancing teacher wellbeing.

3.8 Summary

SDT argues that eudemonic subjective wellbeing can be fostered by fulfilling three basic psychological needs: competence, autonomy and relatedness. As a theoretical framework, SDT provides a holistic view of the effects of motivation functions on teacher wellbeing, considering self-efficacy, emotions, social relationships and agency. SDT provides the processes for navigating teachers' motivation functions to hypothetically improve their occupational capacity, including teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment, to advance teacher wellbeing. To conclude, the *Motivation for Teacher Wellbeing Model* developed here forms the theoretical framework for this research study.

Chapter 4: Methodology

4.1 Introduction

A mixed-methods approach has been widely used to investigate teacher wellbeing in international research studies (Anderson et al., 2019; Aziz et al., 2024a; Beames et al., 2024; Chen et al., 2023; Chan et al., 2021; Fox et al., 2020; Walter et al., 2023; Zhang et al., 2024). The mixed-methods approach enables both quantitative and qualitative data collection, which allows for generalisations, identification of trends and gathering of participants' rich narratives to further understanding. This research study adopted mixed-methods with a convergent design that concurrently integrated quantitative and qualitative data analysis to investigate teacher wellbeing. By incorporating mixed-methods, the study could generalise a broad view of teacher motivation from the quantitative data and integrate individuals' voices from the qualitative data. As a result, this mixed-methods research study determined links between teachers' motivation and occupational needs for the advancement of teacher wellbeing.

This chapter justifies the study's mixed-methods approach and provides an overview of the three-staged mixed-methods design. This research study employed a quantitative approach for Phase One (n = 251) to address Research Objective One—to examine teachers' motivation factors from the SDT perspective; a qualitative approach for Phase Two (n = 41) to address Research Objective Two—to identify teachers' major motivation functions for sustaining professional enthusiasm; and a qualitative approach for Phase Three (n = 19) to address Research Objective Three—to distinguish teachers' occupational needs for meeting professional requirements across different professional life phases. The chapter concludes by outlining sampling strategies and ethical considerations.

4.2 Mixed-methods

This section defines mixed-methods and mixed-methods approaches across various teacher wellbeing research, and validates the use of mixed-methods approaches.

4.2.1 Defining mixed-methods

Johnson et al. (2007) claimed that mixed-methods was an intellectual and practical combination founded by qualitative and quantitative research as the third methodological paradigm along with qualitative methodology and quantitative methodology. Mixed-methods was broadly defined as "the research methods in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry" (Tashakkori & Creswell, 2007, p. 4). Mixed-methods has been widely employed in social science research with combinations of different methods and research paradigms to investigate complex situations and epistemological assumptions (Hirose & Creswell, 2023). Quantitative and qualitative analyses can offer research findings to address the research question (Ghiara, 2020). The current study employed Tashakkori and Creswell's (2007) definition of mixed-methods, whereby the researcher collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches in a single study. Specifically, this research study collected quantitative and qualitative data and analysed quantitative and qualitative viewpoints to address the overarching research question: *How do teachers' motivation and occupational needs impact teacher wellbeing?*

4.2.2 Mixed-methods studies on teacher wellbeing

Various research has applied a mixed-methods approach to investigate teacher wellbeing (Aziz et al., 2024b; Beames et al., 2024; Chan et al., 2021; Hidalgo-Andrade et al., 2021; Klassen et al., 2008; Rombaoa Tanaka et al., 2020; Suldo et al., 2009; Thorburn & Dey, 2017; Zhang et al., 2024). Surveying teachers and conducting interviews with teachers are common ways to

collect quantitative data and qualitative data across a range of research (Anderson et al., 2019; Chen et al., 2023; Parr et al., 2021; Sammons et al., 2008; Song et al., 2020; Walter et al., 2023). For example, Song et al. (2020) examined the mediating role of self-efficacy in relation to teacher wellbeing with mixed-methods approaches. The quantitative data showed that teacher wellbeing was positively related to work satisfaction mediated by self-efficacy, and the qualitative data showed that teachers' self-efficacious beliefs underpin teacher wellbeing. Walter et al. (2023) also undertook mixed-methods research by surveying teachers and conducting structured interviews with teachers to examine their psychological wellbeing and occupational stress. The quantitative results indicated a significant correlation between teachers' occupational stress and psychological wellbeing; the qualitative results identified that burnout and attrition negatively affect teachers' optimal teacher functioning. Zhan et al. (2024) claimed that the use of qualitative and mixed research methods to explore teacher wellbeing has increased in recent times based on a descriptive quantitative analysis of 774 journal articles from 1968 to 2021. These three mixed-methods studies employed surveys and interviews to identify important quantitative factors contributing to teacher wellbeing and consolidated those factors by providing meaning from rich qualitative data.

Further, mixed-methods approaches have been implemented to investigate teacher wellbeing intervention (Carroll et al., 2022b; Evans et al., 2018; Rees-Evans & Pevalin, 2017). Carroll et al. (2022b) applied mixed-methods to examine the Mindful Practice for Teachers program. The authors collected participant reflections throughout the study and self-report measures to determine the degree of stress relief and factors of subjective wellbeing. Analysis of the quantitative results of the self-reported scale and qualitative results of participant reflections revealed a statistically significant change between pre-program and post-program (Carroll et al., 2022b). The mixed-methods study identified a decrease in participants' perceived level of stress through quantitative results while providing stress management resources for teachers

through qualitative results. Likewise, Evans et al. (2018) applied mixed-methods to evaluate a complex school-based intervention for teacher wellbeing. They adopted surveys to collect quantitative data prior to the intervention to develop an understanding of teachers' views on their wellbeing. After the intervention, they conducted focus groups, interviews and observations to collect qualitative data and examine the effectiveness of the process. Moreover, Rees-Evans and Pevalin (2017) applied mixed-methods to conduct single-group, pre, post and follow-up design studies over 16 weeks to examine the effectiveness of the Principle-based Model of Mind, Consciousness and Thought Intervention program. The pre, post and follow-up intervention data were collected quantitatively via a wellbeing scale to identify existing problems; qualitative interview data were collected during the follow-up period to offer initial evidence for effective strategies to increase teachers' psychological wellbeing. Hence, mixed-methods can help develop an overview and in-depth individual experiences for the interventions and provide empirical evidence to support refining the interventions in light of the school system's complexity.

As evidenced by these studies, mixed-methods designs have been widely employed in teacher wellbeing research to capture teachers' perceptions of their wellbeing quantitatively and delve into individuals' experiences of their wellbeing qualitatively.

4.2.3 Justification for applying mixed-methods

The significant strength of mixed-methods approaches is providing a process for incorporating different methodologies and integrating findings to answer the research question based on both qualitative and quantitative methods (Creswell & Clark, 2018; Dawadi et al., 2021; Johnson & Walsh, 2019; Molina-Azorin & Fetters, 2019). This section discusses the justification of this methodology.

4.2.3.1 Strengths of mixed-methods

Mixed-methods approaches to data collection have a range of advantages (Cohen et al., 2018; Dawadi et al., 2021; Molina-Azorin & Fetters, 2019). Dawadi et al. (2021) claimed that mixed-methods approaches allow sufficient breadth and depth for research inquiry by collecting quantitative data for generalising the findings to a research population and collecting qualitative data for developing a detailed view of the research problem for individuals.

Studies by Cohen et al. (2018), Ghiara (2020), and Molina-Azorin and Fetters (2019) reported the benefits of using mixed-methods for data analysis. Data triangulation in a mixed-methods study has been widely accepted as an effective strategy for validating quantitative and qualitative data analysis. Dawadi et al. (2021) defined data triangulation as comparing, combining and converging quantitative and qualitative findings to obtain more valid and stronger inferences than a single method.

Another benefit of mixed-methods research is that combining and integrating quantitative and qualitative data analysis can help develop balanced discussions and implications (Creswell & Clark, 2018; Dawadi et al., 2021; Molina-Azorin & Fetters, 2019). Creswell and Clark (2018) argued that mixed-methods serve the needs for discussions and implications by "obtaining more complete and corroborated results" (p. 8) and "explaining initial results" (p. 9).

4.2.3.2 Convergent design of mixed-methods

A convergent mixed-methods design—which concurrently collects and analyses both quantitative and qualitative data—has been widely used to examine professional factors on teacher wellbeing (Anderson et al., 2019; Chan et al., 2021; Creswell & Clack, 2018; Fox et al., 2020). Chan et al. (2021) applied the convergent design to integrate qualitative and quantitative findings and provide in-depth insights into teacher wellbeing during the COVID-19 pandemic. Their study emphasised the teacher autonomy factor based on the quantitative

findings and advocated for clear expectations for teaching outcomes to reduce emotional exhaustion based on the qualitative findings. The quantitative results captured the negative impact on teachers' psychological adjustments in the face of changes in job characteristics and professional functioning during the pandemic; the qualitative results confirmed the quantitative model by providing teachers' narratives of emotional exhaustion, increased workload and perceived ambiguity in their job duties. Anderson et al. (2019) adopted the convergent mixed-methods design to collect quantitative data via surveys and qualitative data via structured interviews to examine the relationship between professional evaluation and teacher wellbeing. Consequently, the quantitative results revealed that the professional evaluation process negatively affected teacher wellbeing, and the qualitative results confirmed the quantitative findings by providing teachers' negative experiences of the evaluation system.

4.2.3.3 Limitations of mixed-methods

There are methodological limitations to a mixed-methods approach (Creswell & Clark, 2018). Qualitative findings may reflect participants' subjective experiences and should be carefully displayed when representing overall experiences for generalising the findings in mixed-methods discussions (Chan et al., 2021). When integrated with quantitative findings, qualitative data has the potential to elaborate contextual experiences to improve practice; however, qualitative evidence may be too short for longitudinal purposes or the sample size too small to be practically embedded in the mixed-methods discussions (Kidger et al., 2016). First-person and cross-sectional approaches in quantitative methods may generate bias, which should be considered in mixed-methods discussions (Yu et al., 2021). However, ensuring the quality of applying mixed-methods should minimise the limitations.

This section has justified the appropriateness of applying mixed-methods to provide generalisations from quantitative data and diversifications from qualitative data to develop teacher wellbeing research further. Quality criteria were followed to ensure rigorous mixed-

methods approaches. Hence, this research study warranted the discussions and implications by utilising the strengths of mixed-methods and minimising the weakness of single-method approaches to produce more meaningful and balanced conclusions.

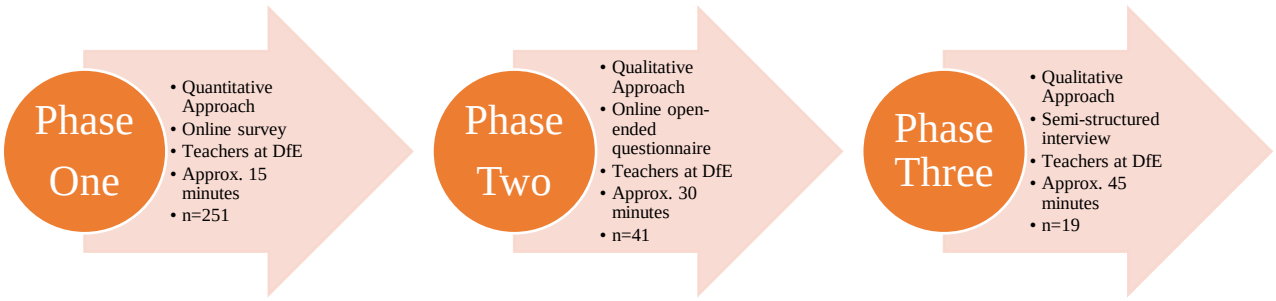
4.3 The current study

This research study employed mixed-methods to investigate teacher wellbeing across three phases. In Phase One, a self-composed survey was designed to quantitatively identify major factors in sustaining teaching motivation and impacting teacher wellbeing. In Phase Two, an open-ended questionnaire was designed according to the Anticipate-Act-Reflect (AAR) cycle (Hattie, 2008) to qualitatively investigate teachers' perspectives for sustaining teacher wellbeing through reflective responses. In Phase Three, a semi-structured interview was designed based on the teacher professional life phases (TPLP) model (Day & Gu, 2010) to qualitatively examine differentiated teachers' needs for sustaining teacher wellbeing. Details of mixed-methods approaches are presented in this section.

In this research study, the quantitative data were collected from online surveys (n = 251) and the qualitative data were collected from online open-ended questionnaires (n = 41) and semi-structured interviews (n = 19). These mixed-methods approaches enabled the "triangulation of data source" (Creswell & Clark, 2018, p. 60), ensuring the reliability and validity of data analysis. The three stages of the mixed-methods approaches are outlined in Figure 4.1.

Figure 4.1

Three Phases of Mixed-methods Approaches for the Study



Note. DfE refers Department for Education South Australia.

4.3.1 The mixed-methods study

This research study adopted the convergent design mixed-methods, collecting and analysing data by concurrently applying quantitative and qualitative approaches (Cohen et al., 2018; Creswell & Clark, 2018) to investigate teacher occupational wellbeing. Mixed-methods approaches (Creswell & Clark, 2018) were applied to:

- collect both qualitative and quantitative data
- analyse both forms of datasets and results
- organise methods into a specific research design
- frame these methods within the theoretical framework (p. 5).

The convergent mixed-methods design has been proven effective in assessing teacher wellbeing by comparing and contrasting quantitative and qualitative results. This research study employed a convergent design with “QUAN + QUAL” notation, concurrently collecting

and analysing both quantitative and qualitative data for the triangulation of data sources (Creswell & Clark, 2018, p. 60). Specifically, the current study's convergent design with "QUAN + QUAL" notation allowed analyses of both quantitative and qualitative data simultaneously with equal emphasis. It also allowed both separate and converged results for quantitative and qualitative data. Hence, this convergent design provided empirical evidence for advocating consistent quantitative measures and ongoing deep conversations with teachers to address the complexity of teacher wellbeing.

This research study adopted core quality criteria from Hirose and Creswell's (2023) study to obtain the quality of rigorous mixed-methods. Primarily, mixed-methods served the requirements to quantitatively generalise an overview of teacher wellbeing perceptions of Department for Education (DfE) teachers and qualitatively explore individualised experiences on sustaining teacher wellbeing. The rationale reflects the pragmatism that values both objective knowledge (quantitative data) and subjective experiences (qualitative data) to meet research objectives and address research questions (Dawadi et al., 2021). This research study separately collected, analysed and reported the quantitative and qualitative data to identify robust quantitative trends and qualitative themes. Such a process ensured the equality and objectivity of the survey, questionnaire and interview findings across the three phases. At the final stage of the discussion, it carefully integrated quantitative trends and qualitative themes, which provided opportunities to categorise and combine all forms of data and leads to best answer the research questions. By closely following the core quality criteria, this research study ensured the quality of rigorous mixed-methods.

4.3.2 Overview of three phases

This research study utilised the quantitative results from Phase One to formulate key factors contributing to teacher wellbeing, interpreted the qualitative results from Phase Two to identify specific actions to sustain teacher wellbeing and clarified the qualitative results from Phase

Three to raise potential solutions for advancing teacher wellbeing. Such mixed-methods led to balanced and practical conclusions for this research study. The following sections reveal the detailed approaches across the three phases.

4.3.2.1 A quantitative approach—Phase One

Phase One adopted a quantitative approach to collect data from a large sample of teachers (n = 251) at the DfE in South Australia through online surveys via Qualtrics to generate quantitative outcomes for investigating Research Objective One: To examine teachers' motivation factors from the self-determination theory perspective on their wellbeing.

Online surveys are a widely used method across social sciences research due to their accessibility to obtaining large samples, cost-effectiveness and rapid response rate of data collection (Buchanan & Hvizdak, 2009; Creswell & Clark, 2018; Saleh & Bist, 2017). Data from surveys can describe a population, identify characteristics of a group and explain how variables are related (Creswell, 2014). In accordance with the overarching research question, the online survey results provided numerical data to identify the attributes from a large sample of DfE teachers to make inferential generalisations of motivation and teacher wellbeing based on dependent and independent variables.

The online survey using Qualtrics was an accessible method for conducting quantitative research on a targeted population (Buchanan & Hvizdak, 2009) to address two supporting research questions:

- Research Question One: What are the major motivation factors impacting the advancement of teacher wellbeing?
- Research Question Two: How are the needs for competence, autonomy and relatedness of self-determination theory impacting teacher motivation to advance teacher wellbeing?

Phase One research was scheduled for three months (February 2022 to April 2022). The convenience of participation was highly considered to allow potential participants to obtain easy access to the online survey and to respond at their convenience (Buchanan & Hvizdak, 2009; Evans & Mathur, 2005). This research study embedded a survey URL and QR code in the research invitation posts (via social media and flyers) and emails (via the school email system) so potential participants could access the online survey via their laptops, computers and mobile phones without any physical contact.

Phase One of this research study considered three groups of the targeted population who were likely to be interested in the research focus and access the online survey (Saleh & Bist, 2017). After identifying the potential benefit of the research focus, the targeted population of interest were evaluated to determine the potential participants who were most knowledgeable and most able to provide information within the research scope (Newcomer & Triplet, 2015). The first group of the targeted population were the social media groups. The second group of the targeted population were DfE teachers at schools in South Australia, and the online survey invitation emails were sent to those teachers by school principals from DfE in South Australia as requested by the researcher. The last group of the targeted population were DfE teachers who were attending professional development at the Education Development Centre located in Adelaide, and the researcher posted the online survey invitation flyer on the noticeboard. Therefore, those targeted groups were identified to recruit potential participants who were the most relevant for this the research study in Phase One.

The online survey method was used to collect quantitative data in Phase One of this research study to explore numerical outcomes and validate inferential generalisations.

4.3.2.2 A qualitative approach—Phase Two

Phase Two research implemented a qualitative approach to generate descriptions from teachers (n = 41) at the DfE in South Australia via the online open-ended questionnaire to develop a qualitative understanding of Research Objective Two: To identify teachers' major motivation functions for sustaining their wellbeing.

An open-ended questionnaire refers to a series of open-ended questions designed by a researcher focusing on a particular topic (Braun et al., 2021). The online open-ended questionnaire can be used to collect only qualitative data (Terry & Braun, 2017).

The online open-ended questionnaire used in Phase Two consisted of 12 open-ended questions presented in a fixed and standard order to all participating teachers. They were invited to type responses in their own words to gather authentic, rich and complex opinions of motivation and teacher wellbeing. The online open-ended questionnaire enabled openness to address the research questions from various subjective opinions from potential participants without seizing predetermined results (Braun et al., 2021; Given, 2015). Based on their individual experiences, narratives, practices and beliefs, their responses can be used to address the supporting research question:

- Research Question Three: What are the major motivation functions for sustaining teacher wellbeing?

The 12 open-ended questions were designed based on the AAR cycle (Hattie, 2008) to qualitatively explore individual teacher's voices on work-related wellbeing and motivation through three-staged behaviours. Forty-one participating teachers who were employed by DfE and self-selected to respond to the online open-ended questionnaires were from the social media groups based in South Australia and DfE schools, which achieved the diversity of the phenomenon under research scope within the target population (Jansen, 2010). The

participating teachers were from diverse contexts, providing diverse perspectives, experiences and sense-making from their written responses to the 12 open-ended questions (Braun et al., 2021). The diverse contexts facilitated achieving the saturation concepts based on grounded theory (Braun et al., 2021; Glaser & Strauss, 1967; Jansen, 2010), which determined the appropriate sample size for the online open-ended questionnaires of Phase Two.

An online open-ended questionnaire can gather written responses from a large and diverse sample (Braun et al., 2021). Within the sample collected in Phase Two, appropriate representativeness was achieved from teachers who were from novice phases (n = 8), mid-career phases (n = 24) and veteran phases (n = 9) to investigate experiences, perspectives, practices and discourses on motivation and teacher wellbeing. In turn, the 12 open-ended questions followed a fixed and standard order for all participating teachers, ascertaining standardisation for generalisability in the data analysis process (Braun et al., 2021). There were four open-ended questions in each section, including the anticipate phase, act phase and reflect phase. These 12 open-ended questions invited teachers to organise and articulate their perceptions of habitual, societal and organisational thinking and behaviours to capture a natural view of teacher wellbeing. Therefore, the open-ended questionnaire method of Phase Two gathered responses from diverse representativeness and wide inferences, and a fixed set of 12 open-ended questions ensured the standardisation that facilitates generalisability in the data analysis process.

Phase Two research was scheduled for three months (February 2022 to April 2022). The online open-ended questionnaire enabled a participant-centred research practice as a less burdensome research approach (Braun et al., 2021). The convenience of participation was highly considered to allow potential participants easy access to the online open-ended questionnaires and respond at their convenience (Buchanan & Hvizdak, 2009; Evans & Mathur, 2005). The researcher emailed the online open-ended questionnaire URL and QR code to the participating teachers

so they could access it via their laptops, computers and mobile phones without any physical contact.

The online open-ended questionnaire method was used to collect qualitative data in Phase Two of this research study to explore diverse representativeness and wide inferences and ensure the standardisation of questions for generalisability in data analysis.

4.3.2.3 A qualitative approach—Phase Three

Phase Three of the research applied a qualitative approach to gather narratives from teachers (n = 19) at the DfE in South Australia via semi-structured interviews to develop a qualitative understanding to address Research Objective Three: To distinguish teachers' occupational factors across different professional life phases for enhancing teacher wellbeing.

Interviewing is the most known and widely used method employed by qualitative researchers to collect empirical data by having structured conversations with individuals about their experiences, practices and discourses in depth (Cohen et al., 2018; Given, 2015; Liamputtong, 2020; McIntosh & Morse, 2015). Specifically, "an interview allows for greater depth than is the case with other methods of data collection" (Cohen et al., 2018, p. 508). A semi-structured interview uses an interview guide consisting of predetermined questions based on the study's theoretical framework and research questions and follow-up questions after the participant's initial responses (Kallio et al., 2016; Liamputtong, 2020; McIntosh & Morse, 2015). There were a range of advantages to conducting semi-structured interviews for Phase Three of this research study.

To ensure the semi-structured interview is a rigorous data collection method for collecting verbal descriptions, the design of interview questions should support the research question(s) for addressing the research focus (Kallio et al., 2016). This research study employed Day and Gu's (2010) TPLP to design predetermined semi-structured interview questions based on the

differentiated needs of teacher wellbeing across the teaching profession continuum to ascertain the supporting research question:

- Research Question Four: What are the major occupational factors across different professional life phases that enhance teacher wellbeing?

Nine interview questions were developed based on teacher wellbeing factors identified in the literature review of this research study: *Teacher Autonomy and Efficacy, Professional Demands and Resources,* and *Connectedness to the Profession*. By asking the participating teachers the nine predetermined interview questions, the semi-structured interviews resulted in gathering in-depth verbal responses to address the research questions.

The semi-structured interview provided a balanced method that permitted the researcher to ask questions important to the research focus and allowed participants some autonomy to explain their opinions (Liamputtong, 2020; McIntosh & Morse, 2015). Each participating teacher was asked the nine predetermined interview questions in the same way and systematic order to ascertain replicability. Then, during the semi-structured interviews in Phase Three, the researcher probed follow-up questions based on participating teachers' initial views on the predetermined questions, which allowed the conversation to flow. The follow-up questions allowed clarifications from adjustments, elaborations and exemplifications by ensuring the quality of the conversations between the researcher and the participating teachers (Given, 2015). For example, after answering each predetermined interview question, the participating teachers were asked follow-up questions, such as "In what way…" and "Such as…", to elaborate beyond their initial responses.

The replicability of the nine predetermined interview questions and clarification of the follow-up questions established the information power that determined the sample size of the interviews (Malterud et al., 2016). Once information power was achieved, the rigorous data

achieved the saturation concepts in the interviews based on grounded theory (Malterud et al., 2016). Therefore, the replicability of the nine predetermined interview questions and clarification of the follow-up questions yielded rigorous data collection in Phase Three.

The semi-structured interviews for Phase Three were scheduled for three months (May 2022 to July 2022) and were conducted via the internet using Zoom Meeting. Utilising an electronic mode of conducting the semi-structured interview enabled recruitment from a wide range of participants and avoided various limitations, such as geographic distance and limited research time (McIntosh & Morse, 2015). Notably, the Zoom application allowed no face-to-face contact between the researcher and the participating teachers to ease administrative restrictions, such as self-isolation and visiting school sites due to the DfE's (2021) COVID-19 policies.

The semi-structured interview method was used to collect qualitative data in Phase Three to ensure the quality of dialogues with the participating teachers and achieve rigorous data collection.

4.3.3 Data collection

Three datasets were collected throughout the three phases of this research study to address the overarching research question: 1) quantitative survey data, 2) qualitative open-ended questionnaire data, and 3) qualitative semi-structured interview data. As listed in Table 4.1, this research study separately collected, analysed and reported the quantitative and qualitative data to address four supporting research questions (Research Question One, Research Question Two, Research Question Three, and Research Question Four) and three research objectives (Research Objective One, Research Objective Two, and Research Objective Three) across the three phases. This allowed separation, equality and objectivity in discussions on survey, questionnaire and interview findings across three phases. At the final stage of discussion, it integrated quantitative trends and qualitative themes to address two supporting research

questions (Research Question Five and Research Question Six) and two research objectives (Research Objective Four and Research Objective Five), leading to best answer the overarching research question: How does teachers' motivation and occupational needs impact teacher wellbeing?

Table 4.1

Summary of Data Collection Process

Research objectives	Research questions	Data collection	Data analysis
To examine teachers' motivation factors from the Self-determination Theory perspective	What are major motivation factors impacting on the advancement of teacher wellbeing? How are three needs for competence, autonomy and relatedness of Self-determination Theory impacting on teacher motivation to advance teacher wellbeing?	Phase One: Online survey	Quantitative analysis
To identify teachers' major motivation functions for sustaining professional enthusiasm	What are the major motivation functions for sustaining teacher wellbeing?	Phase Two: Open-ended questionnaires	Content Analysis
To distinguish teachers' occupational needs for meeting professional requirements across different professional life phases	What are the major occupational factors across different professional life phases to enhance teacher wellbeing?	Phase Three: Semi-structured interviews	Thematic Analysis
To evaluate teachers' motivation for enhancing their occupational needs	How do occupational factors impact on teaching motivation for the advancement teacher wellbeing?	By mixing two sets of qualitative data results	Combining two sets of qualitative analysis
To analyse the impact of teachers' motivation underpinned by Self-determination Theory	How does teacher motivation underpinned by Self-determination Theory factors	By mixing one set of quantitative results and two	Triangulating a set of quantitative analysis and

Research objectives	Research questions	Data collection	Data analysis
factors on their occupational needs for their wellbeing	impact on the advancement of teacher wellbeing?	sets of qualitative data results	two sets of qualitative analysis

Note. Teachers refer teachers who are employed at South Australian Department for Education schools (Preschool-12).

The next section presented an overview of three phases of the mixed-methods study.

4.4 Phase One—Online survey

Phase One of this research study employed a quantitative approach to investigate teacher wellbeing using an online survey (see Appendix A) via the Qualtrics platform. Phase One implemented a self-composed *Teacher Motivation and Wellbeing Scale* (TMWS) to quantitatively explore DfE teachers' perceptions of work-related wellbeing and motivation across the teaching profession continuum. This section presents justifications, verifications and formations for the TMWS based on three studies.

4.4.1 Overview of Phase One

An online survey was created by using a self-composed scale, the TMWS, to measure identified constructs. The scale items were adapted from three scales: the Educator Motivation and Attribute Profile (EdMAP) scale (McInerney et al., 2018), the School Leader Empowering Behaviours (SLEB) scale (Lee & Nie, 2017), and the Teacher Subjective Wellbeing Questionnaire (TSWQ) (Renshaw, 2020). All authors granted permission to utilise the partial scales.

Quantitative data were collected from an online survey of teachers at DfE schools in South Australia. The online survey invitation posts were published in social media groups based in South Australia. The online survey invitation emails were sent to teachers by school principals

from DfE in South Australia. The online survey data was used for quantitative analysis (see Chapter 5).

4.4.2 Three scales

This section describes three scales—the EdMAP scale (McInerney et al., 2018), the SLEB scale (Lee & Nie, 2017) and the TSWQ (Renshaw, 2020)—to validate the formation of the self-composed scale. Both Renshaw et al. (2020) and McInerney et al. (2018) acknowledged teacher efficacy was positive for teachers' professional satisfaction, which resonated with the need for competence proposed in this study. Further, Renshaw et al. (2020) underlined social support for fostering connectedness to school for teacher occupational wellbeing, which underpinned the need for relatedness. Lee and Nie (2017) emphasised the importance of teacher empowerment, which sustained teachers' motivation, including promoting teachers' recognition, workplace conditions and quality of school leadership, which echoed the need for autonomy proposed in this study.

4.4.2.1 Educator Motivation and Attribute Profile Scale

The EdMAP scale consisted of 23 hypothesised subscales, focusing on six higher-order factors: Leadership, Goal Orientation, Application, Variety/Innovation, Abstract, Thinking and Interpersonal (McInerney et al., 2018). The EdMAP scale was empirically (n = 1,109) proven with sufficient validity and reliability in investigating the relationships between teachers' professional occupational attributes and their psychological wellbeing, job satisfaction, occupational self-concept, and intentions to stay or leave the teaching profession and/or the current school.

4.4.2.2 School Leader Empowering Behaviours Scale

The SLEB scale consisted of seven hypothesised subscales, including Delegation of Authority, Providing Intellectual Stimulation, Giving Acknowledgement and Recognition, Articulating a

Vision, Fostering Collaborative Relationship, Providing Individualised Concern and Support, and Providing Role-modelling (Lee & Nie, 2017). The SLEB scale was empirically (n = 304) proven with satisfactory validity and reliability in examining the relationships between leadership empowering behaviours and teachers' motivation and performance to design improvement on the specific behaviours of school leaders.

4.4.2.3 Teacher Subjective Wellbeing Questionnaire

The TSWQ measured teachers' positive psychological functioning at work, particularly measurements of School Connectedness and Teacher Efficacy (Renshaw et al., 2020). The TSWQ was empirically (n = 206) proven to have satisfactory validity and reliability in examining teachers' self-efficacy and connectedness in the school environment.

4.4.3 The self-composed scale development

The three scales were selected to design the self-composed scale TMWS for this research study. This section presents justifications, verifications and formations of four subscales.

4.4.3.1 Self-efficacy subscale development

Eight items in Self-efficacy subscale were adapted from the EdMAP scales (McInerney et al., 2018) and the TSWQ (Renshaw, 2020) to gather teachers' perceptions of teacher efficacy. The eight items were designed to explore the relationship between teacher self-efficacy and occupational wellbeing.

Items One to Three were adapted from the TSWQ (Renshaw, 2020). The TSWQ (Renshaw, 2015) included a Teacher Efficacy construct with sound Cronbach alpha coefficient ($\alpha = 0.84$). The results of the first Multivariate Analysis of Variance (MANOVA) test using the general school level (primary and secondary schools) as the independent variable and teacher efficacy as the dependent variables indicated a non-significant school-level effect on teacher efficacy and subjective wellbeing (Renshaw et al., 2015). According to Renshaw et al. (2015), the

MANOVA testing results supported data collection from diverse school levels: preschool to Year 12. Items Four to Eight were adapted from the EdMAP scales (McInerney et al., 2018). The Goal construct was proven with soundness of measurement by CFI (0.917) (McInerney et al., 2018). The Goal construct was under the higher-order subscale, Intrinsic and Extrinsic Motivation, established by McInerney's (2015) study. Further, Renshaw et al. (2015) acknowledged that teachers' joy of teaching was associated with providing students with desired educational outcomes, and McInerney et al. (2018) identified that teachers' commitment to their profession was associated with self-efficacy beliefs and occupational self-concept. Their findings resonate with the self-determined aspect of teacher efficacy proposed in the current study. Thus, eight items were adapted to measure teacher wellbeing under the Self-Efficacy subscale.

4.4.3.2 Emotion Function subscale development

Nine items in the Emotion Function subscale were adapted according to the EdMAP scale (McInerney et al., 2018) to gather teachers' perceptions of emotional capabilities at work. The nine items were designed to analyse the relationship between teachers' perceived emotional capabilities and their occupational wellbeing.

Items One to Nine were adapted from the EdMAP scales. Two constructs were proven with soundness of measurement of CFI (0.954): Behavioural Flexibility and Emotional Control (McInerney et al., 2018). The Behavioural Flexibility construct and Emotional Control construct were under the higher-order subscale Psychological Capabilities, underlining cognitive and psychological attributes (McInerney, 2015). As suggested, self-regulation, self-reflection and emotion regulation could effectively prevent professional exhaustion and increase teachers' psychological wellbeing (McInerney et al., 2018). Their findings confirmed the self-determined aspect of teacher resilience proposed in the current study. Therefore, nine items were adapted to measure teacher wellbeing under the Emotion Function subscale.

4.4.3.3 Social Relationships subscale development

Thirteen items in the Social Relationships subscale were adapted according to the EdMAP scale (McInerney et al., 2018) and TSWQ (Renshaw, 2020) to gather teachers' perceptions of social interactions at work. The 13 items were designed to investigate the relationship between teacher's social responses and their occupational wellbeing.

Items One to Eight were adapted from the EdMAP scale, and two constructs were proven with soundness of measurement by CFIs (0.928): Tenacity and Group Influence (McInerney et al., 2018). The Tenacity construct and Group Influence construct were under the higher-order subscale Collegial Interactions, addressing the quality of collegiality for managing workplace matters (McInerney, 2015). As suggested, their findings supported that unfavourable working conditions and negative dynamics and perceptions contribute to decreased teacher wellbeing, whereas reflective dialogue among colleagues leads to a sense of belonging and valuing the activities in the school (McInerney et al., 2018). Items Nine to Thirteen were adapted from the TSWQ (Renshaw, 2020). Their MANOVA testing used unique school environment (identified school sites) as the independent variable and the School Connectedness construct as the dependent variable, indicating a significant school environment main effect on teacher subjective wellbeing. The School Connectedness construct was based on teacher-specific subjective wellbeing underlining prosocial relationships and social support (Renshaw et al., 2015). Their findings verified the importance of social relationships and support social relationships for fostering connectedness to school for teacher occupational wellbeing (Renshaw, 2020). Their studies resonated with the self-determined aspect of social relationships proposed in the current study. Therefore, 13 items were adapted to measure teacher wellbeing under the Social Relationship subscale in this research study.

4.4.3.4 Agency subscale development

Ten items in the Agency subscale were adapted from the SLEB scale (Lee & Nie, 2017) to gather teachers' perceptions of teacher empowerment at work. The 10 items were designed to investigate the relationships between teachers' perceived empowerment and their occupational wellbeing.

Items One to Ten were adapted from two constructs in the SLEB scale (Lee & Nie, 2017) with sound Cronbach alpha coefficients: Delegation of Authority ($\alpha = 0.93$) and Giving Acknowledgement ($\alpha = 0.91$). The Delegation of Authority construct referred to delegating leadership to workers to control their own work, such as distributed responsibility and authority and decision-making (Lee & Nie, 2017). Lee and Nie (2017) reinforced the need for teacher autonomy. Their findings underpinned the necessity of teacher empowerment, including decision-making about teaching pedagogy and curriculum and teacher leaders for promoting effectiveness and responsibilities. Following, Giving Acknowledgement and Recognition constructs indicated leadership's rewards for the achievement of specified goals to motivate workers' behaviours (Lee & Nie, 2017). Lee and Nie (2017) underlined the importance of career progression through teacher empowerment to sustain teachers' motivation, including promoting teachers' recognition, workplace conditions and quality of school leadership. Hence, 10 items were adapted to measure teacher wellbeing under the Agency subscale in this research study.

4.4.3.5 Teacher Motivation and Wellbeing Scale

Structural compatibility and substantive compatibility from the three scales formed the measuring instrument for this research study, the TMWS (see Appendix A). The TMWS survey covered four subscales: Self-efficacy, Emotion Function, Social Relationships and Agency. There are 40 items, each measured on a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). First, there were eight items under the Self-efficacy subscale

to seek teachers' opinions of their self-efficacy. Second, there were nine items under the Emotion Function subscale to explore teachers' perceptions of their emotions at work. Third, there were 13 items under the Social Relationships subscale to discover teachers' experiences of their social relationships at school. Last, there were 10 items under the Agency subscale to determine teachers' perspectives on their professional progression and school leadership's support.

4.4.4 Quantitative data analysis

Quantitative methods were used to analyse the online survey data; SPSS and AMOS were applied. As Cohen et al. (2018) suggested, approaches for quantitative data analysis were followed to ascertain important foundational measures of numerical data. The following section describes the 11-step quantitative data analysis process.

1) Descriptive statistics for demographics and scale measures were extracted, organised and reported to develop an in-depth knowledge of participants' demographic information and overall responses to measures. For example, the participants were from a range of school levels, including preschool (27%), primary school (45%), secondary school (21%) and other types of schools (5%). The majority of participants agreed or strongly agreed on the positive indicators of teacher wellbeing according to the summary of the measures. The information was reported to provide key features of the data set without making any inferences or predictions.

2) Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were applied to group variables that share similarities from the online survey responses. This can assist in reducing to a smaller number of underlying factors—"the latent factors" (Cohen et al., 2018, p.818)—which effectively categorise the data set. Factor analysis identified preliminary structures and commonalities in the relationships between

variables from the online survey dataset and enabled formations of the same underlying concepts to establish the preliminary motivation constructs.

3) Principal components analysis was conducted for the initial EFA, including eigenvalues, extraction sums of squared loadings and rotation sums of squared loadings. This process explored groupings of variables and sought patterns and clustering from the current study's online survey dataset. According to the key criteria (Cohen et al., 2018; Kline, 2015). In the online survey dataset, the eigenvalue greater than one was accepted for further examination according to Kaiser normalisation criterion. Four factors were determined according to the eigenvalues of 10.997, 4.705, 3.091 and 2.456. Together, they explained 53% of the total variance. Then, extraction sums of squared loadings informed how much variance was explained by each identified factor to develop an understanding of the exploratory power. Last, rotation was performed to maximise the variance between factors and distinguish them based on professional judgement of the cut-off point. In total, 27 items met the requirement to ascertain the strengths of the factor loading, including *Factor One Resilience, Factor Two Connectedness, Factor Three Autonomy,* and *Factor Four Capability.*

4) Statistical analysis was conducted to examine the mean, the standard deviation, the skewness and the kurtosis. The nature of the distribution was evaluated to see if the data conformed to the normal curve, which can influence the choice of statistics. For example, descriptive statistics for *Factor One Resilience* were reported. The highest mean score for *Factor One Resilience* was 4.42 for item "Change approach to achieve a goal", and the lowest mean score was 3.93 for item "Adapt behaviour to suit the situation". These measures assumed the population was normally distributed from this research study's online survey dataset, which allowed inferences to be made about the online survey responses.

5) Post hoc tests in analysis of variance (ANOVA) were conducted to compare factor scores across demographic variables. As Cohen et al. (2018) and Kline (2015) have suggested, ANOVA is useful for examining differences between two groups or more of respondents with a normal distribution. Four groups of demographic variables from the online survey were examined against the ANOVA: qualifications, school levels, employment status, and years of teaching. The results indicated no significant differences based on the demographic variables.

6) CFA was conducted based on items loaded on the identified factors from the EFA to confirm the factor structure. CFA is commonly used to evaluate a found set of factors from EFA against a hypothesised structure of groupings (Kline, 2015). For example, standardised regression weights provided evidence that the factors were distinct constructs, such as item "Adapt behaviour to suit the situation" loaded on *Factor One* with 0.827 loading, and item "Leaders give praise" loaded on *Factor Two* with 0.843 loading.

   The hypothesised model structure was based on the current study's pre-established theoretical framework. It informed the primary relationships between latent variables, including *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy,* and *Teacher Agency,* from the online survey dataset of this research study.

7) Multi-linear regression was conducted against the items identified from the final CFA to examine a line of best fit indicating the relationship between variables. The examination was based on the scatterplot of the residuals; that is, "approximately rectangularly distributed with the centre of the box being in a straight line with the horizontal axis centre-point and the vertical axis centre point both through zero" (Cohen et al., 2018, p. 808). Linearity tests ensured normality between dependent variables,

including *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy,* and *Teaching Capability*, and independent variables from the online survey dataset of this research study.

8) Multi-linear regression was conducted to evaluate the normality of residuals against the items identified from the final CFA. The normal probability plot (P-P Plot) is used to check normality, linearity and homoscedasticity (Tabachnick & Fidell, 2007). The four dependent variables of *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy,* and *Teaching Capability* were examined. The results of the P-P Plot output from the online survey dataset demonstrated reasonably straight lines running from the bottom left to the top right as linearity, which is close to the line of best fit as normality, and evenly distributed above and below the line as homoscedasticity.

9) Multi-linear regression was conducted against the items identified from the final CFA to evaluate R values. The R square value followed Muijs' (2004) guide: 0 to 0.10 as poor fit, 0.11 to 0.30 as modest fit, 0.31 to 0.50 as moderate fit, and 0.50 + as strong fit. The R square value showed that the dependent variable's extent of variance was explained by the independent variable in the calculation from the study's online survey dataset. For example, the adjusted R-square for the four-factor model *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy,* and *Teaching Capability* were 0.696, 0.988, 0.708, and 0.923, indicating a good quality of the generalisation of the results.

10) Multi-linear regression was conducted against the items identified from the final CFA to evaluate coefficients. Beta weightings represented the coefficients. This helps indicate how many standard deviation units would be changed in the dependent variable

for each standard deviation unit of change in each of the independent variables (Cohen et al., 2018). Coefficients indicated statistical significance for assumptions from the study's online survey dataset. It adopted the Beta weightings of zero to 0.39 as weak, 0.40 to 0.69 as moderate and 0.70 to 0.89 as strong (Schober et al., 2018) to guide effect size. For example, according to standardised coefficients, the independent variable "Ready for adapting to the situation" had the strongest positive effect ($\beta = 0.345$) on the dependent variable *Positive Emotion Management,* while "Change approach to achieve a goal" had the weakest positive effect ($\beta = 0.051$) on the dependent variable. The major motivation factors identified to address Research Question One were *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy,* and *Teaching Capability*.

11) Structural equation modelling (SEM) analysis was conducted to explore the relationships between the latent variables. SEM was conducted to confirm, modify and evaluate models of causal relations between the seven identified motivation constructs—*Autonomy, Agency, Perceived Distributed Leadership, Perceived Recognition, Connectedness to Teaching Profession, Manage Change,* and *Positive Coping*—as the preliminary results. SEM enables the construction of models of relationships between latent variables and evaluation of those models against data. Kline (2015) suggests three main tests: the chi-square, the comparative fit index (CFI) and the root mean square error of approximation (RMSEA).

    Conducting SEM determined how well the online survey dataset fit with three hypothesised models. This research study reported the model's goodness of fit generated by AMOS. It examined the weightings of independent motivation constructs on each other and a dependent motivation construct from the online survey dataset. It also established pathways of causation and determined the direct and indirect effects of

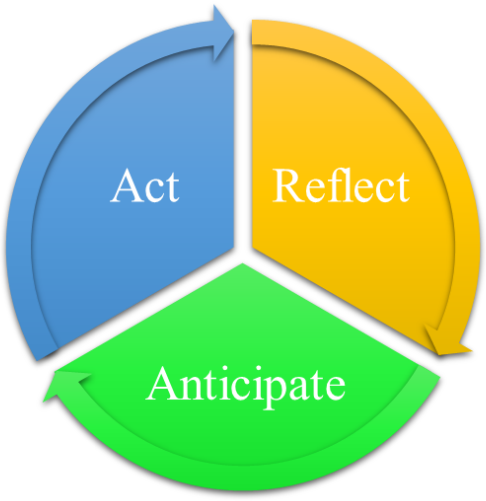
motivation constructs. The relationships between the seven motivation constructs addressed Research Question Two: *How are the three needs for competence, autonomy and relatedness of SDT impacting teacher motivation to advance teacher wellbeing?*

4.5 Phase Two—Open-ended questionnaire

Phase Two of this research study employed a qualitative approach to investigate teacher wellbeing. Phase Two implemented the AAR cycle (Hattie, 2008) to develop open-ended questions to qualitatively explore individual teachers' perceptions of work-related wellbeing and motivation through three staged behaviours: the anticipate, act and reflect phases. This section presents justifications, verifications and formations for three sets of open-ended questions based on the AAR cycle.

Figure 4.2

The Anticipate-Act-Reflect Cycle



Note. Model created based on the AAR cycle (OECD, 2019).

4.5.1 The Anticipate-Act-Reflect Cycle

The AAR cycle was employed in OECD Future of Education and Skills 2030 to promote agency and collective wellbeing (OECD, 2019). Based on Hattie's (2008, 2012) seminal work,

the AAR cycle was created through three staged behaviours: anticipate, act and reflect. The series of open-ended questions sought to spark teachers' opinions by reflecting upon those three staged behaviours during their teaching practice. This research conducted this process to identify dynamic dimensions of teachers' professional needs; notably, reflecting upon actions and processes for goal setting, monitoring and feedback of teachers to achieve specific professional outcomes.

4.5.2 Rationale for using the AAR cycle

People are the authentic users of the AAR cycle in both their personal and professional lives (OECD, 2018). People relatively reflect and act with or without specific guidelines in their professional lives to comply with organisational expectations and policy (Giangrande et al., 2019). The AAR cycle considered personal and environmental factors that might differentially impact individual teachers' career progression. Further, the AAR cycle is intentionally simple, inclusive and flexible, and it can be embedded in a range of settings that demonstrate different purposes and outcomes (OECD, 2019). Based on Vygotsky's cognitive theories, a cycle of intentionally planning, acting and reflecting helps shape an individual's existing perceptions and knowledge, which contributes to enhanced competence and cognition from a constructivist perspective (OECD, 2019). The AAR cycle was designed to promote individual agency by taking responsibilities, reconciling tensions, and creating new values; it was aligned with SDT (Ryan & Deci, 2000) to encourage the three basic psychological needs of autonomy, relatedness and competence.

Essentially, people make decisions and take actions in their personal and professional lives towards individual and collective wellbeing (Bandura, 2018). Individuals can naturally adopt the AAR cycle to shape their habitual, societal and organisational thinking and behaviours to fulfil their immediate life goals and work towards lifelong goals.

4.5.3 Open-ended questionnaire development

The AAR cycle guided the development of the open-ended questionnaire for this research study to capture a natural view of teacher wellbeing. The completed questions for the open-ended questionnaire are listed in Appendix B.

The anticipate phase emphasised the ability to develop an understanding of current choices and actions that might result in certain consequences in the future (Leadbeater, 2017). The four questions were designed to explore teachers' actions for extending teaching practice, growing positive student–teacher relationships, cultivating collaborative interactions in learning communities, and seeking leadership feedback on professional practice. These actions may reflect upon teachers' responsibilities in teaching in relation to their own entity and specific goal orientations (Cohen-Vogel et al., 2016). The four questions in the anticipate phase investigated teachers' agency for predicting their foreseeing behaviours in relation to goal-oriented and performance-oriented motivation. Responses to the four questions revealed encounters for encouraging positive approaches driven by motivation.

Giangrande et al. (2019) refer to the act phase as an individual seeking information and strategies to apply in problem-solving situations to move towards a valued outcome. The four questions in this phase were designed to prompt teachers to retrieve their cognitive functions when pursuing positive professional outcomes. Notably, the four questions sought to explore teachers' cognitive functions for aiming at creating new value and reconciling tensions and dilemmas according to the OECD Framework (2018); for example, "How have you and your students been working collaboratively to improve challenges in your classroom?" and "How have you and your colleagues been working collaboratively to improve challenging areas as a part of your learning community?" According to Bandura (2001), the questions reflect upon explored behaviours and impromptu actions based on individuals' goals and intentional cognitive functioning. Thus, the responses may specify approaches for achieving intentional

cognitive functioning, such as teachers' self-efficacy, resilience, positive social relationships and empowering behaviours.

Last, open-ended questions for the reflect phase asked teachers to estimate overall future actions and predict a direction for the continuous development of their agency. The four questions highlighted the pursuit of personal and intellectual growth for themselves and others, as suggested in Bandura's study (2018). These questions were developed to attain greater levels of complexity in participants' thinking and actions for developing agency, such as "Please provide an example where you have established ownership of your teaching practice according to your professional goals". Teachers may retrieve metacognition, self-awareness, critical thinking and decision-making (Rolheiser & Schwartz, 2001) when responding to their engagement in particular teaching situations to meet educational demands. The responses could determine effective approaches to engage teachers' agency in educational demands, changes and reforms.

4.5.4 Application of Content Analysis

Content Analysis (CA) was applied for analysing the open-ended questionnaire responses from Phase Two. The data analysis followed eleven steps of the CA to establish inductive processes for qualitative analysis (Cohen et al., 2018). Inductive analysis, as a data-driven process was employed in the CA (Braun & Clarke, 2006; Glaser & Strauss, 1967; Gibbs, 2007; Creswell, 2014). Coding in the CA was conducted via NVivo 12 Software. "Member checking" (Creswell, 2014, p.202) was used to determine the accuracy of the findings to ensure qualitative validity. Three specific steps: "check transcripts", "check the definition of codes", and "coordinate the communication among the coders" were followed to ensure qualitative reliability (Creswell, 2014, p.202). The following section describes the 11-steps of Content Analysis Process.

1) The written responses from the open-ended questionnaire of this research study were examined to inform the Research Question Three: What are the major motivation functions for sustaining teacher wellbeing?
2) It sampled all responses of the participants' perceptions of teacher wellbeing and defined sampling texts. It defined units of text, that is, the written responses were analysed at word levels, node levels, and sentence levels.
3) By implementing stratified sampling to collect teachers' perceptions of wellbeing via the online open-ended questionnaire, it considered the contexts of the representativeness, size, and generalisability of the sample.
4) It analysed demographics information responses to consolidate the context of the open-ended questionnaire to inform the authenticity and credibility of this dataset. For example, levels of school, years of teaching experiences, employment status, and qualifications of participants were considered, which may help to explain their teaching approaches and professional views.
5) Sampling units were distinguished and defined, including, word level, node level, and sentence level. At the word level, as the smallest element of materials, high frequency phrases from the answers were highlighted. For example, it distinguished negative and positive words from the answers. At the node level, nodes were developed for analysis and listed based on the weighted percentage of words. Current literatures were reviewed to indicate specific nodes. For example, node, *Effective Teaching Instructions*, was created based on phrases: providing evaluations/analysis/assessments; developing strategies/practice; improving performance; enhancing teaching practice for teaching effectiveness.
6) At the sentence level, direct quotes were retrieved from the open-ended questionnaire responses and categorised based on the identified key constructs. For example,

achieving high teacher efficacy by implementing data-driven approaches to address students' needs, that is, "I am getting students to analyse Wellbeing and Engagement Collection data to enable them to make decisions about creating changes in the school and meeting their needs." (Participant 21). It ensured the reliability of the open-ended questionnaire responses by evaluating three distinct levels of texts.

7) Aimed to finalise the nodes and sentences, codes were repeatedly analysed, particularly, analysis between groups, within and between individuals and groups. For example, finalised nodes, including *Effective Teaching Instructions, Teaching Satisfaction, Autonomy-Support Structure, Class Management, Effective Learning, Teaching Performance, Authentic Collaborations, Collegial Support,* and *Leadership Support* were categorised into three key constructs, that is, *Teacher Efficacy, Teaching Engagement, and Professional Collaborations.* The key constructs were thoroughly examined at word, phase and sentence levels of specificity and generality to address content validity.
8) After the first round of coding data by counting frequencies, factoring, and grouping, it categorised coding into manageable proportions of data to detect patterns and themes from the open-ended questionnaire responses. For example, finalised sentence level responses, including sub-themes *Teacher Efficacy, Teaching Engagement,* and *Professional Collaborations,* were categorised into a theme, that is, *Teaching Capability.* The identified themes were aligned with current literature on teachers' motivation. The first round of coding helped to establish key categories of motivation functions.
9) By conducting second round of examining associations between nodes and sentences in existing categories, it identified core categories, existing patterns and themes from first round. Interesting, surprising and contextual features were highlighted and

recorded for further discussions. Identifying core categories and the process continued until “saturation” is reached (Cohen et al., 2018, p.680). For example, this research study proposed that a holistic view for motivation functions by exploring the interrelationships of existing categories.

10) It summarised key factors and highlighted key themes. They were applied to address Research Question Three, for instance, it posited evidence, including nodes and sentences, to propose teaching capability as the first motivation function for sustaining motivation through teacher efficacy, teaching engagement, and professional collaborations.

11) It made inferences and suggested avenues for further discussion. This research study proposed that a holistic view for motivation functions, which led to mixed-methods discussions in Chapter 7.

4.6 Phase Three—Semi-structured interview

Phase Three of this research study employed a qualitative approach to investigate teacher wellbeing by conducting semi-structured interviews with DfE teachers. Semi-structured interviews were applied to collect qualitative results in Phase Three. This section presents justifications, verifications and formations of semi-structured interview questions based on the Teacher Professional Life Phases (TPLP) model from Day and Gu’s (2010) seminal work.

4.6.1 Teacher Professional Life Phases

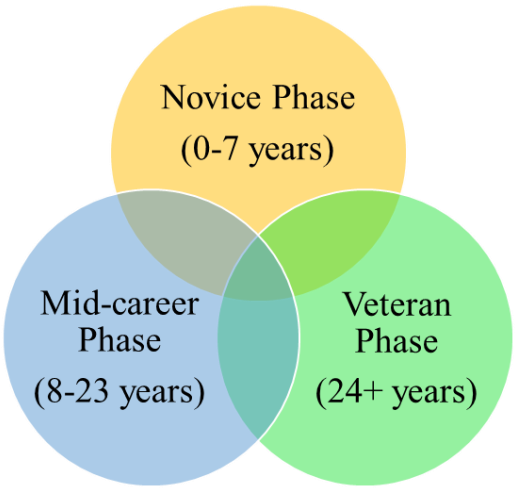
Inspired by Huberman's (1989) influential research on teachers’ professional life cycles, key roles—such as survival and discovery, stabilisation, experimentation, self-doubt and disengagement—are highlighted across teaching phases. More recently, Day (2017, 2019) argued for teachers’ differentiated needs across their professional lives, including cognitive, emotional, personal and moral engagement. This statement echoes the importance of individual teachers’ distinguished needs and independent wellbeing in McCallum’s study (2020). Babic

et al. (2023) suggested teacher career phases could provide important insights into their individualised needs for teacher wellbeing. Similarly, De Clercq et al. (2022) examined wellbeing profiles and professional engagement among teachers from early to mid-career. The authors claimed that mid-career teachers demonstrated a more adaptive profile, while policymakers and school leaders should boost early-career teachers with professional engagement.

Therefore, teachers' perceptions across the entire continuum of teaching professional phases were adopted for developing a complete view on teacher wellbeing. This research study employed Day and Gu's (2010) TPLP to guide the formation of semi-structured interview questions. The TPLP was developed to conceptualise differentiated needs from cognitive, emotional, personal and moral facets of teacher wellbeing across the teaching profession continuum (see Figure 4.3). Day and Gu (2010) defined the TPLP by comprehensively researching the differentiated needs of three subgroup constructs, including novice (0–7 years), mid-career (8–23 years), and veteran (24+ years) teachers.

Figure 4.3

The Teacher Professional Life Phases Model



Note. Figure created based on the TPLP (Day & Gu, 2010).

4.6.2 Rationale for using the TPLP

Research sampling early-career teachers, mid-career teachers and veteran teachers across Australia identified that teachers across the professional continuum have diverse needs to prepare and manage their work (McCallum, 2020). Addressing individual needs at distinct stages of the career continuum was essential to enhance the attraction and retention of high-quality teachers (Day, 2019). The TPLP conceptualised the differentiated cognitive, personal, emotional and social challenges in teaching. The authors identified three themes for designing semi-structured interview questions based on the differentiated needs for teacher wellbeing (Day & Gu, 2010).

First, in the novice phase, difficulties are mainly related to teaching efficacy and professional identity (Day & Gu, 2010). Accessible support from the leadership and administrative staff is vital for novice teachers' wellbeing and connection to the profession. This finding demonstrated that stable employment within schools, support for teacher engagement in effective teaching, and practising professional conduct enhance teacher wellbeing.

Next, in the mid-career phase, challenges tend to be related to professional tensions, transitions and motivation (Day & Gu. 2010). For example, teacher resilience and emotional readiness may reduce professional tensions, teacher resilience and emotional readiness. The authors' recommendations align with Belman and Mansfield's (2017) findings that teacher resilience is crucial for advancing teacher wellbeing. Teachers in the mid-career phase tend to become overwhelmed when transitioning between a teacher role and a teacher leader role (Day & Gu, 2010). Further, the contention supports McCallum's (2020) finding that the intensity of administrative tasks associated with teachers' work leads to inadequate teacher wellbeing. The mid-career phase highlighted teachers' motivation by increasing opportunities for career development. It was supported by Collie et al.'s (2020b) finding on the positive correlations between increased career development opportunities and increased teacher wellbeing.

Lastly, Day and Gu (2010) defined the veteran phase as when teachers are concerned with changes and career exit. They found moderate correlations between professional identity and coping with change in the veteran phase. It confirmed Mansfield's (2020) finding that professional relationships contribute to teachers' emotional readiness and resilience for change. The veteran phase identified teachers' emotional and intellectual tools to manage uncertainties for a career exit (Day & Gu, 2010). It reinforced the importance of teacher emotional capabilities for fulfilling teacher wellbeing (Beltman & Mansfield, 2017).

The TPLP differentiated the existing challenges across the teaching profession continuum and posits suggestions for undertaking those challenges to cope with the dynamics of teaching. This research study adopted the TPLP to navigate the construction of semi-structured interview questions, as discussed in the following section.

4.6.3 Semi-structured interview questions development

Semi-structured interview questions were developed based on the three themes of *Teacher Autonomy and Efficacy, Professional Demands and Resources,* and *Connectedness to the Profession* to explore teachers' views on teacher wellbeing. The completed semi-structured interview questions are listed in Appendix C.

First, there were three questions related to *Teacher Autonomy and Efficacy*. A range of studies agree that autonomy in teaching activities may increase teaching efficacy for enhanced teacher wellbeing (Collie et al., 2020; Day, 2019; McCallum, 2022a; Nie et al., 2016). For example, teacher autonomy has a positive impact on developing teacher efficacy in personal resources and job resources (Liang et al., 2020; Herman et al., 2018; Matteucci et al., 2017). The three semi-structured interview questions delved into teachers' perceptions of their teaching efficacy and autonomy. For instance, the question "Have you been involved in shared decision-making processes with your leader/s to build your teacher efficacy?" may explore teachers' personal

experiences of the levels of autonomy their leadership has provided and whether it has been effective for developing their efficacy.

The next three questions were related to *Professional Demands and Resources*. Dodge et al. (2012) highlighted teacher wellbeing as a balance point between professional demands and personal resources. Various research studies have adopted personal resources and job resources to meet professional demands (Aelterman et al., 2019; Du Plessis & McDonagh, 2021; Huang et al., 2018; Keller-Schneider, 2021). For instance, Day (2019) argued that balancing professional demands and personal needs may be the key to managing work-life balance and professional tensions. The three semi-structured interview questions revealed teachers' strategies for enhancing personal resources to fulfil professional demands. For example, the question "How do your resources support your professional demands and challenges?" may elicit various strategies from teachers to address different professional demands and establish a comprehensive understanding to develop more effective teaching practices.

The last three semi-structured interview questions explored teachers' experiences of a sense of connectedness to the profession. Teachers benefit from developing authentic, meaningful and positive interactions with students (Beltman & Mansfield, 2017; Darling-Hammond et al., 2017; McCallum, 2022b). For example, the question "Can you provide an example of how your teaching practice assists you to connect with your students?" could determine how teachers develop a quality relationship with their students. A range of studies assert that a sense of belonging to school could develop and expand teachers' trust, engagement and collaboration (Heffernan et al., 2019; Kalkan, 2016; Li et al., 2019; Owen, 2016). For example, the question "Does collaboration between you and your colleagues help to build your connectedness to your learning community?" could explore how teachers collaborate with their colleagues. The three semi-structured interview questions investigated teachers' social relationships in the school

environment to provide an in-depth understanding of how teachers could develop a stronger sense of connectedness to the teaching profession.

The TPLP suggested three themes for addressing differentiated challenges and needs. The semi-structured interviews employed nine questions (see Appendix C) to discover views of teacher wellbeing across the professional continuum and address Research Question Four: What are the major occupational factors across different professional life phases to enhance teacher wellbeing?

4.6.4 Application of thematic analysis

TA was applied to analyse the semi-structured interview responses in this research study. TA is a popular approach to conducting narrative analysis research due to its flexibility in research design, theoretical framework and data analysis (Braun & Clarke, 2006, 2017, 2022; Castleberry & Nolen, 2018; Nowell et al., 2017). Braun and Clarke (2006) argued that a "theoretical thematic analysis" driven by theoretical and epistemological commitments provides opportunities to add new knowledge to the existing field, detect and identify themes using interpretations, and reflect upon the research questions (p. 84). Based on Braun and Clark's (2022) practical guide, the six steps of the TA process were followed to conduct a theoretical thematic analysis. Coding in the TA was conducted via NVivo 12. Member checking was used to determine the accuracy of the findings, and three specific steps—checking transcripts, checking definition of codes and coordinating communication—were followed to ensure qualitative reliability (Creswell, 2014). The following section describes the six-step TA process.

1) Read the semi-structured interview transcripts to familiarise with the data and recorded early impressions to actively search for meanings and patterns.

2) Conducted coding and reduced data into smaller and workable units. Then, applied theoretical thematic analysis to code each segment that relevant to Research Question Four: What are the major occupational factors across different professional life phases for sustaining teacher wellbeing? Codes were generated from the interview transcripts to identify features of the interview transcripts that appears interesting and contextual to analysis.
3) Defined themes that capture something significant, interesting, and relevant about the research question. For example, sub-themes of *Job Resources and Job-demands Resources* were identified. Then organised the predominately descriptive segments that fall into each theme, such as, direct quotes "Teaching profession is to always keep things fresh and keep things interesting. I can always learn something new, and I acknowledge there's always new challenges that come with." (Interviewee 1) were placed under sub-themes of *Job Resources*. In this process, it considered different descriptive segments to form an overarching theme and place miscellaneous theme aside.
4) Refined and modified themes by following two levels of reviewing and refining. In Level One, read all the collated extracts for each theme and decided coherent patterns for the interview transcripts. For example, sub-themes of *Job Resources and Job-demands Resources* were aligned with current literature on teacher efficacy. Defined each individual themes by conducting and writing a detailed analysis. Named themes and provided an overview of the theme. For example, a theme *Teacher Efficacy* was created, and the relevant sub-themes: *Job Resources and Job-demands Resources* were allocated under this theme.
5) In Level Two, applied the same process in relation to the interview transcripts. It re-focused the analysis at broader levels of sub-themes. By exploring the interrelationships

of sub-themes, this research study proposed a holistic view between sub-themes. Identified the story that each theme tells and consider how it fit into the broader overall story in relation to the interview transcripts. For instance, teacher efficacy may foster quality student-teacher relationships according to direct quotes on teacher efficacy and student-teacher relationships, that is, “It's crucial to reflect on teaching practice and to see how that progressed, because it has such a big impact on my 31 different students. They all react differently.” (Interviewee 11).

6) Provided a concise and coherent account of the story of the interview transcripts. For example, the interrelationships between four sub-themes were carefully examined to form a holistic view. By generated sufficient evidence from the direct quotes of interview transcripts, this research study addressed the Research Question Four and developed a holistic view for occupational factors across different professional life phases, which led to mixed-methods discussions in Chapter 7.

4.7 Recruitment and sampling

This section details the recruitment of participants and sampling strategies across the three phases of this research study.

4.7.1 Recruitment scope and strategies

According to the recent policy, teachers employed at the DfE in South Australia communicate professional goals and needs to their direct line managers by undergoing an annual professional development plan (PDP) (DfE, 2019). Teacher engagement: Say, Stay and Strive was recommended in the site improvement plan based on the 2020 perspective survey results (n = 19,358) (DfE, 2020, p. 3). Teacher wellbeing with an occupational capacity emphasis was encouraged in Action Plan 2021 as “expert teaching” (DfE, 2021, p. 2) and in World Class Education Strategic Plan 2028 as “professional improvement and accountability” across DfE schools (DfE, 2020, p. 7). Hence, the scope for the intended sample meets the appropriateness

and adequacy for this research to investigate teacher wellbeing from an occupational perspective.

This research study was conducted solely in Adelaide, South Australia. Two recruitment strategies were applied to develop initial contacts with potential participants, including emails to teachers via the DfE school system and social media posts in Facebook Groups to recruit potential participants.

4.7.2 Stratified sampling

Stratified sampling was utilised in this research because it was impossible to sample the entire population to collect primary data sources (Creswell, 2014). Patton (2001) suggested applying exemplary criteria as a common strategy for conducting stratified sampling. The selection criterion of this mixed-methods research was to include schools with site improvement plans that focus on teacher wellbeing; specifically, reaching out to DfE schools that were actively promoting teacher wellbeing, such as encouraging teachers' voices in annual PDP (DfE, 2019), implementing teacher engagement in the site improvement plan (DfE, 2020), encouraging teacher efficacy for expert teaching (DfE, 2021), and promoting professional accountability (DfE, 2020). Therefore, primary data was collected among volunteering teachers employed by DfE schools because the intended sample met the key selection criteria of stratified sampling.

4.7.3 Purposive sampling

Cohen et al. (2018) suggested that purposive sampling serves the purpose of only a certain sample of participants meeting the specific requirement for collecting primary data source. This mixed-methods research applied purposive sampling to effectively select participants whose characteristics were identified for the overarching research goal (Palinkas et al., 2015). To address the overarching research question, teachers at DfE schools in South Australia who were in the novice phase (0–7 teaching years), mid-career phase (8–23 teaching years) and veteran

phase (24+ teaching years) were purposively selected as the potential participants. Such sampling enabled a move away from random sampling to ensure the specific cases of the potential participants supported the research goal (Campbell et al., 2020).

Initially, open access from social media groups of teachers located in South Australia and DfE school principals' contacts were used to recruit potential participants. The main responses were collected via social media posts in Facebook Groups. The majority of teachers who responded to participate in the online questionnaire were from Facebook Groups: Teachers of Adelaide (approx. 15,800 members), Junior Primary/Primary Teachers of Adelaide (approx. 4,700 members), Relief Teachers of Adelaide (approx. 10,500 members), Early Years Educators of Adelaide (approx. 5,100 members), South Australian English Teachers Association (approx. 2,300 members) and South Australian History Teachers (approx. 1,200 members). After initial contact with participants, purposive sampling was applied to ensure the appropriateness and adequacy of inclusion criteria (Cohen et al., 2018; Creswell, 2014). Teachers were asked to contact the researcher and were notified of the inclusion criterion via the Participant Information Sheet.

In Phase One, the online survey was accessible for three months (February 2022 to April 2022), and survey data were collected from teachers (n = 251) at DfE who responded to the survey within the timeframe. In Phase Two, the online open-ended questionnaire was also accessible for three months (February 2022 to April 2022), and the online questionnaire data were collected from teachers (n = 41) who responded within the timeframe. In Phase Three, the semi-structured interview was accessible for three months (May 2022 to July 2022), and the interview data were collected from teachers (n = 19) at DfE who responded to participating in the semi-structured interview within the timeframe.

4.8 Ethics (H-2022-030)

This section outlines the major ethical considerations of ethics approvals, conduct and research integrity.

4.8.1 Ethics approvals

This research study was approved by the University of Adelaide Human Research Ethics Committee (HREC) (approval number: H-2022-030, see Appendix D). According to the HREC (2019) requirements at the University of Adelaide, this study was categorised as low risk.

This research was conducted with teachers solely from DfE. An additional ethical clearance was sought from the DfE (2020) under the "Conducting research and evaluation with department staff and students procedure" guidelines. The documents required by the DfE included Teachers Registrations Board Registration, HREC approval, Letter of Introduction to the Principal, Information sheets for participants, questionnaires and consent forms (see https://www.education.sa.gov.au/department/research-and-statistics/conducting-research/conducting-research-and-evaluation). In accordance with the South Australian DfE's research policy, additional ethics approval was obtained from Education Research Unit (reference number: 2021-0077, see Appendix E).

4.8.2 Ethical considerations

This research study followed protocols from the University of Adelaide ethics committee and Education Research Unit at the DfE of South Australia. This research study conformed to all ethical guidelines of the University of Adelaide, the National Statement on Ethical Conduct in Human Research 2007 (National Health and Medical Research Council & Australian Research Council, 2018) and the Education Research Unit of the Department for Education South Australia.

Data were collected over three phases between February and July 2022. Notably, the data collection period overlapped with the DfE's mandatory education policies and COVID-19 Education Update. The COVID-19 Education Update was released on 31 January 2022. From February to May 2022, teachers at the DfE of South Australia constantly experienced disruptions due to the COVID-19 pandemic. Strategies were implemented that paid careful attention to ethical considerations, ethical conduct and COVID-19 circumstances to minimise the participants' burden under the COVID-19 and normal circumstances (Israel, 2015; Liamputtong, 2020) for participation and to ensure ethical conduct. The following section outlines ethical conduct to address potential ethical issues.

1) The study presents the purposes and benefits of the research to the potential participants (Israel, 2015). The participants were clearly informed of the study's purposes and potential benefits by being provided with a Participant Information Sheet (see Appendices F, G and H). For example, this research hoped to use the data collected to inform future support for teachers in Australia to sustain their teaching motivation and advance teacher wellbeing.

2) Studies by Israel (2015) and Quiles (2021) underlined the importance of ensuring voluntary participation and protecting participants' anonymity. For example, the Participant Information Sheet communicated to participants that undertaking the online survey on teacher wellbeing was anonymous, and they were free to withdraw their consent to participate in the online survey at any time.

3) It is critical to ensure consent from the participants (Liamputtong, 2020). The participants were provided opportunities to carefully read the Consent Form (see Appendix I) before signing it and were given the right to withdraw from the project at any point.

4) Apart from the time taken to fill in the survey and questionnaire and participate in the interview, there were minimal potential risks or burdens to the participants in this research study. The participants were given the option of Zoom meetings due to the COVID-19 circumstances. However, if participants felt uncomfortable with their participation, they were advised to access the DfE's Employee Assistance Program (EAP) (https://humanpsychology.com.au/department-for-education-eap/), as indicated in the Participant Information Sheet.

5) Participants' confidentiality should be protected (Liamputtong, 2020). All digital and written materials were de-identified during the transcribing process and data analyses. Respondent-generated identification codes were used to link records across surveys and questionnaires (Schnell et al., 2010). Pseudonyms were allocated to participants for the interviews (Allen & Wiles, 2016).

6) Collected data were kept confidential and used only for the purposes of this research study in a password protected Box System from the University of Adelaide's server, which was only accessible to the researcher and the supervisory team.

7) The participants were provided information about seeking assistance from the University of Adelaide's ethics committee if they had any concerns related to participation in this research study (Guillemin & Gillam, 2004). The participants were given the option of Zoom meetings due to the COVID-19 circumstances.

8) In the publication or dissemination of any findings from this research study, the confidentiality and anonymity of individual participants were ensured by using pseudonyms and research codes (Cohen et al., 2018).

4.8.3 Research integrity

Research integrity should be ensured throughout the entire project (Cohen et al. 2018; Israel, 2015; Quiles, 2021). During the three phases of data collection, specific steps were strictly implemented to warrant research integrity, as outlined in the following sections.

4.8.3.1 Research integrity of the online survey

The online survey was distributed and collected following the guidelines of ethics approval from the University of Adelaide's HREC and ethical clearance from the DfE South Australia (Buchanan & Hvizdak, 2009; Saleh & Bist, 2017). For example, the anonymity and confidentiality of the information provided by participants were communicated in the preamble after clicking on the online survey's URL or UQ code. Following ethics considerations and conduct ensured participants' trust, and they continued completing the online survey (Saleh & Bist, 2017). Clear explanations of the purpose of the study, HREC protocols and informed consent were provided to the participants once they clicked on the "Next Page" button displayed in the preamble.

According to the exploratory mixed-methods design of this research study, Phase One was an online survey for participants to answer 40 questions by rating their opinions from 1 (Strongly disagree) to 5 (Strongly agree). The 40 questions reflected upon participants' experiences and perceptions of teacher wellbeing and teaching motivation.

Specific steps were followed, as outlined below.

1) There were three main invitation avenues. Research invitation posts for the online survey were published in Facebook Groups based in South Australia; school principals from DfE South Australia sent research invitation emails to teachers; and research invitation flyers were displayed in the Education Development Centre in Adelaide.

2) The Qualtrics platform was used to conduct the anonymous online survey. Information displayed on the initial page of the online survey explained that participants could withdraw from the study within seven days after participation. Participants provided their consent at the end by submitting the online survey via the Qualtrics platform. If the participant wanted to withdraw from the survey, they could exit the online survey platform voluntarily, which resulted in no survey submission from the participant. If they wanted to withdraw from the study after submitting the online survey, they could do so within seven days of participating. Their data were automatically terminated and not included in the dataset.

3) Survey participation was voluntary. There were no external incentives to ensure voluntary participation in the survey. The potential benefit of participation was clearly explained in the Participant Information Sheet; that is, the collected survey data would inform future support for teachers in Australia to maintain their teaching motivation and advance teacher wellbeing (see Appendix F).

4) There were specific steps for ensuring anonymity, confidentiality and data security. The online survey was conducted via Qualtrics anonymously. All participants were instructed to create a self-generated identification code in case they proceeded to withdraw from the study within seven days of participating. Survey data are stored in the University of Adelaide Box System for at least five years. Only the PhD student and the student's supervisors can access the survey data, ensuring confidentiality.

5) This research provided an opportunity for teachers to express their concerns and perceptions of maintaining teaching motivation and improving teacher wellbeing; however, participants may become distressed when expressing opinions on wellbeing and motivation. The potential emotional distress was communicated clearly on the

Participant Information Sheet. Participants could withdraw during the survey due to distress and were advised to access EAP counselling service information from the DfE.

4.8.3.2 Research integrity of the online questionnaire

The distribution and collection of the online open-ended questionnaire were performed with ethical consideration and conduct (Liamputtong, 2020). For example, the online open-ended questionnaire allowed the participating teachers to control their involvement in answering the 12 questions, and they could reflect on their responses before submitting them. The online open-ended questionnaire may reduce the common biases and pressure that occur with face-to-face research methods, and participants can decide when and how they respond. It was vital that the online open-ended questionnaire ensured confidentiality and consent rights for the participants (Liamputtong, 2020). For example, the anonymity and confidentiality of the participants' information were communicated in the preamble after clicking on the online open-ended questionnaire URL or UQ code. By following ethical considerations and conduct, clear explanations of the purpose of the study, University of Adelaide HREC protocols and informed consent were provided to the participants once they clicked on the "Next Page" button displayed on the preamble.

According to the confirmative sequential mixed-methods design of this research study, Phase Two was an open-ended online questionnaire to investigate further the influence of motivation on teacher wellbeing across teachers' professional lives. The participants were requested to answer 12 open-ended questions by using phrases and sentences to express their opinions. The 12 open-ended questions reflected upon their experiences and perceptions of teaching motivation and practice.

Specific steps were followed as outlined below.

1) There were three main invitation avenues. Research invitation posts for the online survey were published in Facebook Groups based in South Australia; research invitation emails were sent to teachers by school principals from the DfE South Australia; and research invitation flyers were displayed in the Education Development Centre in Adelaide.

2) Participants were given an additional option to participate in an online open-ended questionnaire after completing the online survey. Teachers at DfE who were in the novice phase (0–7 years teaching), mid-career phase (8-23 years teaching) or veteran phase (24+ years teaching) and responded to the online open-ended questionnaire within the timeframe were provided the link to access the online open-ended questionnaire via emails from the researcher.

3) Participants provided their consent at the end by submitting the open-ended online questionnaire via the Qualtrics platform. If a participant wanted to withdraw from the questionnaire; they could exit the online open-ended questionnaire platform voluntarily, resulting in no open-ended questionnaire submissions from that participant. If a participant wanted to withdraw their questionnaire after submitting it, they could do so within seven days after participation. Their data were automatically terminated and not included in the dataset.

4) The online open-ended questionnaire participation was voluntary. There were no external incentives to ensure participation in the questionnaire was voluntary. The potential benefit of participating in the open-ended questionnaire was clearly explained via the information sheet; that is, the collected data would inform future support for teachers in Australia to develop relevant practices to maintain teaching motivation (see Appendix G).

5) There were specific steps for ensuring anonymity, confidentiality and data security. The online open-ended questionnaire was conducted via Qualtrics anonymously. All participants were instructed to create a self-generated identification code in case they proceeded to withdraw from the study within seven days of participating. The links for the online open-ended questionnaire were sent to participants who self-selected to participate via their allocated email address. All email correspondence between the researcher and participants was deleted after the online open-ended questionnaire closed.

   Open-ended questionnaire data are stored in the University of Adelaide Box System for at least five years. Only the PhD student and the student's supervisors can access survey data, thus ensuring confidentiality.

6) This research could provide an opportunity to express teachers' concerns and perceptions of maintaining teaching motivation and improving teaching practice; however, participants may become distressed when expressing opinions on teaching practice and motivation. The potential emotional distress of participation was communicated clearly and early via the Participant Information Sheet. Participants could withdraw during the open-ended questionnaire due to distress and were advised to access to EAP counselling service information from the DfE.

4.8.3.3 Research integrity of the semi-structured interview

Based on this study's confirmative sequential mixed-methods design, Phase Three was a semi-structured interview to investigate teachers' experiences and perceptions of occupational needs and teaching capacity. Respect for participants' rights to their image and anonymity was required to conduct interviews for qualitative research (Quiles, 2021). For instance, only audio recordings were attained from the participating teachers, and informed consent was obtained

at the end of the interview by submitting the online consent form via the Qualtrics platform. Clear explanations of the study's purpose, HREC protocols and informed consent were provided to the participants before the interview was conducted.

There were nine semi-structured questions to guide the interview process. Specific steps were followed, as outlined below.

1) There were three main invitation avenues. Research invitation posts for the online survey were published in Facebook Groups based in South Australia; research invitation emails were sent to teachers by school principals from DfE South Australia; and research invitation flyers were displayed in the Education Development Centre in Adelaide.

2) Participants were given an additional option to participate in a semi-structured interview after completing the online survey. Teachers at DfE who were in the novice phase (0–7 years teaching), mid-career phase (8–23 years teaching) and veteran phase (24+ years teaching) and responded to participate in the semi-structured interview within the timeframe were instructed by the researcher via email to conduct the interviews at their convenience.

3) Participants provided consent at the end of the semi-structured interview by submitting an online consent form via the Qualtrics platform. If the participant wanted to withdraw from the semi-structured interview, they could choose not to submit the online consent form, resulting in no interview data being collected. If the participant wanted to withdraw from the semi-structured interview after participation, they could withdraw from this research study within 7 days after participation. Their interview data would be terminated and not included in the dataset.

4) Semi-structured interview participation was voluntary. There were no external incentives for participating in the interview to ensure voluntary participation in the research. The potential benefit of participating in the semi-structured interview was clearly explained via the information sheet; that is, the collected data would inform future support for teachers in Australia to develop professional practice to maintain teaching capacity to meet educational demands (see Appendix H).

5) There were specific steps for ensuring anonymity, confidentiality and data security. During the face-to-face and online interviews, all participants were allocated pseudonyms names, which were also utilised during data analysis to ensure participants' identity and personal information were not revealed. The email correspondence between the researcher and the participating teachers was deleted after the interviews closed.

   All interview audio recordings were transferred from Zoom Cloud to the University of Adelaide University Box System, where they are stored for at least 5 years. Only the PhD student and the student's supervisors can access the audio recordings and transcriptions to ensure confidentiality.

6) Participants may become distressed when discussing occupational needs and teaching motivation. A protocol was established before the interviews to minimise the distress, as follows:

   a) Please avoid using the names of colleagues, leadership or students.

   b) Please avoid describing the specifics of your school.

   c) Please be as objective as possible if raising an area you believe could improve.

   d) Please keep your language professional and respectful.

7) This research provided teachers an opportunity to express their concerns and perceptions of maintaining teaching motivation and improving teaching practice; however, participants may become distressed when expressing opinions on teaching practice and motivation. The potential emotional distress for participation was communicated clearly on the Participant Information Sheet. They could withdraw during the interview due to distress and were advised to access to DfE EAP counselling service information.

4.9 Summary

This study employed mixed-methods research with a convergent design, simultaneously evaluating the results from quantitative and qualitative data sources collected across three phases to investigate teacher wellbeing.

Phase One was an exploratory design to quantitatively identify major factors in sustaining teaching motivation for teacher wellbeing and analyse the impact of teacher motivation for teaching on their wellbeing. Phase Two was a confirmative mixed-methods design to qualitatively evaluate teachers' perspectives and practice for sustaining teacher wellbeing through reflective responses via the Anticipate-Act-Reflect Cycle. Phase Three was a confirmative design to qualitatively examine differentiated teachers' demands and needs of teacher motivation across the teaching profession continuum based on the TPL Phases. Therefore, the quantitative and qualitative data warranted comprehensive explorations of teacher motivation and teacher occupational needs. The triangulation of three datasets developed a mixed-methods approach to address the overarching research goal; that is, to investigate how motivation affects teacher wellbeing.

Chapter 5: Quantitative Results

5.1 Introduction

This chapter presents the quantitative results of the online survey from government-school teachers in South Australia collected in Phase One of this research study. The aim of quantitative analysis was to identify key motivation factors and the interrelationship between them for enhancing teacher wellbeing. This quantitative data analysis explored the major motivation factors for teacher wellbeing via a lens of SDT (Ryan & Deci, 2000) and validated inferential models to indicate relationships between motivation constructs for enhancing teacher wellbeing.

Primarily, descriptive statistics, ANOVA tests and linear regressions were examined to ascertain quantitative validity and reliability. CFA was conducted to determine the major quantitative factors for motivation. The CFA results consolidated quantitative results to address Research Question One: What are the major motivation factors impacting the advancement of teacher wellbeing? The four major quantitative factors identified were teacher autonomy, positive social relationships, positive emotion management and teaching capability for sustaining teacher wellbeing.

SEM was conducted to test inferential hypotheses based on relationships between latent variables of motivation constructs. Based on SEM Model Three, seven motivation constructs were determined, and their relationships were explored to develop three quantitative hypotheses to address Research Question Two: How are the three needs for competence, autonomy and relatedness of self-determination theory impacting teacher motivation to advance teacher wellbeing? The results identified direct positive and negative relationships between the needs of autonomy, competence and relatedness of SDT by considering how the seven motivation constructs sustain teacher wellbeing.

5.2 Demographic information and measures

Demographic information and measures of the self-composed scale are presented in this section to provide contextual information for the quantitative analysis.

5.2.1 Demographic information

There were 277 responses to the online survey; after excluding the missing items, the effective number was 251. The effective number was more than 100, so it achieved statistical significance and validity (Wilcox, 2010). The main responses were collected via social media posts in Facebook Groups. The majority of the teachers who responded to participate in the online survey were from Facebook Groups, including Teachers of Adelaide (approx. 15,800 members), Junior Primary/Primary Teachers of Adelaide (approx. 4,700 members) and Relief Teachers of Adelaide (approx. 10,500 members). The most active group with the most members was Teachers of Adelaide, which may explain the high number of primary school teacher participants (45%).

This sample represented the portion of teachers employed by DfE in South Australia. The demographic information included teachers' years of teaching, qualifications, employment status and levels of teaching (see Table 5.1). The descriptive statistics for the variable, teachers' years of teaching, and its relationship to others were detailed. In total, 86% percent of the sample identified as female. The participants were from a range of school levels, including preschool (27%), primary school (45%), secondary school (21%) and other types of schools (5%). Participants held four types of employment status: contract teaching position (24%), permanent teaching position (58%), temporary relief reaching position (15%) and others (1%). The participants had a range of teaching experiences, including 32% novice teachers (0–7 years), 41% mid-career teachers (8–24 years) and 26% veteran teachers (more than 24 years). Most participants (87%) had completed a bachelor's degree or a master's degree.

Table 5.1

Demographic Information of DfE Teachers

	Number	Percentage
	n	*%*
Total	277	
Missing data	26	9
Effective number	251	
Gender		
Male	24	9
Female	217	86
Others	10	3
School level		
Preschool	69	27
Primary	113	45
Secondary	54	21
Others	15	5
Employment status		
Contract	61	24
Permanent	147	58
Temporary Relief	39	15
Others	4	1
Years of teaching		
0-7 years	81	32
8-24 years	104	41
more than 24 years	66	26
Educational degree		
Diploma	10	3
Bachelor	154	61
Master	66	26
Others degree	21	8

5.2.1.1 Employment status and years of teaching

Figure 5.1 shows job-related demographic characteristics; specifically, years of teaching and employment status. Among novice teachers (n = 81), only 28% held permanent teaching positions; the rest held contract and temporary relief teaching positions. The majority of mid-career teachers (72%) held permanent teaching positions, and 76% of veteran teachers held permanent teaching positions.

Figure 5.1

Employment Status and Years of Teaching

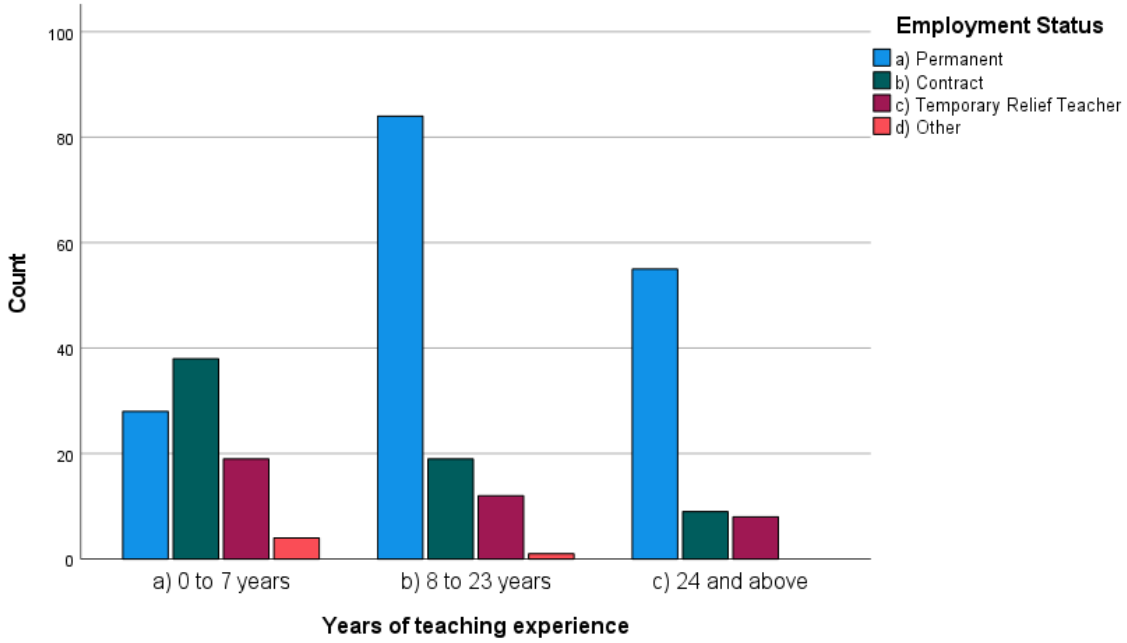
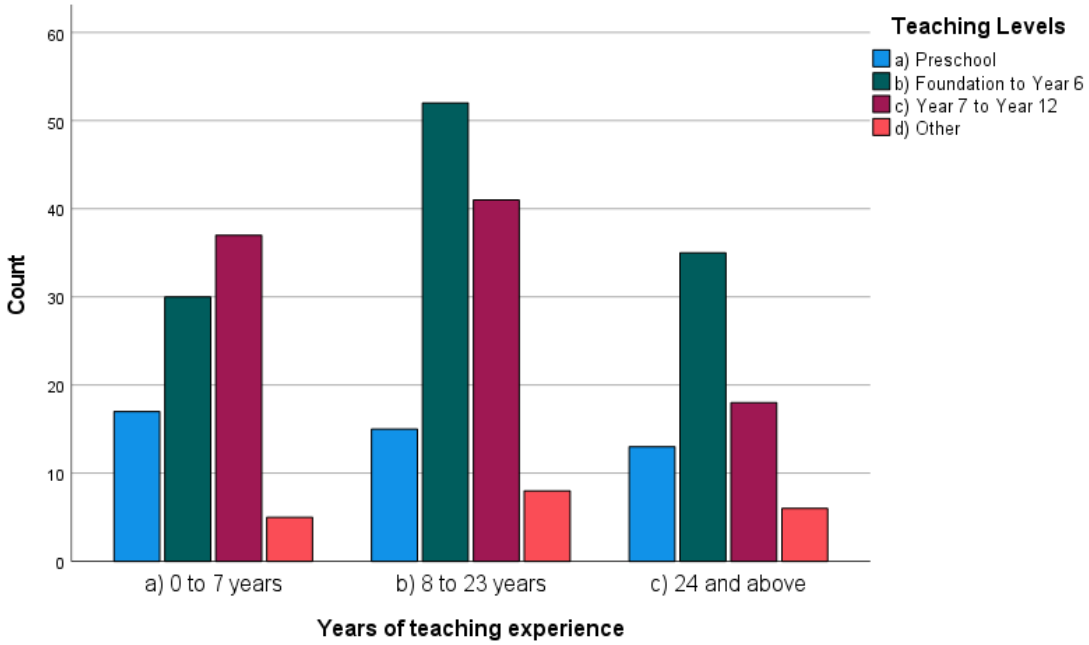


Figure 5.2

Teaching Levels and Years of Teaching



5.2.1.2 Teaching Levels and Years of Teaching

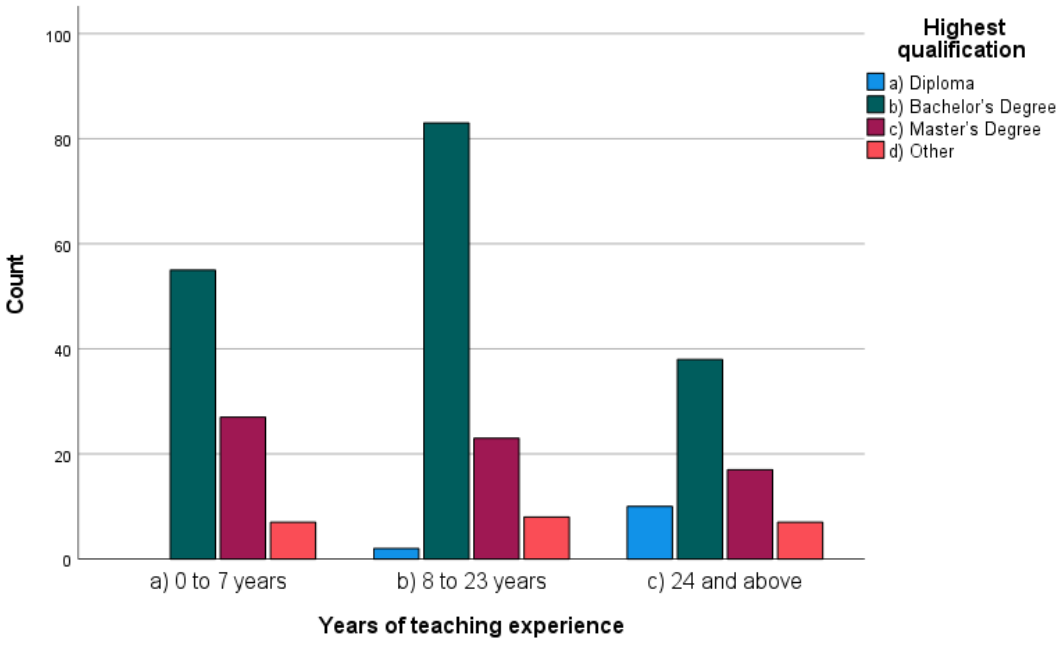
Figure 5.2 shows job-related demographic characteristics, specifically years of teaching and teaching levels. Novice teachers were employed in preschool (n = 17), primary (n = 30) and secondary schools (n = 37). Mid-career teachers held positions in preschool (n = 15), primary (n = 52) and secondary schools (n = 41). Veteran teachers held positions in preschool (n = 13), primary (n = 35) and secondary schools (n = 18).

5.2.1.3 Qualification and Years of Teaching

Figure 5.3 showed job-related demographic characteristics, that is, years of teaching and education qualifications. All novice teachers (n=89) held a Bachelor's Degree or a higher degree. Similarly, most mid-career teachers (98%) held a Bachelor's Degree or a higher degree. Thirteen percent of veteran teachers held a Diploma and 87% of them held a Bachelor's Degree or a higher degree.

Figure 5.3

Qualification and Years of Teaching



5.2.2 Measures

Participants completed an online self-report survey that included four measures: self-efficacy, emotion, social relationships and agency, to provide evidence for representativeness and validity. The four measures are in Appendix A. The responses to the self-composed survey were scored on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Figure 5.4

The Responses to the Self-composed Survey

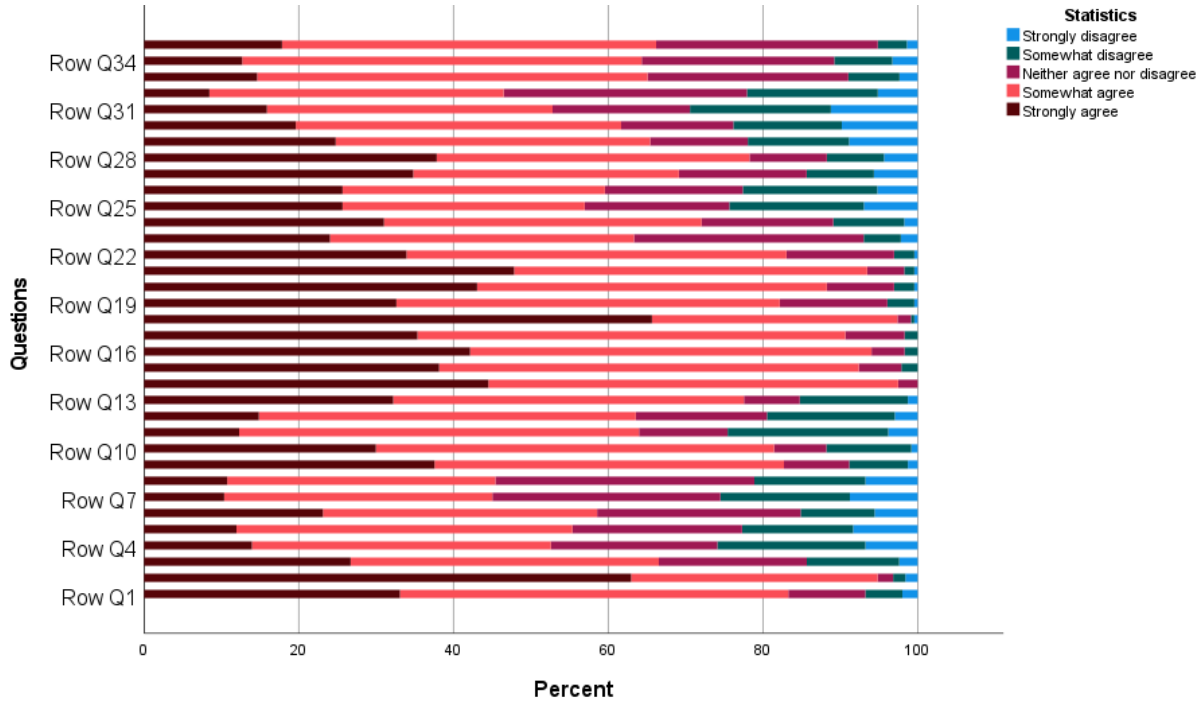


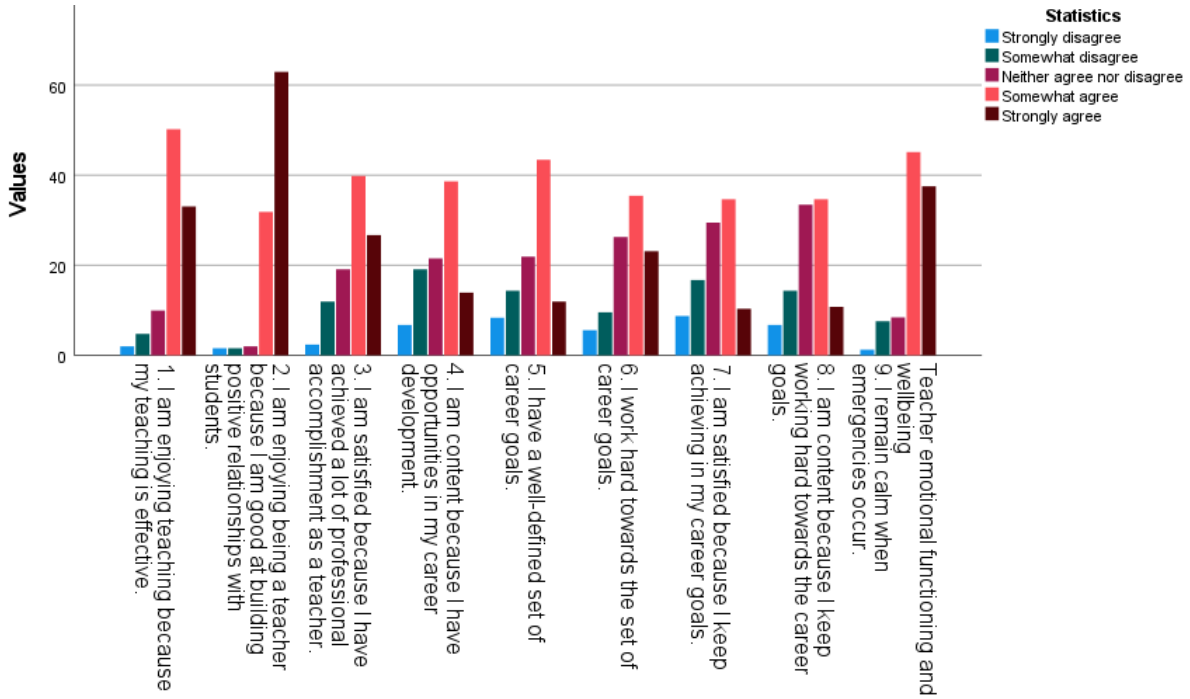
Figure 5.4 shows that the majority of participants agreed or strongly agreed on the positive indicators of teacher wellbeing. These dividing points were chosen to allow teachers to report the positive or negative influences of work experiences on their wellbeing. Given that the scale was self-composed, there was no evidence of validity or reliability for this scale. Evidence of the reliability and validity of the self-composed scales is provided in later sections.

5.2.2.1 Self-efficacy subscale

The first construct *Self-efficacy subscale* provided evidence of teachers' perceptions of their teaching capabilities and professional development (see Figure 5.5).

Figure 5.5

The Responses to the Self-efficacy Subscale



For example, 83.3% of teachers selected "Somewhat agree" or "Strongly agree" that "I am enjoying teaching because my teaching is effective." Notably, 66.5% of teachers selected "Somewhat agree" or "Strongly agree" that "I am satisfied because I have achieved a lot of professional accomplishment as a teacher". Moreover, 94.8% of teachers selected "Somewhat agree" or "Strongly agree" that "I am enjoying being a teacher because I am good at building positive relationships with students."

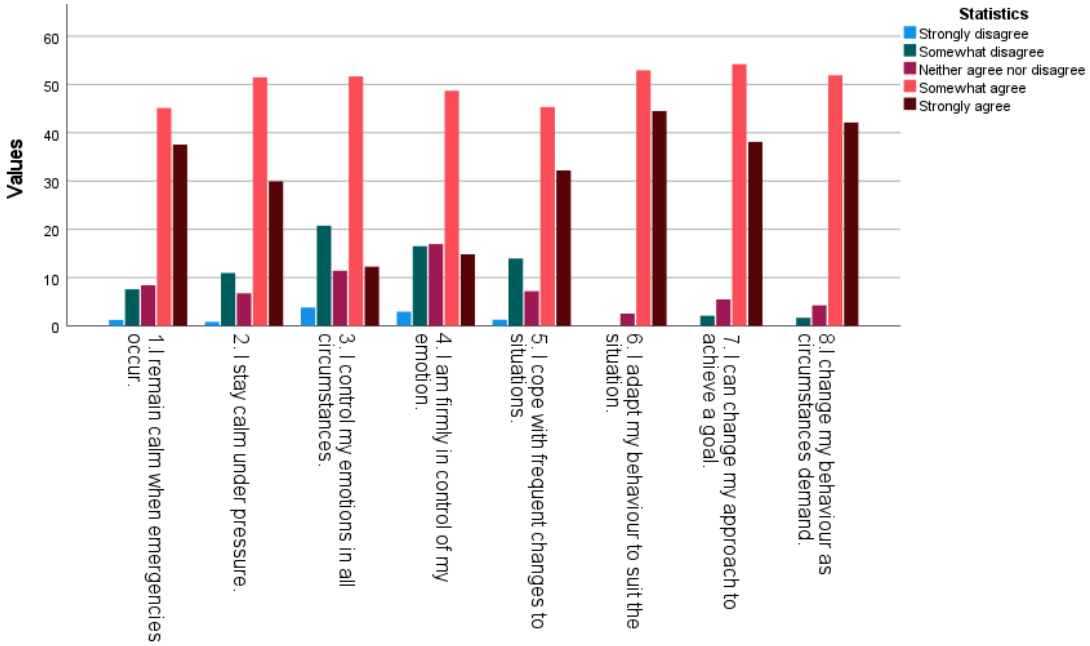
5.2.2.2 Emotion Subscale

The second construct *Emotion subscale* provided evidence of teachers' perceptions of their emotion management and resilience at work (See Figure 5.6).

For example, 64% of teachers selected “Somewhat agree” or “Strongly agree” that “I control my emotions in all circumstances”, and 81.5% of teachers selected “Somewhat agree” or “Strongly agree” that “I stay calm under pressure.” Markedly, all teachers provided evidence for behaviours associated with resilience without choices of neither “Strongly disagree” nor “Somewhat disagree”.

Figure 5.6

The Responses to the Emotion Subscale



5.2.2.3 Social Relationships subscale

The third construct, *Social Relationships subscale*, provided evidence of teachers’ perceptions of their interpersonal skills and collegial relationships at work (see Figure 5.7). For example, 14.4% of teachers selected “Strongly disagree” or “Somewhat disagree” that “I feel like I belong at this school,” while 11.7% of teachers selected “Strongly disagree” or “Somewhat disagree” that “I am treated with respect at this school.” Notably, 83% of teachers showed evidence of collaboration by selecting “Somewhat agree” or “Strongly agree” that “I can keep a group working together as a team.”

Figure 5.7

The Responses to the Social Relationships Subscale

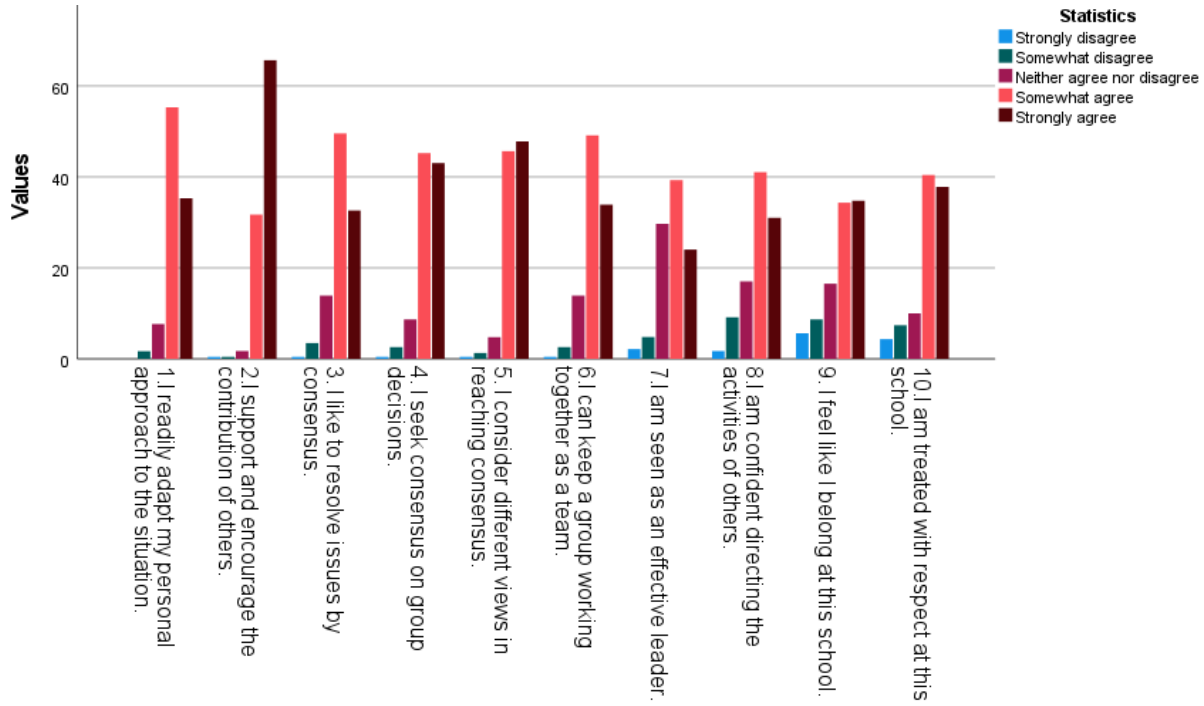
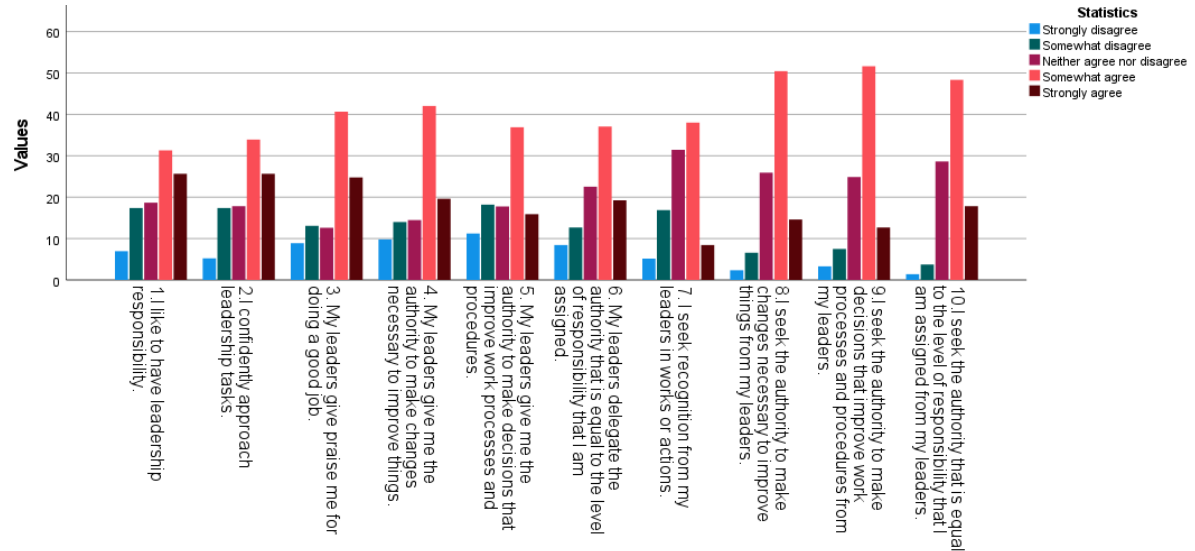


Figure 5.8

The Responses to the Agency Subscale



5.2.2.4 Agency subscale

The fourth construct, *Agency subscale,* provided evidence of teachers' perceptions of their leadership and recognition at work (see Figure 5.8). For example, 65.1%, 64.3% and 66.2% of teachers showed evidence of taking initiative by selecting "Somewhat agree" or "Strongly agree" and saying, "I seek the authority to make changes necessary to improve things from my leaders", "I seek the authority to make decisions that improve work processes and procedures from my leaders" and "I seek the authority that is equal to the level of responsibility that I am assigned from my leaders", respectively. More than half of teachers (59.6%) showed evidence of teacher leadership by selecting "Somewhat agree" or "Strongly agree" that "I confidently approach leadership tasks."

This section illustrated the contextual information about the participating teachers and provided an overview of the self-composed scale to scaffold factor analysis in the following section.

5.3 Factor analysis

Factor analyses were applied to determine the dimensionality of the self-composed scale, TMWS. First, EFA was conducted to identify items for constructing preliminary hypotheses about how the items should load on different factors (Kline, 2015). When the items shared high correlation and variance, they loaded on a factor by performing dimension reduction and formed the factor by naming it with a shared idea. Following this, CFA was performed to examine the patterns of interconnected relationships among factors to develop priori assumptions for final hypotheses (Kline, 2015).

Applying CFA tested the correlations among items loaded on the hypothesised factor structure underpinned by the EFA results (Tabachnick & Fidell, 2007). CFA provided the acceptability of the model determined by evaluating goodness of fit to provide a priori structure for final hypotheses.

Table 5.2

Factor Loadings for Exploratory Factor Analysis

TMWS item	Factor loading
Factor One: Resilience	
Cope with frequent changes	0.585
Adapt behaviour to suit the situation	0.668
Change approach to achieve a goal	0.661
Change behaviour to the demand	0.534
Ready for adapting to the situation	0.707
Remain calm under pressure	0.770
Emotion control in all circumstances	0.625
Confidence in leadership tasks	0.542
Directing the activities of others	0.503
Factor Two: Connectedness	
Belong at this school	0.742
Be myself at this school	0.707
People at this school care about me	0.820
Treated with respect at this school	0.852
Leaders give recognition	0.823
Leaders give praise	0.820
Give the authority to make changes	0.790
Give the authority to make decisions	0.770
Delegate the authority equals to responsibility	0.641
Factor Three: Autonomy	
Seek the authority to make changes	0.648
Seek the authority to make decisions	0.670
Seek the authority equals to responsibility	0.621
Seek recognitions	0.635
Seek praise	0.572
Factor Four: Capability	
Well-defined career goals	0.756
Work hard towards career goals	0.638
Achieving the career goals	0.656
Working hard towards the career goals	0.764

5.3.1 Exploratory factor analysis

Principal Axis Factoring can be appropriate when some underlying dimension drives the relationship between items (Kline, 2015; Tabachnick & Fidell, 2007). The Principal Axis Factoring was employed as the extraction method for EFA. Specific steps were taken to determine the most appropriate number of factors.

First, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test were examined. KMO was 0.858, which was close to 1, indicating the date was practical and useful for factor analysis (Brown, 2006). In Bartlett's Test, Chi-Square was 5888.017, degree of freedom (df) was 780 and significance was less than 0.000. The results were statistically significant.

Following, eigenvalues were evaluated. Estimations of eigenvalues are based on a random dataset that contains the same number of variables and cases as the real data (Kline, 2015). Four factors were determined according to the eigenvalues. The eigenvalues for the four factors were 10.997, 4.705, 3.091 and 2.456. Together they explained 53 % of the total variance. Last, Varimax with Kaiser Normalization Rotation was performed. There were 27 items (See Table 5.2) that met the requirement to ascertain the strengthen of the factor loading, that is, removing loading under 0.400 on all factors and items that cross-loaded under 0.500 on all factors. The titles for four factors were: *Resilience, Connectedness, Autonomy,* and *Capability*.

5.3.2 Descriptive statistics

Tables 5.3 to 5.6 provide descriptive statistics for four factors, including skewness, kurtosis and results of the Kolmogorov-Smirnova test. To ascertain the appropriateness for utilising SEM in later analysis, the acceptable skewness values were between −3 and +3, and kurtosis ranged from −10 to +10 (Brown, 2006). All the items' P values were less than 0.05 based on the Kolmogorov-Smirnova test, which suggests rejecting the null hypothesis that data were normally distributed (Kline, 2015).

Descriptive statistics for Factor One Resilience are presented in Table 5.3. The highest mean score for Factor One Resilience was 4.42 for item "Change approach to achieve a goal", and the lowest mean score was 3.93 for item "Adapt behaviour to suit the situation". The resilience factor displayed a sound Cronbach alpha coefficient ($\alpha = 0.849$). A standard deviation (or σ)

measures how dispersed the data are in relation to the mean (Tabachnick & Fidell, 2007). For instance, item "Adapt behaviour to suit the situation" displayed the most spread-out results (σ = 1.033), while item "Change approach to achieve a goal" showed the most clustered results (σ = 0.544).

Table 5.3

Tests of Normality Factor One Resilience

Factor One: Resilience	Mean	Std. deviation	Skewness	Kurtosis
Cope with frequent changes	4.24	0.664	-0.669	0.837
Adapt behaviour to suit the situation	3.93	1.033	-0.914	-0.001
Change approach to achieve a goal	4.42	0.544	-0.156	-1.033
Change behaviour to the demand	4.28	0.665	-0.831	1.329
Ready for adapting to the situation	4.34	0.644	-0.855	1.382
Remain calm under pressure	4.10	0.933	-1.150	1.063
Emotion control in all circumstances	3.99	0.941	-1.021	0.591
Confidence in leadership tasks	3.56	1.028	-0.624	-0.338
Directing the activities of others	3.57	1.194	-0.495	-0.780

Kurtosis statistics indicate the distributions *Factor One Resilience* survey data by illustrating the "tailedness" of the probability distribution (Brown, 2006). All kurtosis statistics of *Factor One Resilience* were less than +3. For example, the highest kurtosis of item "Ready for adapting to the situation" was 1.382, which could be visualised as a broad bell shape with a low peak and widespread tails.

For skewness, if the value was greater than +1.0 the distribution was right skewed, and if the value was less than −1.0 the distribution was left-skewed (Brown, 2006). Items of "Adapt

behaviour to suit the situation" showed skewness of −0.914, which illustrates a slightly left-skewed distribution of *Factor One Resilience*.

Descriptive statistics for *Factor Two Connectedness* are presented in Table 5.4. The highest mean score for *Factor Two Connectedness* was 4.00 for item "Treated with respect at this school", and the lowest mean score was 3.28 for item "Delegate the authority equals to responsibility". Connectedness factor displayed sound Cronbach alpha coefficient ($\alpha = 0.863$).

Table 5.4

Tests of Normality Factor Two Connectedness

Factor Two: Connectedness	Mean	Std. deviation	Skewness	Kurtosis
Belong at this school	3.84	1.162	-0.896	0.007
Be myself at this school	3.75	1.198	-0.878	-0.143
People at this school care about me	3.85	1.126	-0.876	0.066
Treated with respect at this school	4.00	1.082	-1.190	0.862
Leaders give recognition	3.63	1.222	-0.775	-0.408
Leaders give praise	3.59	1.240	-0.738	-0.485
Delegate the authority equals to responsibility	3.28	1.251	-0.400	-0.926
Give the authority to make changes	3.46	1.183	-0.559	-0.516
Give the authority to make decisions	3.48	1.232	-0.653	-0.597

For standard deviation, item "Leaders give praise" displayed the most spread-out results ($\sigma = 1.240$), while item "Treated with respect at this school" showed the most clustered results ($\sigma = 1.082$).

Kurtosis statistics indicated the distributions of *Factor Two Connectedness* survey data by illustrating "tailedness" of the probability distribution. As indicated, all kurtosis statistics of *Factor Two Connectedness* were less than +3. For example, the highest kurtosis of item "Treated with respect at this school" was 0.862, which could be visualised as a broad bell shape with a low peak and widespread tails. For skewness, as indicated, item "Treated with respect at this school" showed the lowest skewness −1.190, which illustrated a slightly left-skewed distribution of *Factor Two Connectedness*. Descriptive statistics for *Factor Three Autonomy* are presented in Table 5.5.

Table 5.5

Tests of Normality Factor Three Autonomy

Factor Three: Autonomy	Mean	Std. deviation	Skewness	Kurtosis
Seek the authority to make changes	3.68	0.887	-0.735	0.732
Seek the authority to make decisions	3.77	0.833	-0.544	0.632
Seek the authority equals to responsibility	3.63	0.916	-0.834	0.776
Seek recognitions	3.28	1.011	-0.385	-0.383
Seek praise	2.97	1.081	-0.125	-0.731

The highest mean score for *Factor Three Autonomy* was 3.77 for item "Seek the authority to make decisions", and the lowest mean score was 2.97 for item "Seek praise". For standard deviation, item "Seek praise" displayed the most spread-out results ($\sigma = 1.081$), while item "Seek the authority to make decisions" showed the most clustered results ($\sigma = 0.833$). Autonomy factor displayed sound Cronbach alpha coefficient Cronbach alpha coefficient ($\alpha = 0.914$). As indicated, all kurtosis statistics of *Factor Three* were less than +3. For example, the highest kurtosis of item "Seek the authority equals to responsibility" was 0.776, which could

be visualised as a broad bell shape with a low peak and widespread tail. For skewness, as indicated, all items were less than −1.0. For example, the lowest skewness of item "Seek the authority equals to responsibility" was −0.834, which illustrated a left-skewed platykurtik distribution of *Factor Three Autonomy*. Descriptive statistics for *Factor Four Capability* are presented in Table 5.6.

Table 5.6

Tests of Normality Factor Four Capability

Factor Four: Capability				
	Mean	Std. deviation	Skewness	Kurtosis
Well-defined career goals	3.36	1.124	-0.598	-0.439
Work hard towards career goals	3.61	1.109	-0.598	-0.229
Achieving the career goals	3.21	1.113	-0.355	-0.592
Working hard towards the career goals	3.28	1.056	-0.381	-0.345

The highest mean score for *Factor Four Capability* was 3.61 for item "Work hard towards career goals", and the lowest mean score was 3.21 for item "Achieving the career goals". For standard deviation, item "Well-defined career goals" displayed the most spread-out results ($\sigma = 1.124$), while item "Working hard towards the career goals" showed the most clustered results ($\sigma = 1.056$). Capability factor displayed sound Cronbach alpha coefficient ($\alpha = 0.877$). As indicated, all kurtosis statistics of *Factor Four Capability* were less than +3. For example, the lowest kurtosis of item "Achieving the career goals" was −0.592, which is visualised as a broad bell shape with a low peak and widespread tails. For skewness, as indicated, all items were less than −1.0. For example, the lowest skewness of item "Work hard towards career

goals" is −0.598, which is illustrated as a left-skewed platykurtik distribution of *Factor Four Capability*.

5.3.3 ANOVA for demographic comparisons

Comparisons of four-factor score differences across categories were conducted via post hoc tests in the ANOVA based on the following demographic variables: qualifications, school levels, employment status and years of teaching. For qualifications and school-level variables, ANOVA revealed no significant differences between teachers' education qualifications or school levels on any of the four factors (see Table 5.7). The trends shared similarities to a meta-analysis study of teacher wellbeing factors by Zhou et al. (2024), which did not yield evidence of moderation effects for teaching experience.

Table 5.7

ANOVA Results for Demographic Comparisons

Factors		Employment	Qualification	School levels	Years of teaching
Resilience	Between groups	0.034	0.404	0.581	0.006
Connectedness	Between groups	0.049	0.899	0.010	0.168
Autonomy	Between groups	0.012	0.523	0.146	0.201
Capability	Between groups	0.052	0.235	0.873	0.022

Yet, a multiple comparisons test in ANOVA revealed a statistically significant difference ($p = 0.004$) of the dependent variable *Positive Coping* between novice teachers (0–7 years of teaching experience) and veteran teachers (24+ years of teaching experience). The effect size was small, suggesting little practical difference. Further, the multiple comparisons test in

ANOVA revealed a statistically significant difference ($p = 0.005$) of the dependent variable *Autonomy* between permanent teachers and temporary relief teachers. Again, the effect size was small, suggesting little practical difference.

5.4 Confirmatory Factor Analysis

A CFA was conducted on the items loaded on the four factors from the previous EFA results to determine major quantitative factors for motivation. CFA was developed by Jöreskog (1969) to describe and validate the latent structures for a priori assumptions against the sample, and it has been widely applied in quantitative analysis to hypothesise relationships among variables. As indicated in the original EFA, the items ($n = 27$) loaded well; however, because of the highly related nature of the constructs, cross-loading with some items was excluded. So final items ($n = 21$) were included in CFAs.

5.4.1 Model fit

A commonly agreed favourable sample size is $n > 200$ (Gerbing & Anderson, 1993; Hoyle, 1999). Therefore, the current study's sample size ($n = 251$) met the suggested minimum, indicating a small but statistically favourable sample. For this CFA model, Chi-square was 342.128, $df = 76$, $p < 0.000$ and minimum was achieved. Three indices (see Table 5.8) were used to evaluate the goodness of fit of the models: CFI, Tucker–Lewis index (TLI) and RMSEA.

Table 5.8

CFA Model Fit Summary

Fit index	Evidence of the goodness of fit
CFI	0.953
TLI	0.938
RMSEA	0.057

CFI measures relative improvements to the fit of the final model compared to an independence model; that is, a model involving completely unrelated variables (Kline, 2015; Tabachnick & Fidell, 2007). Hu and Bentler (1999) suggested that CFI values greater than 0.950 are evidence of a good fit. It was adopted for the goodness of fit (CFI = 0.953). TLI highly relies on the conventional cut-off values developed under normal-theory maximum likelihood, where TLI > 0.900 indicates an adequate fit (Bentler & Bonett, 1980). It was adopted for the goodness of fit (TLI = 0.938). RMSEA measures goodness of fit by assessing the fit of a model compared to a perfect model. It assesses how far a hypothesised model is from a perfect model where a lower score represents a better fit (Xia & Yang, 2018). Commonly accepted, a maximum cut-off of 0.1 for RMSEA was adopted for the goodness of fit (RMSEA = 0.057).

5.4.2 A four-factor model

The latent variable correlations among the four factors were identified using Varimax with Kaiser normalisation. The correlations provided evidence that the four factors were correlated. The standardised regression weights for 21 items were loaded on four factors from the CFA (see Table 5.9). This research study adopted Pearson's correlation coefficient standard: values between ±0.40 and ±0.69 indicate a moderate correlation, while values between ±0.70 and ±0.89 suggest a strong correlation (Schober et al., 2018). *Factor One* and *Factor Two* displayed a strong correlation (0.788), *Factor Two* and *Factor Four* displayed a moderate correlation (0.460), and *Factor Four* and *Factor One* displayed a weak correlation (0.347). As indicated, standardised regression weights provided evidence that the factors were distinct constructs, such as item "Adapt behaviour to suit the situation" loaded on *Factor One* with 0.827 loading, item "Leaders give praise" loaded on *Factor Two* with 0.843 loading, item "Seek the authority to make decisions" loaded on *Factor Three* with 0.876 loading, and item "Well-defined career goals" loaded on *Factor Four* with 0.921 loading. However, due to low correlation scores

between latent variables, verifying their quality may not be sufficient; therefore, linear regressions were performed next to examine the suitability.

Table 5.9

Standardised Regression Weights of Four Factors

TMWS item	Factor loading
Factor One: Positive Emotion Management	
Cope with frequent change	0.789
Adapt behaviour to suit the situation	0.827
Change approach to achieve a goal	0.741
Change behaviour to the demand	0.763
Ready for adapting to the situation	0.563
Factor Two: Positive Social Relationships	
Belong at this school	0.798
Be myself at this school	0.791
People at this school care about me	0.787
Treated with respect at this school	0.802
Leaders give recognition	0.841
Leaders give praise	0.843
Factor Three: Teacher Autonomy	
Give the authority to make change	0.806
Give the authority to make decisions	0.774
Delegate the authority	0.698
Make decisions on the career goals	0.713
Factor Four: Teaching Capability	
Work hard towards career goals	0.887
Fulfill the career goals	0.657
Seek the authority for making changes	0.807

TMWS item	Factor loading
Seek the authority for taking responsibilities	0.660

5.4.3 Linear regressions for four-factor model

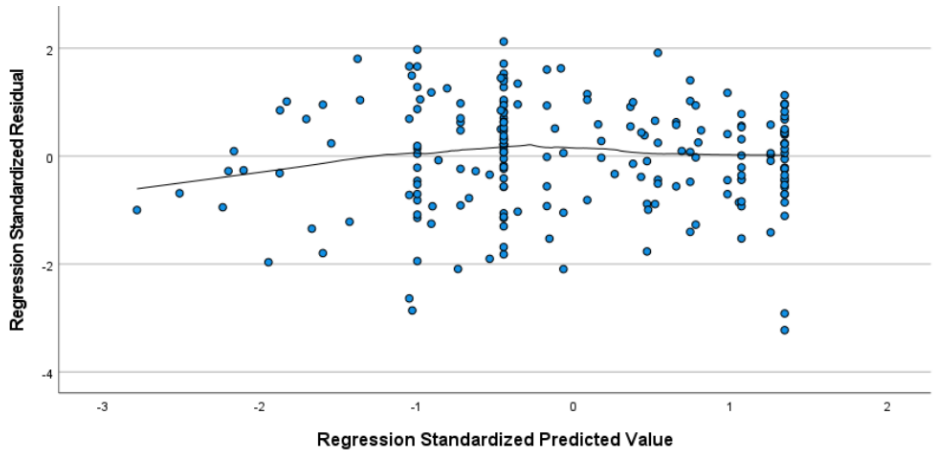
Four linear regressions were run to examine the relationships between dependent variables (outcome variables) and independent variables (predicting variables) (Cohen et al., 2018). The following section presents the linear regression analyses to make valid inferences from the regressions prior to constructing hypotheses.

5.4.3.1 Testing linearity

Tests of linearity ensured normality between dependent variables (outcome variables) and independent variables (predicting variables) (Tabachnick & Fidell, 2007). It appeared as a roughly linear line around zero, indicating the relationship between the outcome variable and predicting variables is zero because the residuals are randomly scattered around zero (Tabachnick & Fidell, 2007).

Figure 5.9

Linearity of Outcome: Positive Emotion Management

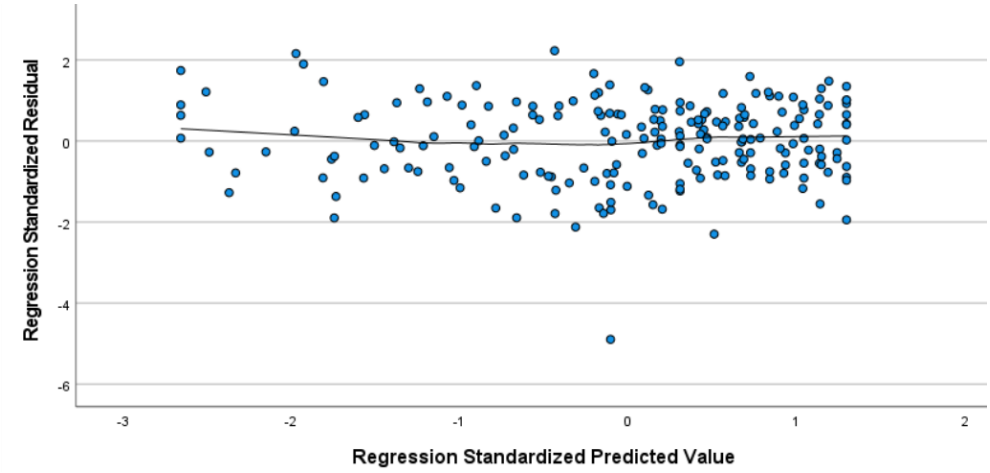


First, the results showed a linearity between the outcome variable *Positive Emotion Management* and predicting variables (see Figure 5.9). Five variables formed a scatterplot of

the standardised predicted value −2.780 and 1.347, and the standardised residual between -3.225 and 2.123. By performing the Loess function, a Loess curve fitted through the scatterplot and displayed a moderate fit to zero. So, it concluded that the outcome variable *Positive Emotion Management* and the five predicting variables had a linear relationship.

Figure 5.10

Linearity of Outcome: Positive Social Relationships



Second, the results showed linearity between the outcome variable *Positive Social Relationships* and the predicting variables (see Figure 5.10). Six variables formed a scatterplot of the standardised predicted value −2.656 and 1.297, and the standardised residual between −4.895 and 2.230. By performing the Loess function, a Loess curve fitted through the scatterplot and displayed a close fit to zero. Thus, it determined that the outcome variable *Positive Social Relationships* and the six predicting variables had a linear relationship.

Third, the results showed linearity between the outcome variable *Teacher Autonomy* and the predicting variables (see Figure 5.11). Four variables form a scatterplot of the standardised predicted value between −3.546 and 1.736, and the standardised residual between −4.095 and 2.747. By performing the Loess function, a Loess curve fitted through the scatterplot and

displayed a moderate fit to zero. This demonstrated that the outcome variable *Teacher Autonomy* and the four predicting variables had a linear relationship.

Last, the results showed linearity between the outcome variable *Teaching Capability* and the predicting variables (see Figure 5.12). Four predicting variables form a scatterplot of the standardised predicted value between −2.472 and 1.724, and the standardised residual between −2.577 and 5.830. By performing a Loess function, a Loess curve fitted through the scatterplot and displayed a close fit to zero. Thus, it concluded that the outcome variable *Teaching Capability* and the four predicting variables had a linear relationship.

Figure 5.11

Linearity of Outcome: Teacher Autonomy

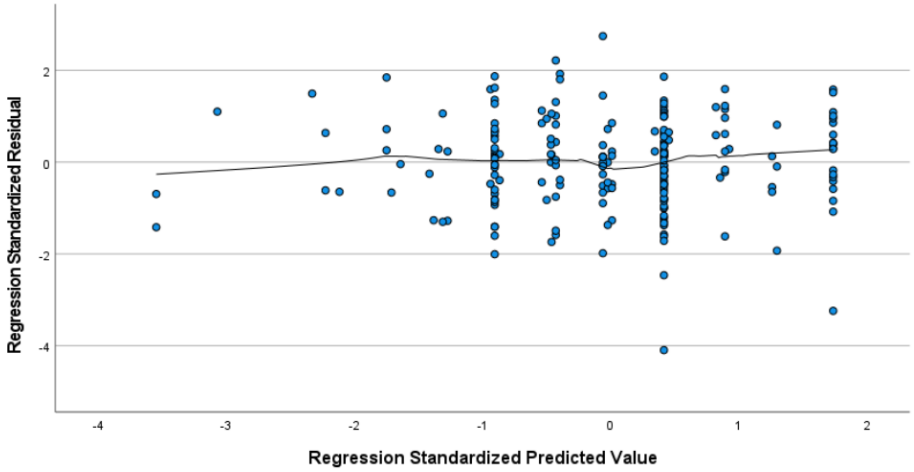
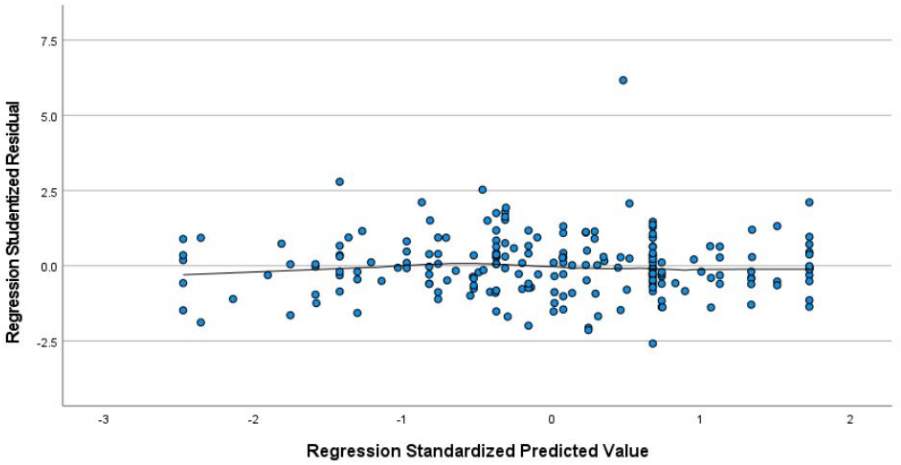


Figure 5.12

Linearity of Outcome: Teaching Capability



5.4.3.2 Testing normality of residuals

In linear regression, the residuals should be normally distributed (Cohen et al., 2018). Meeting the assumption of normality of residuals ascertained the validity of p-values and t-tests (Cohen et al., 2018). This assessment evaluated the normality of the residuals by comparing the observed cumulative distribution function (CDF) of the standardised residual to the expected CDF of the normal distribution from the four dependent variables, including *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy* and *Teaching Capability*. Additionally, an outlier is an observed data point with a dependent variable value very different from the value predicted by the regression equation (Tabachnick & Fidell, 2007). There should be no significant outliers (Tabachnick & Fidell, 2007). As suggested, this study used P-P plots to distinguish among symmetrical distributions according to their kurtosis of the four dependent variables: *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy,* and *Teaching Capability*.

First, the results demonstrated the normality of the residuals by comparing the observed CDF of the standardised residual to the expected CDF of the outcome variable *Positive Emotion*

Management (see Figure 5.13). To compare the distributions, the majority of points lay on a 45-degree line (x = y), while n (0.57, 0.58) and n (0.61, 0.63) displayed small deviations, indicating the distributions fluctuate. Overall, an ample number of points fell on a straight line, and it visualised that predicting variables for *Positive Emotion Management* followed the normal expected CDF.

Second, the results demonstrated the normality of the residuals by comparing the observed CDF of the standardised residual to the expected CDF of the outcome variable *Positive Social Relationships* (see Figure 5.14). To compare the distributions, the majority of points lay on a 45-degree line (x = y), while n (0.58, 0.64) and n (0.70, 0.73) displayed minor deviations, indicating the distributions differ. Overall, an ample number of points fell on a straight line, and it depicted that predicting variables for *Positive Social Relationships* followed the normal expected CDF.

Figure 5.13

Normal P-P Plot: Positive Emotion Management

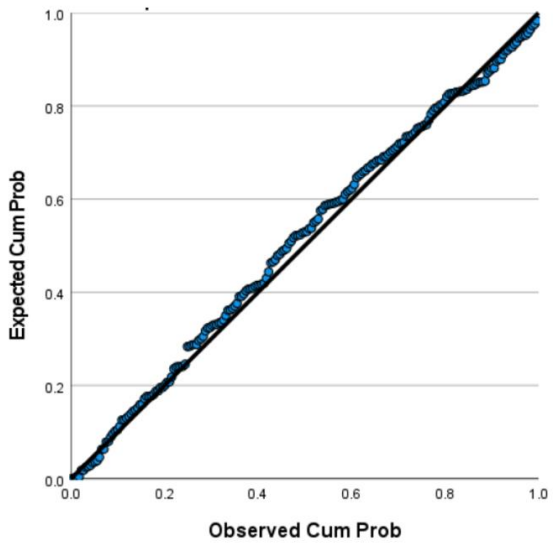
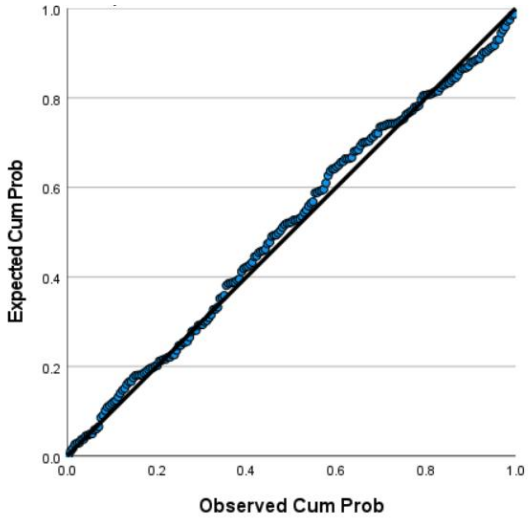


Figure 5.14

Normal P-P Plot: Positive Social Relationships



Third, the results demonstrated the normality of the residuals by comparing the observed CDF of the standardised residual to the expected CDF of the outcome variable *Teacher Autonomy* (see Figure 5.15). To compare the distributions, a majority of points lay on a 45-degree line (x = y), while n (0.21, 0.24) and n (0.50, 0.57) displayed slight deviations, indicating the distributions vary. Overall, a sufficient number of points fell on a straight line, and it visualised that predicting variables for *Teacher Autonomy* followed the normal expected CDF.

Last, the results demonstrated the normality of the residuals by comparing the observed CDF of the standardised residual to the expected CDF of the outcome variable *Teacher Agency* (see Figure 5.16). To compare the distributions, the majority of points lay on a 45-degree line (x = y), while n (0.16, 0.19), n (0.68, 0.55) and n (0.79, 0.70) displayed moderate deviations, indicating the distributions differ. Overall, an acceptable number of points fell on a straight line, and it indicated that predicting variables for *Teacher Agency* followed the normal expected CDF.

Figure 5.15

Normal P-P Plot: Teacher Autonomy

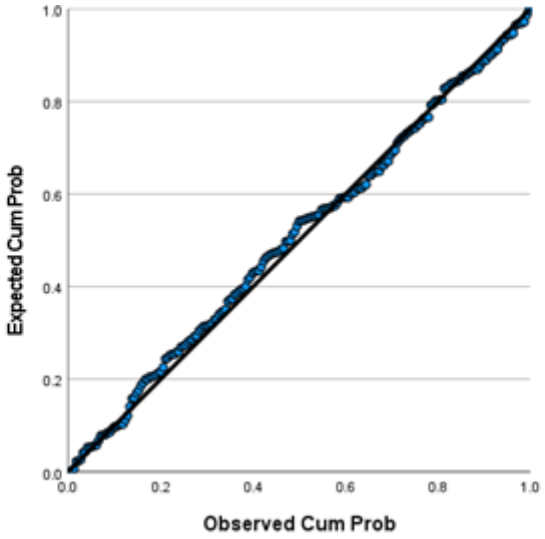
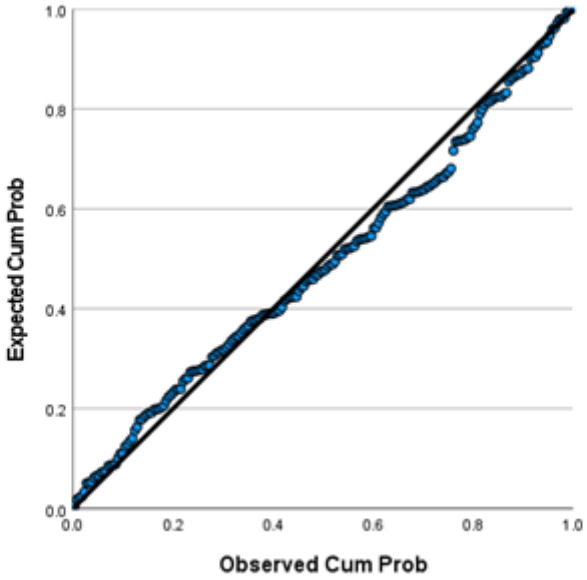


Figure 5.16

Normal P-P Plot: Teaching Capability



5.4.3.3 Linear regression

R value represents the correlation between the dependent and independent variable; an R value greater than 0.4 needs further analysis (Muijs, 2004). All R values were more than 0.4; that is,

0.839, 0.994, 0.844 and 0.962, respectively, for the four-factor model of *Positive Emotion Management, Positive Social Relationships, Teacher Autonomy,* and *Teaching Capability*. It indicated strong correlations between the dependent and independent variables from the four-factor model. Second, R-square shows the total variation for the dependent variable that could be explained by the independent variables (Muijs, 2004). An R-square value greater than 0.5 indicates moderate effectiveness in determining the hypothesised relationship. Commonly accepted, R-square values greater than 0.5 indicate good effectiveness in determining the hypothesised relationships among dependent and independent variables. R-square values for the four-factor model were 0.704, 0.989, 0.712 and 0.925. Last, the adjusted R-square shows the generalisation of the results, requiring a minimum difference between R-square and adjusted R-square (Muijs, 2004). Adjusted R-square for the four-factor model were 0.696, 0.988, 0.708 and 0.923. All differences between R-square and adjusted R-square from the four-factor model were within 0.001 and 0.008, indicating a good quality of the generalisation of the results.

Further, according to ANOVA results, four linear regressions were calculated to predict four dependent variables. In Model One, the dependent variable *Positive Emotion Management* was predicted by five independent variables about coping with changes and adaptive behaviours. The regression equation was found $F(5, 201) = 95.473$, $p < 0.000$, with an r square of 0.704. In Model Two, the dependent variable *Positive Social Relationships* was predicted by six independent variables about school culture and recognition. The regression equation was found $F(9, 197) = 1922.389$, $p < 0.000$, with an r square of 0.989. In Model Three, the dependent variable *Teacher Autonomy* was predicted by four independent variables about authority distributions. The regression equation was found $F(3, 203) = 167.293$, $p < 0.000$, with an r square of 0.712. In Model Three, the dependent variable *Teaching Capability* was predicted by four independent four variables about career progression. The regression equation was

found F (4, 202) = 618.829, p < 0.000, with an r square of 0.925. Therefore, the model summaries and ANOVA results were satisfactory and the study proceeded with the next steps.

5.4.3.4 Coefficients

In *Factor One Positive Emotion Management*, standardised coefficients, t-value and statistical significance were reported (see Table 5.10). According to standardised coefficients, the independent variable "Ready for adapting to the situation" had the strongest positive effect (β = 0.345) on the dependent variable *Positive Emotion Management,* while "Change approach to achieve a goal" had the weakest positive effect (β = 0.051) on the dependent variable.

According to t-value, variable "Ready for adapting to the challenging situation", "Cope with frequent changes" and "Adapt behaviour to suit the situation" displayed high t-values. Three of five variables were statistically significant with p < 0.000. The independent variables "Change approach to achieve a goal" and "Change behaviour to the demand" were not statistically significant (p > 0.005).

Table 5.10

Standardised Coefficients Results: Positive Emotion Management

Dependent variable: Positive Emotion Management	Standardised coefficients	t	Sig.
(Constant)		-19.442	0.000
Cope with frequent changes	0.239	5.290	0.000
Adapt approach to achieve a goal	0.245	4.395	0.000
Adapt behaviour to suit the situation	0.051	0.977	0.329
Change behaviour to the demand	0.156	2.649	0.009
Ready for adapting to the challenging situation	0.345	6.066	0.000

Table 5.11

Standardised Coefficients Results: Positive Social Relationships

Dependent variable: Positive Social Relationships	Standardised coefficients	t	Sig.
(Constant)		-119.656	0.000
Belong at this school	0.114	7.503	0.000
Be myself at this school	0.075	5.123	0.000
Care about my students	0.182	11.882	0.000
Treated with respect at this school	0.172	10.923	0.000
Recognition and praise	0.322	8.348	0.000

In *Factor Two Positive Social Relationships*, standardised coefficients, t-value and statistical significance were reported (see Table 5.11). According to standardised coefficients results, the independent variables "Recognition and praise" ($\beta = 0.322$) and "Care about my students" ($\beta = 0.182$) showed the most effect on the dependent variable *Positive Social Relationships,* while the independent variable "Be myself at this school" ($\beta = 0.075$) showed the least effect. Notably, the variables "Leaders give praise", "People at this school care about me" and "Treated with respect at this school" displayed high t-values. All six variables were statistically significant with $p < 0.000$.

In *Factor Three Teacher Autonomy*, standardised coefficients, t-value and statistical significance were reported (see Table 5.12). According to standardised coefficients results, the independent variable "Seek the authority to make decisions" ($\beta = 0.335$) showed the most effect on the dependent variable *Teacher Autonomy*. According to t-value, all four variables displayed similar t-values and were statistically significant with $p < 0.000$.

Table 5.12

Standardised Coefficients Results: Teacher Autonomy

Dependent variable: Teacher Autonomy	Standardised coefficients	T	Sig.
(Constant)		-21.458	0.000
Give the authority to make change	0.305	5.303	0.000
Give the authority to make decisions	0.339	5.670	0.000
Delegate the authority	0.335	7.197	0.000
Make decisions on the career goals	0.130	7.919	0.000

In *Factor Four Teaching Capability*, standardised coefficients, t-value and statistical significance were reported (see Table 5.13). According to standardised coefficients results, the independent variable "Seek the authority for making change" ($\beta = 0.423$) showed the most effect on the dependent variable *Teaching Capability*, while the independent variable "Work hard towards career goals" ($\beta = 0.061$) showed the least effect. According to t-value, the variables "Well-defined career goals" and "Content with the career goals" display high t-values. Three of four variables were statistically significant with $p < 0.000$. The independent variable "Work hard towards career goals" was not statistically significant ($p > 0.005$).

Table 5.13

Standardised Coefficients Results: Teaching Capability

Dependent variable: Teaching Capability	Standardised coefficients	t	Sig.
(Constant)		-44.917	0.000
Seek the authority for making change	0.423	13.762	0.000
Work hard towards career goals	0.061	2.135	0.034
Seek the authority for taking responsibilities	0.232	7.488	0.000

Dependent variable: Teaching Capability	Standardised coefficients	t	Sig.
Fulfill the career goals	0.383	11.647	0.000

This section presented the CFA results of the dimensionality of the self-composed TMWS. The exploration of standardised coefficients revealed key relationships between observed variables and latent variables to determine four major motivation factors: teacher autonomy, positive emotion management, positive social relationships and teaching capability. The identified major motivation factors address Research Question One, which is detailed in the following section.

5.4.3.5 Research Question One

Bureau et al. (2022) documented that a range of research studies used CFA to specify individual factors for each type of motivation. The authors identified that the advantage of this method is allowing individual motivation types to predict outcomes of the SDT continuum. The four major motivation factors were identified to answer Research Question One: *What are the major motivation factors impacting the advancement of teacher wellbeing?*

Teacher autonomy was determined as the first quantitative motivation factor according to observed variables. *Authority to make decisions* ($\beta = 0.339$) and *Delegate the authority* ($\beta = 0.335$) displayed the highest coefficients, which indicated the importance of distributing authority for improving teacher autonomy. *Authority to make changes* ($\beta = 0.305$) implied that supporting teachers to make changes to their teaching practice may cultivate teacher autonomy. Studies by Lipscomb et al. (2021) and Klaeijsen et al. (2018) are aligned with these findings that teacher autonomy could encourage professional collaborations by trying innovative behaviours.

Positive emotion management was identified as the second motivation factor according to observed variables. *Ready for adapting to the challenging situation* (β = 0.345) displayed the highest coefficients, which indicated that using adaptive approaches to manage professional demands may foster teachers' positive emotion management. *Cope with frequent changes* (β = 0.239) and *Adapt to achieve a goal* (β = 0.245) indicated strategies for managing change, and goal-oriented behaviours may cultivate teachers' positive emotion management. These findings support the prior research. For example, Ma et al. (2023) claimed that expressions of natural feelings within school communities can inspire teachers to adopt collective school values.

Positive social relationships were the third motivation factor according to observed variables. *Care about my students* (β = 0.182) and *Treated with respect* (β = 0.172) displayed the highest coefficients, which suggested a caring and respectful working environment for growing positive social relationships. Meanwhile, *Recognition* and *Praise* (β = 0.322) implied that professional recognition is needed to foster positive social relationships. Morgan et al. (2022) shared a similar view to the findings: enhanced interpersonal skills could grow positive professional relationships.

Teaching capability was identified as the last motivation factor according to observed variables. *Seek for making change* (β = 0.423) displayed the highest coefficients, indicating that teachers need to develop agentic engagement in innovative practice for educational change and reform. *Fulfill the career goals* (β = 0.383) suggested achieving professional goals may encourage teacher agency. Studies by Tsang et al. (2022) and Tay et al. (2021) were aligned with these findings that empowering behaviours could encourage teaching capability by valuing teachers' work goals and purposes.

5.5 Structural equation modelling models

A set of theoretical models were tested by using SEM to explore the interrelationships between the latent variables (Cohen et al., 2018). Kline (2015) suggested that, at a minimum, the following indices should be reported: the chi-squared test of significance ($\chi 2$), the CFI (claimed by Bentler, 1990), the TLI (suggested by Tucker & Lewis, 1973) and the RMSEA (suggested by Browne & Cudeck, 1992). Four goodness of fit indices have been commonly applied in a wide range of teacher wellbeing research—including Aldrup et al. (2018), Collie et al. (2020a) and Song et al. (2020)—to assess the fit of all structural models. Hence, the current research study reported these four goodness of fit indices: $\chi 2$, CFI, TLI and RMSEA.

SEM Model One explored the interrelations between the four latent variables identified from previous EFA: *Resilience, Connectedness, Autonomy,* and *Capability*. SEM Model Two established an understanding of the mediating role of supportive culture in this model by examining the interrelations between the five latent variables: *Connectedness, Supportive Culture, Resilience, Autonomy*, and *Capability*. SEM Model Three investigated the interrelations between the seven latent variables: *Connectedness to Teaching Profession, Positive Coping, Manage Change, Perceived Recognition, Perceived Distributed Leadership, Autonomy*, and *Agency.* These were developed to understand the mediating roles of *Manage Change, Perceived Recognition,* and *Perceived Distributed Leadership* in relation to *Connectedness to Teaching Profession* as the final model. Finally, SEM Model Three was selected to form the quantitative hypotheses to guide discussions in Chapter 7.

5.5.1 SEM Model One

According to SEM Model One, chi-squared test indicated $\chi 2 = 329.588$, $df = 167$ and the minimum was achieved. CFI of 0.954 and RMSEA of 0.057 indicated a good fit, with CFI greater than 0.95 (as suggested by Hu & Bentler, 1999) and the value of RMSEA was less than

0.08 (as suggested by Marsh et al., 2004). The TLI of 0.938 was considered an acceptable fit, as suggested by Xia and Yang (2019).

Table 5.14

SEM Model One Effects Results

SEM Model One	Standardised total effects	Standardised direct effects
Dependent variable: Connectedness		
Autonomy	0.259	0.300
Resilience	0.068	0.095
Capability	0.442	0.453

The estimates of standardised total effects and standardised direct effects were reported (see Table 5.14). The standardised total effects indicated the total strength of the relationship, considering both direct and indirect paths between dependent variable *Connectedness* and independent variables *Autonomy, Resilience* and *Capability*. The direct effects indicated the parameter estimates from independent variables *Autonomy, Resilience* and *Agency* directly to the dependent variable *Connectedness*. Consistently, independent variables *Autonomy* and *Capability* displayed a moderate effect on dependent variable *Connectedness,* while the independent variable *Resilience* displayed a weak effect.

SEM Model One suggested that teachers' autonomy and capability affect their perceived job satisfaction for connectedness to teaching directly and positively with coefficients 0.259 and 0.442, respectively. This finding confirmed prior research by Valckx et al. (2020) and Cai et al. (2022) on positive associations between enhanced autonomy and improved job satisfaction. However, the effect of teachers' resilience was relatively weaker, with a coefficient of 0.068 on teachers' connectedness to teaching. Such findings advocated the necessity for further investigations on enhancing teachers' resilience for improved emotional competence.

5.5.2 SEM Model Two

To understand how resilience, autonomy, and capability influence teachers' Connectedness to the teaching profession, two new latent constructs were introduced using the latent moderated structural equations (LMS) method (Klein & Moosbrugger, 2000). The LMS method was used to test the SEM models further (Klein & Moosbrugger, 2000; Klein & Muthén, 2007; Song et al., 2020). The LMS method assisted in investigating moderation effects when latent constructs were not directly measured by the researcher, which enabled the study to examine how a third variable influences the relationship between two other latent constructs. For example, this research adopted Collegial Relationships and Supportive Culture as the latent constructs to investigate the previous latent constructs of Connectedness. The first new latent variable was *Collegial Relationships*, which was recommended by a range of teacher wellbeing research, such as García-Moya (2020), Lavy and Naama-Ghanayim (2020) and Thornberg et al. (2020). The second new latent variable was *Supportive Culture,* which was endorsed by a range of teacher wellbeing research, including Collie et al. (2015) and Yao et al. (2020). These two new latent variables replaced the previous latent construct *Connectedness*.

According to SEM Model Two, chi-squared test indicated $\chi 2 = 271.457$, $df = 170$ and the minimum was achieved. CFI of 0.970, TLI of 0.959 and RMSEA of 0.047 indicated a good fit, whereby CFI and TLI were greater than 0.95 (as suggested by Hu & Bentler, 1999) and the value of RMSEA was less than 0.080 (as suggested by Marsh et al., 2004). The TLI of 0.943 was considered an acceptable fit, as suggested by Xia and Yang (2019).

Table 5.15

SEM Model Two Effects Results

SEM Model Two	Standardised total effects	Standardised direct effects	Standardised indirect effects
Dependent variable: Supportive Culture			

SEM Model Two	Standardised total effects	Standardised direct effects	Standardised indirect effects
Autonomy	0.328	0.520	-
Resilience	0.050	0.089	-
Capability	0.404	0.528	-
Supportive culture	-	-	-
Dependent variable: Collegial Relationships			
Autonomy	0.181	-0.135	0.401
Resilience	0.079	0.061	0.069
Capability	0.420	0.101	0.101
Supportive Culture	0.833	0.770	0.407

The good fit index for SEM Model Two was greater than for SEM Model One, indicating that SEM Model Two had a better fit to the data than SEM Model One. The estimates of standardised total effects, standardised direct effects and standardised indirect effects were reported (see Table 5.15). Compared with SEM Model One, indirect effects were generated, indicating the parameter estimates between dependent variable *Collegial Relationships* and independent variables *Autonomy, Positive Coping,* and *Capability,* which were mediated by dependent variable *Supportive Culture*. Consistently, independent variables *Autonomy* and *Capability* displayed a moderate effect on dependent variable *Supportive Culture,* while the independent variable *Resilience* displayed a weak effect. Noticeably, as a mediating variable, *Supportive Culture* demonstrated a significant effect on dependent variable *Collegial Relationships*. Interestingly, the independent variable *Autonomy* negatively affected dependent variable *Collegial Relationships*.

Independent variables *Autonomy* and *Capability* affected the dependent variable *Supportive Culture* directly and positively with moderate coefficients of 0.328 and 0.404, respectively; the independent variable *Resilience* had a weak coefficient, 0.050. Then, independent variables *Resilience* and *Capability* affected the dependent variable *Connectedness* directly and positively with weak coefficients 0.037 and 0.083, while *Autonomy* was directly and negatively affected with a weak coefficient −0.092. Noticeably, the mediating variable *Supportive Culture*

affected the dependent variable *Collegial Relationships* directly and positively with significant coefficients 0.833.

5.5.3 SEM Model Three

The preliminary results from SEM Model Three indicated seven latent variables: *Autonomy, Agency, Perceived Distributed Leadership, Perceived Recognition, Connectedness to Teaching Profession, Manage Change,* and *Positive Coping*. Interrelationships between the seven latent variables were identified from the SEM Model Three to address Research Question Two: *How are three needs for competence, autonomy and relatedness of SDT impacting teacher motivation to advance teacher wellbeing?*

5.5.3.1 SEM Model Three fit

The SEM Model Three examined more precise relationships between all latent variables. Again, the LMS method (Klein & Moosbrugger, 2000) was applied to investigate specific constructs of predicting variables. First, in accordance with the previous two models, predicting variable *Resilience* demonstrated an insignificant and direct relationship with latent variables. To investigate the predicting variable *Resilience* in relation to latent variables of teacher wellbeing, the first new latent variable was generated to replace the predicting variable *Resilience.* This latent variable was Positive Coping, which was suggested in a range of teacher wellbeing research by Song et al. (2021), Zadok-Gurman et al. (2021) and Zhao (2021). Positive coping referred to applying strategies that can help to manage stress and regulate emotions. For example, Zadok-Gurman et al. (2021) explored positive coping strategies of mindfulness practice for reducing teachers' burnout during the COVID-19 Pandemic. The second new latent variable was generated to replace the predicting variable Resilience. This latent variable was Manage Change, which was suggested in various teacher wellbeing research by Ainsworth and Oldfield (2019), Neumann and Tillott (2021) and Pennington et al. (2021).

Next, as indicated in SEM Model Two, the mediating variable *Supportive Culture* revealed its significance in mediating between predicting variables and the outcome variable. To examine more specific constructs, the third new latent variable was generated to replace the mediating variable *Supportive Culture*, namely, *Perceived Recognition,* recommended by Wilcoxen et al. (2019) and Yao et al. (2020). The fourth new latent variable was generated to replace the mediating variable *Supportive Culture*, namely, *Perceived Distributed Leadership,* which was advocated across teacher wellbeing research by Dail et al. (2018) and Liang and Wang (2019).

According to the SEM Model Three, chi-squared test indicated: $\chi 2 = 326.970$, df = 167 and the minimum was achieved. CFI of 0.952 and RMSEA of 0.059 indicated a good fit, whereby CFI was greater than 0.950 (as suggested by Hu & Bentler, 1999) and the value of RMSEA was less than 0.080 (as suggested by Marsh et al., 2004). TLI of 0.934 was considered an acceptable fit by Xia and Yang (2019).

The estimates of standardised total effects, standardised direct effects, and standardised indirect effects were reported (see Table 5.16). The standardised total effects indicated the total strength of the relationships between the dependent variable *Connectedness to Teaching Profession;* the mediating variables *Manage Change, Perceived Recognition* and *Perceived Distributed Leadership;* and the independent variables *Agency, Autonomy* and *Positive Coping* considering both direct and indirect paths.

As expected, *Positive Coping* was significantly direct and positively related to *Manage Change*. The standardised direct effects indicated the parameter estimates from independent variables directly to mediating variables. As expected, the independent variables *Agency* and *Autonomy* were moderately direct and positively related to the mediating variables *Perceived Recognition* and *Perceived Distributed Leadership*. The standardised indirect effects suggest parameter estimates between independent variables and dependent variables when they

mediate three mediating variables. Surprisingly, the independent variables *Agency, Autonomy* and *Positive Coping* were weakly direct and positively related to the dependent variable *Connectedness to Teaching Profession*.

Table 5.16

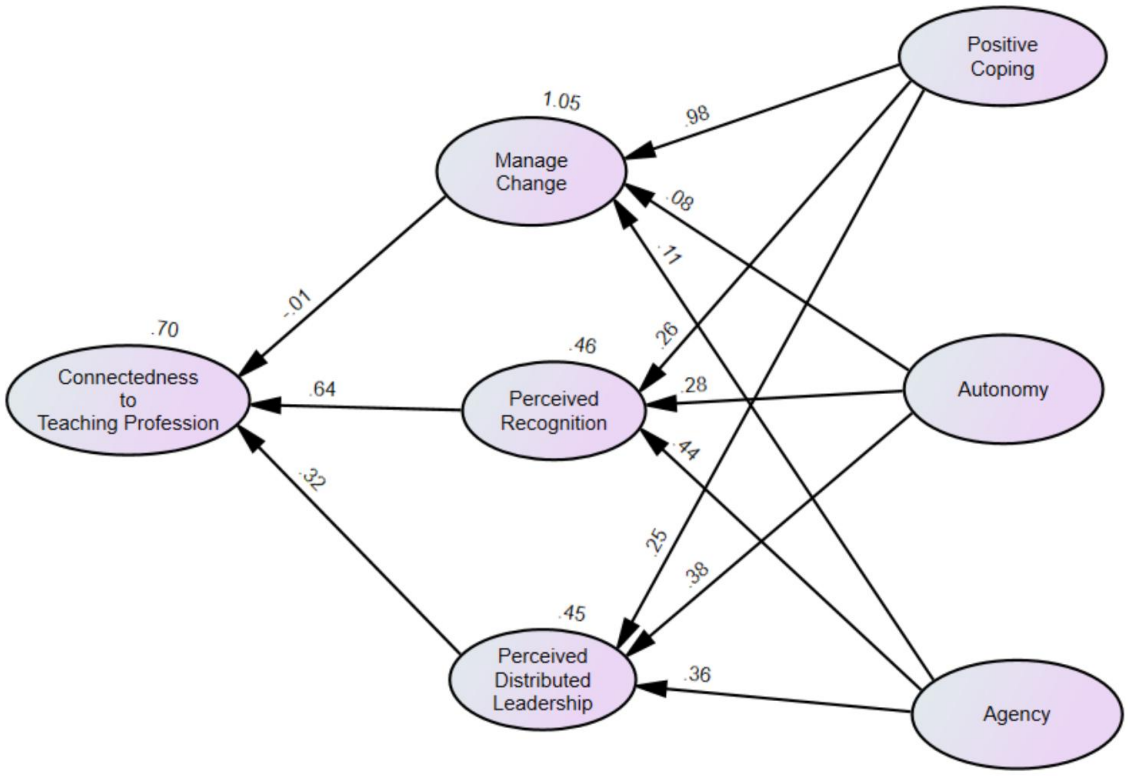
SEM Model Three Effects Results

SEM Model Three	Standardised total effects	Standardised direct effects	Standardised indirect effects
Dependent variable: Manage Change			
Agency	0.108	0.037	-
Autonomy	0.084	0.040	-
Positive Coping	0.976	0.678	-
Manage Change	-	-	-
Perceived Recognition	-	-	-
Perceived Distributed Leadership	-	-	-
Dependent variable: Perceived Recognition			
Agency	0.445	0.585	-
Autonomy	0.275	0.499	-
Positive Coping	0.255	0.278	-
Manage Change	-	-	-
Perceived Recognition	-	-	-
Perceived Distributed Leadership	-	-	-
Dependent variable: Perceived Distributed Leadership			
Agency	0.358	-	-
Autonomy	0.378	-	-
Positive Coping	0.252	-	-
Manage Change	-	-	-
Perceived Recognition	-	-	-
Perceived Distributed Leadership	-	-	-
Dependent variable: Connectedness to Teaching Profession			
Agency	0.402	0.477	0.402
Autonomy	0.299	0.692	0.299
Positive Coping	0.237	0.078	0.237
Manage Change	-0.009	-0.029	-
Perceived Recognition	0.645	0.547	-
Perceived Distributed Leadership	0.324	0.272	-

The estimates of the standardised structural regression coefficients were reported (see Figure 5.17). Given that non-significant paths were removed from the model, all path coefficients were statistically significant at $p < 0.05$.

Figure 5.17

SEM Model Three Path and Parameter Estimates Results



5.5.3.2 The interrelationships of SEM Model Three

The SEM Model Three validated seven latent variables, including *Autonomy, Agency, Perceived Distributed Leadership, Perceived Recognition, Connectedness to Teaching Profession, Manage Change,* and *Positive Coping*, as the preliminary results. Major interrelationships confirmed direct associations between these motivation constructs.

First, there were positive and direct relationships between teachers' needs of autonomy and relatedness from the SEM Model Three. The mediating variable *Perceived Recognition* affected the outcome of variable *Connectedness to Teaching Profession* directly and positively

with coefficients 0.645. Such findings supported that satisfying autonomy may directly and positively affect relatedness. Further, the predicting variable *Autonomy* affected the mediating variables *Perceived Recognition* and *Perceived Distributed Leadership* directly and positively with coefficients 0.275 and 0.378, respectively. Moreover, the mediating variable *Perceived Distributed Leadership* affected the outcome variable *Connectedness to Teaching Profession* directly and positively with coefficients 0.324. Such findings supported teachers' need of autonomy directly and positively affected teachers' need of relatedness.

Second, there were positive and direct relationships between teachers' need of autonomy and competence, as revealed by SEM Model Three. The predicting variable *Agency* affected the mediating variables *Perceived Recognition* and *Perceived Distributed Leadership* directly and positively with coefficients 0.356 and 0.445, respectively. Such findings confirmed prior research by Huang et al. (2024) on teachers' need of competence for cultivating teacher agency, which may affect teachers' need of autonomy. This result suggested a direct and positive relationship between competence and autonomy.

Meanwhile, a direct and positive relationship from teachers' need of autonomy to competence was revealed by SEM Model Three. Predicting variables *Agency* and *Autonomy* affected the mediating variable *Manage Change* directly and positively with coefficients 0.108, and 0.084, respectively. Surprisingly, this result suggested a weak, direct and positive relationship between autonomy and competence. This result did not sufficiently support Tay et al.'s (2021) findings that teachers' autonomy in professional development activities can assist teachers in managing change required by local educational policies.

However, due to weak loadings, this research study cannot provide sufficient evidence for teachers' need of autonomy to predict teachers' need of competence in managing change. This research calls for further investigation in this area.

Lastly, a direct and negative relationship between competence and relatedness was discovered. Mediating variable *Manage Change* affected the outcome variable *Connectedness to Teaching Profession* directly and negatively with coefficients -0.010. Such findings revealed a relationship between teachers' capabilities in managing change and their professional connectedness. Surprisingly, this result suggested a weak, direct and negative relationship between teachers' need of competence and need of relatedness. This result did not support Renshaw et al.'s (2020) findings of a satisfactory association between teachers' efficacy and connectedness to the school environment. However, such findings displayed a weak coefficient, which suggested a further investigation to strengthen the claim. Noticeably, the SEM Model Three discovered a significant relationship between positive coping and managing change, reflecting on the need of competence. Predicting variables *Positive Coping* affected the mediating variable *Manage Change* directly and positively with coefficients 0.976. Thus, *Positive Coping* displayed a significant direct and positive relation to *Manage Change*.

The SEM Model Three determined seven latent variables and explained their interrelationships. The three relationships addressed Research Question Two, as detailed in the following section.

5.5.3.3 Research Question Two

The relationships between seven motivation constructs addressed Research Question Two: How are the three needs for competence, autonomy and relatedness of self-determination theory impacting teacher motivation to advance teacher wellbeing?

This research study identified moderate, direct and positive relationships between teachers' needs of autonomy and relatedness. This finding shared a similar view to studies by Power and Goodnough (2019) and Bayly et al. (2022) that teachers' need of autonomy supported engaging collegial interactions in professional development for cultivating their need of relatedness.

This research study also found moderate, positive and direct relationships between teachers' needs of autonomy and competence. This finding was aligned with prior studies, including Chiu (2022) and Kaplan (2021), which claimed that needs-based support fosters teachers' need of autonomy and can motivate teachers to gain teaching competence.

Lastly, this research study identified a direct and negative relationship between teachers' needs of competence and relatedness. It shared some similarities to previous studies by Hobsona and Maxwell (2017) and Lee and Nie (2020) that found contextual factors have positive and negative impacts on teachers' needs of competence and relatedness.

Therefore, this research study finds that the needs of autonomy, competence and relatedness of SDT have direct, positive and negative effects on teachers' motivation constructs for sustaining teacher wellbeing. In Chapter 7 of this mixed-methods research study, quantitative results are triangulated to answer Research Question Six: How does teacher motivation underpinned by self-determination theory factors impact the advancement of teacher wellbeing?

5.6 Summary

This chapter presented quantitative findings from Phase One of this mixed-methods research study. The quantitative results were analysed through both descriptive and inferential statistics pertaining to two supporting research questions. These results identified major motivation factors based on the CFA results and validated inferential interrelationships between seven motivation constructs from the SEM Three Model. The four quantitative factors for motivation—including teacher autonomy, positive emotion management, positive social relationships and teaching capability—were revealed from the CFA results. Further, the seven motivation constructs based on latent variables in SEM Model Three confirmed the roles of the three basic psychological needs of autonomy, competence and relatedness in relation to teacher motivation for enhancing their wellbeing. The findings indicated moderate, positive and direct

relationships between the needs of autonomy, competence and relatedness, as well as a direct and negative relationship between the needs of competence and relatedness.

Chapter 6: Qualitative Results

6.1 Introduction

This chapter presents the qualitative results (Part One) from the online open-ended questionnaire of Phase Two and qualitative results (Part Two) from the semi-structured interview of Phase Three in this research study. The coding process used for identifying themes and sub-themes is outlined in Chapter 4 Methodology Section 4.5.4 for Content Analysis (CA) (pp. 131-133) and Section 4.6.4 for Thematic Analysis (pp. 139-141).Chapter 6, Part One (Sections 6.2 to 6.7) presents a CA of the online open-ended questionnaire responses. The CA results were employed to address Research Question Three: What are the major motivation functions for sustaining teacher wellbeing? The CA results identified that teachers' major motivation functions can sustain their wellbeing. It is argued that teaching capability may sustain teachers' motivation through increasing teacher efficacy, teaching engagement and professional collaborations.

Positive social relationships may cultivate teachers' motivation by developing positive classroom environments, student–teacher relationships and professional relationships. Positive emotion management may enhance teachers' motivation by fostering a respectful work environment, providing organisational support and developing a higher level of teacher resilience. Teacher autonomy may bolster teachers' motivation by encouraging empowering behaviours, providing subject-related expertise and leading professional development.

By examining interrelationships between the major motivation functions, this research study argues that a holistic view of sustaining teacher wellbeing—that is, teaching capability—may assist in fostering positive social relationships; positive social relationships may help teachers to develop positive emotion management; positive emotion management may encourage a stronger sense of autonomy; and enhanced teacher autonomy may improve teaching capability.

Chapter 6, Part Two (Sections 6.8 to 6.13) presents a thematic analysis (TA) of the semi-structured interview transcripts. The TA results were utilised to address Research Question Four: What are the major occupational factors across different professional life phases for sustaining teacher wellbeing? The TA results indicated that teachers' occupational factors could enhance teacher wellbeing. The qualitative results implied that teachers with different teaching experiences—including novice teachers, mid-career teachers and veteran teachers—demonstrated similar trends with a few variations for occupational needs. Novice teachers demonstrated a slightly stronger view on providing care approaches and affective responses for younger students. Mid-career teachers reported slightly more confidence in developing job-demands resources, whereas veteran teachers displayed some awareness of positive psychology approaches.

It is argued that teacher efficacy may enhance job resources and job-demands resources. Student–teacher relationships may encourage teachers to apply care for students, affective responses and interpersonal skills. A higher level of teacher resilience may enable effectiveness in emotion regulation strategies, mindfulness practice and positive psychology approaches. Teacher empowerment may encourage teacher leaders and promote autonomy-supportive approaches.

By exploring interrelationships between the major occupational factors, this research study posits a holistic view of enhancing teacher wellbeing; that is, teacher efficacy may assist teachers in developing quality student–teacher relationships, positive student–teacher relationships may help teachers strengthen their resilience in managing stressful situations and behavioural issues, a higher level of teacher resilience may encourage teachers' empowering behaviours, and a stronger sense of empowerment may cultivate a higher level of teacher efficacy.

6.2 Part One—Content Analysis

Eleven steps of CA (Cohen et al., 2018) were followed to establish an in-depth qualitative analysis of the open-ended questionnaire responses collected in Phase Two. Preliminary information, demographic information, coding results at the node level and coding results at the sentence level were provided.

6.2.1 Preliminary information

Preliminary information, including units of sampled text, sampling strategies and context descriptions, were considered to inform the authenticity and credibility of the online open-ended questionnaire responses.

6.2.1.1 Sampling strategies

Online open-ended questionnaires were distributed to volunteering teachers to obtain opinions on teacher wellbeing after establishing initial contacts via social media. The open-ended questionnaire responses were downloaded from Qualtrics. Then, NVivo 12 was utilised to conduct coding at the node and sentence levels for all written answers.

6.2.1.2 Sampling context

Stratified sampling was used because it was not feasible to sample the entire population to collect primary data sources (Creswell, 2014). Forty-one teachers chose to participate in the online open-ended questionnaire. All participants were employed at the DfE in South Australia. The research study's scope was explained clearly in the Participant Information Sheet (see Appendix B), and further clarification on participation was communicated via emails between the researcher and the participants once initial contact was established.

The main responses were collected via social media posts in the Facebook Group. Most teachers who responded to participate in the online questionnaire were from the group Teachers of Adelaide, which had the most members. The Teachers of Adelaide group was created on 1

November 2010, and it has been serving as an online platform for South Australian teachers to network and share educational resources.

The online open-ended questionnaire data collection period was from February to May 2022, when teachers at South Australia's DfE were experiencing disruptions due to COVID-19. A shortage of teaching staff challenged teachers across DfE school, as stated in a local newspaper, INDaily, on 22 February 2022: "In response to the current COVID-19 pandemic, the Department for Education is looking to support schools and preschools to meet increased short-term staffing needs through access to teachers on leave available for emergency relief teaching work in Term 1" (Richards, 2022). COVID-19 Emergency Management was introduced to sustain teacher wellbeing and overcome teaching staff shortages (DfE, 2022).

Further, starting from Term 1 in 2022, all Year 7 students from DfE primary schools transitioned to secondary schools. DfE (2022) stated that there was "a transitional period from 2022 to 2024" to allow smooth adjustments of moving Year 7 students from primary to secondary schools. Year 7 is already in secondary schools across Australia, so this move brought South Australian government schools into line with other states and territories, and other education systems in South Australia. This brought both challenges and opportunities for DfE teachers. For instance, Orbis—a learning centre for delivering exemplary learning to South Australian leaders and teachers—was introduced to assist DfE primary school teachers in developing professional capacity for this transition to secondary school teaching, underpinned by the School Improvement Plan and Australian Curriculum with South Australian contexts (DfE, 2022).

The DfE (2022) introduced partnership schools, that is, a cluster of secondary schools, primary schools and preschool schools, to encourage professional development and learning collaborations. As DfE employees, teachers have been required to communicate professional

goals and needs to their direct line managers by undergoing an annual PDP since 2019. DfE teachers were provided ongoing opportunities to explore and unpack site improvement plans focusing on students' literacy and numeracy learning. The partnership schools play an important role in encouraging ongoing professional development and continuity of school improvement plans. Considering the professional contexts of those 41 participants provided richness in the CA for this qualitative dataset.

Table 6.1

Demographic Information of DfE Teachers (Online Open-ended Questionnaire)

	Number *n*	Percentage *%*
Gender		
Male	4	9
Female	36	87
Others	1	2
School level		
Preschool	3	7
Primary	31	75
Secondary	5	12
Others	2	4
Employment status		
Contract	11	26
Permanent	25	60
Temporary Relief	4	9
Others	1	2
Years of teaching		
0-7 years	8	19
8-24 years	24	58
more than 24 years	9	21
Educational degree		
Diploma	4	9
Bachelor	21	51
Master	10	24
Others degree	3	7

6.2.2 Demographic information

Table 6.1 presents demographic information on the teachers who participated in the online open-ended questionnaire (n = 41). The 41 participants' details are listed in Appendix J.

Teachers were predominantly female (87%). There were more primary school level participants, which may be the result of exposure to social media groups. The largest number of members are from junior primary and primary level Facebook Groups, where more females than males are employed. More than half (60%) of the participants held permanent employment status, and almost as many (58%) had 8–24 years of teaching experience. The majority of the participants (85%) held a bachelor's or master's degree.

6.3 Results of Teaching Capability

Results for *Teaching Capability* were analysed at the node and sentence levels. This section provides the detailed results.

Table 6.2

Constructs: Teacher Efficacy, Teaching Engagement, and Professional Collaborations

Constructs	Nodes	Word clusters	Links to literature
Teacher Efficacy	Effective Teaching Instructions	providing evaluations/analysis/assessments; developing strategies/practice; improving performance	enhancing teaching practice for teaching effectiveness (Aelterman et al., 2019; Du Plessis & McDonagh, 2021; Ninković et al., 2022)
	Teaching Satisfaction	attending needs; exploring interests; promoting values; engaging approaches	developing career choice satisfaction and teaching engagement (Matteucci et al., 2017; Ortan et al., 2021)
	Autonomy-Support Structure	allowing decisions/choices; enabling agency/voice/and independence; supporting autonomy	autonomy-support teaching styles for sustaining students' engagement (Aelterman et al., 2019; Burger et al., 2021)
Teaching Engagement	Class Management	strengthen behavioural management; struggle (of) challenges/behaviours/ complex/difficulties	preventing chaos for effective classroom management (Aelterman et al., 2019; Burger et al., 2021)

Constructs	Nodes	Word clusters	Links to literature
	Effective Learning	Interventions for negotiated/gifted (students' program); activities (of) music/sports/digitals/visuals/ online/gaming/movies; resources (and) curriculum	enhancing teaching practice for learning effectiveness (Aelterman et al., 2019; Ninković et al., 2022)
	Teaching Performance	goals/outcomes/success/development; adapting process/expectations; adopting standards; refining implementations; guiding instructions; modelling projects	maintaining teaching instructions and content delivery (Du Plessis & McDonagh, 2021)
Professional Collaborations	Authentic Collaborations	collaborations (within) group; welcome conversations/opinions/discussions; connections (with) colleagues/ faculty/ team	consolidate teaching practice with colleagues through consistent collaborations (Heffernan et al., 2019)
	Collegial Support	embracing trust/confidence/honest/ persistence/resilience/balance; sharing passions; (having) realistic commitment/ positive attitudes	mutual help and mentorship (Ke et al., 2019; Liang et al., 2020)
	Leadership Support	leaders/leadership (providing) chances/opportunities	receive leadership support (Runhaar et al., 2019)

6.3.1 Teacher Efficacy, Teaching Engagement, and Professional Collaborations

Nodes were developed for analysis and listed based on the weighted percentage of words (see Table 6.2).

Current literature examples were reviewed to indicate specific nodes, including *Effective Teaching Instructions, Teaching Satisfaction, Autonomy-Support Structure, Class Management, Effective Learning, Teaching Performance, Authentic Collaborations, Collegial Support,* and *Leadership Support*. Nine nodes were identified that contributed to three key

constructs: *Teacher Efficacy, Teaching Engagement,* and *Professional Collaborations.* The three key constructs were embedded in further CA at the sentence level, as discussed in the following section.

6.3.2 Teaching Capability

Data were retrieved from the open-ended questionnaire responses and categorised based on the identified key constructs: *Teacher Efficacy, Teaching Engagement,* and *Professional Collaborations*.

6.3.2.1 Teacher Efficacy

Participants revealed their experiences achieving high teacher efficacy by implementing data-driven and pedagogical approaches to address students' needs. For example, Participant 21, a male primary school teacher, mentioned: "I am getting students to analyse Wellbeing and Engagement Collection data to enable them to make decisions about creating changes in the school and meeting their needs". Similarly, Participant 8, a female primary school teacher, commented: "I have been learning a new way of teaching literacy as I have never planned or assessed teaching special needs programs. It provided students with evaluation checklists via OnePlans and setting student goals according to it."

The participants suggested that they have been using particular data-driven and pedagogical practices for a few years, and those practices have made a difference in their teaching. Teaching capability can advance teacher efficacy to increase effectiveness in meeting students' needs (Herman et al., 2018). Particularly, planning and teaching based on data evidence can enhance teaching capability by interpreting students' data and adapting teaching methods from teachers' own perspectives. Applying data-driven planning and teaching methods can be an effective approach to improve teacher efficacy.

Participants demonstrated high levels of teaching capability in applying various teaching approaches. For example, Participant 22, a female primary school teacher, recalled: “I have welcomed volunteers into the classroom to work with a small group of students who were interested in a particular topic. The volunteers had particular experiences and knowledge, which were relevant to the topics. By engaging those volunteers, it helped to invest in students’ time and commitment to learning those topics and learn with high expectations.”

By holding a high level of teaching capability, teachers can proactively adapt their teaching to suit the needs of the students in various situations and seek different methods to gain students’ interests. Participant 27, a female primary school teacher, believed: “Finding the balance has been the most successful way to take ownership of my teaching practice to engage students in the class”. As suggested, finding the balance point of explicit teaching and allowing students’ agency is essential for effective planning and teaching approaches. With enhanced teacher efficacy, teachers may develop greater teaching capability in implementing effective teaching strategies.

6.3.2.2 Teaching Engagement

Participants reported needing to apply metacognitive skills when managing special considerations and negotiations to meet students’ needs. For instance, Participant 28, a female secondary school teacher, explained “to keep considering students’ attitudes towards mathematics” when engaging students who were not confident towards mathematics rather than viewing from a biased perspective. Similarly, Participant 22 stated the importance of considering “the level of maturity” when managing behavioural issues, such as “when choosing their own seats” rather than treating it as a non-cooperative situation.

With a high level of teaching capability, teachers can utilise alternative teaching approaches to manage difficult situations by engaging in reflective self-dialogues. Studies by Cai et al. (2022)

and Keller-Schneider (2021) supported these findings that teaching capability can engage teachers to explore alternative teaching practices, such as applying metacognitive skills through self-dialogues.

Teaching capability can develop greater teaching engagement to achieve positive student educational outcomes. Participants provided experiences of actively engaging in improving teaching instructions to fulfil students' educational outcomes. For example, Participant 41, a female secondary school teacher, stated that "attending Maths Orbis Program was effective to increase teaching capacity to deliver a high-level mathematics curriculum". Teachers actively seeking relevant professional development can increase teaching capacity and improve students' educational outcomes.

With enhanced teaching capacity, teachers tend to be more effective in facilitating students to obtain desirable educational outcomes. For example, Participant 10, a female primary school teacher, mentioned: "I am constantly thinking and working to strive to find the right balance between explicit teaching and modelling and students' voice. I also believe that I have opportunities for all students to engage and to have fun through teaching are important." Participant 10 was constantly aware of the responsibility to provide students with positive education experiences. Teachers should continuously improve teaching capability and adjust teaching practices for students to achieve positive educational outcomes.

6.3.2.3 Professional Collaborations

Teaching capability can also encourage professional collaborations, such as PLCs, for implementing new teaching practices. Participants addressed the specific professional development of learning and sharing their own practice of embedding high-impact teaching strategies (HITS) in PLCs. For example, Participant 18 recalled: "I have been learning more about teaching students with learning difficulties and working with my PLC to embed HITS

into everyday instructions". Collaborating and sharing PLCs can inspire teachers to take on innovative behaviours for adopting new practices.

Barni et al. (2019) suggested a higher level of teaching capability can assist teachers in managing change related to professional challenges. Participants recalled a whole-school approach for embedding PDPs between individual teachers and their direct line managers. For instance, Participant 7, a female primary school teacher, mentioned: "My line manager would visit the classroom on a regular basis throughout the year. I have invited leadership to observe lessons and sought feedback on my teaching goals highlighted in my PDP." Receiving feedback from leadership can increase some levels of teaching capability by fulfilling professional goals and managing change from determined professional goals.

6.4 Results of Positive Social Relationships

Results for *Positive Social Relationships* were analysed at the node and sentence levels. This section provides the detailed results.

6.4.1 Classroom Environment, Student–Teacher Relationship, and Professional Relationships

Nodes were developed for analysis and listed based on the weighted percentage of words (see Table 6.3). Current literature examples were reviewed to indicate specific nodes, including *Professional Environment, Instructional Approaches, Caring Approaches, Foster Closeness, Teacher Collaborations* and *Teacher Initiatives*. Six nodes were identified that contributed to establishing three key constructs: *Classroom Environment, Student–Teacher Relationships,* and *Professional Relationships.* The three key constructs were embedded in further CA at the sentence level in the following section.

Table 6.3

Constructs: Classroom Environment, Student–Teacher Relationships, Professional Relationships

Constructs	Nodes	Word clusters	Links to literature
Classroom Environment	Professional Environment	reflect (upon) discussions; engage (in) conversations; adapt feedback; explain expectations; modify practice/strategies	professional goals and expectations for the class (Saavedra, 2021)
	Instructional Approaches	evaluating curriculum/ assessments: reading/ literacy/maths/sports/ vocabulary; reflecting (upon) pedagogies/techniques; integrating approaches; adapting resources	practise and adjust instructional engagements for the students (Zheng, 2022)
Student–Teacher Relationships	Caring Approaches	embed individualised practice/strategies/ approaches; incorporate inquiries; enable choices; foster different beliefs/ inspirations/needs	adopting a more caring approach for positive relationships with students (García-Moya, 2020)
	Foster Closeness	connect (with) students, student/children/pupil; react (to) challenges/difficulties; express concerns; resolve conflicts; implement rules/ behaviour management	foster closeness to students in student–teacher relationship (McGrath & Van Bergen, 2019)
Professional Relationships	Teacher Collaborations	discussions/conversations (with) leadership/leaders/liner-manager/principal; share/participate (in) school/ teams/ faculty/ partnership/ colleagues, community/committees; networking/consolidating (with colleagues through) joining meetings	teacher collaborations for inquiry-based approaches and being reflective in professional learning communities (Owen, 2016; Steyn, 2017)

Constructs	Nodes	Word clusters	Links to literature
	Teacher Initiatives	evaluating new agreements/ practice/ guidelines/framework	introducing and applying new teaching practice (Heffernan et al., 2019)

6.4.2 Positive Social Relationships

Data were retrieved from the open-ended questionnaire responses and categorised based on the identified key constructs of *Classroom Environment, Student-Teacher Relationships,* and *Professional Relationships*.

6.4.2.1 Classroom Environment

Participants illustrated an enabling classroom environment for promoting student-led learning activities. For instance, Participant 26, a female primary school teacher, sought to develop student agency: "I allow students more choice in how they present, perform peer assessments, and use open-ended tasks. I challenge students in their work to exercise independence and embrace struggle." Likewise, Participant 24, a female primary school teacher, promoted student agency: "I treat students as young adults and they quickly learn the rights and responsibilities of all parties, such as set goals, agreement, class expectations. I also implement learning routines which develops more independence and student agency, allowing them to feel successful." Both participants cultivated student agency through autonomous-supportive approaches, such as implementing peer assessments and open-ended tasks, and enabling students to set goals, agreements and class expectations.

Participants applied a range of proactive strategies of self-regulation to foster a positive classroom environment. As described by Participant 38, a male primary school teacher: "I use Classroom Circles to share ideas and getting to know each other. I encourage Students Representative Committee, House Captains of Sports Day, and Class Meetings to create positive class norms." Similarly, Participant 10, a female primary school teacher, suggested

some special ways that help to develop a bond as a class, such as making class books, conducting Get to Know You activities and working together to design class rules. These findings aligned with prior studies, such as Narea et al.'s (2021) claim that positive social relationships encourage implementing proactive self-regulation strategies among students.

6.4.2.2 Student–Teacher Relationships

Participants developed positive student–teacher relationships by reinforcing educational outcomes and resolving challenging behaviours. For example, Participant 7, a female preschool teacher, recalled: "I conduct [a] one-to-one meeting with the students who [have] the difficulties to meet the classroom expectation; I ring home to discuss the issues with parents and then modify the classroom activities to support the students to meet the class learning and behaving expectations in class". Such experiences emphasise teachers' capabilities in supporting students to achieve educational outcomes by engaging parents and modifying learning activities.

Further, positive social relationships can encourage teachers to maintain a high interest in students and concern for students' welfare, according to Lavy and Naama-Ghanayim (2020). Participants in this research study mentioned introducing up-to-date classroom management resources to resolve conflicts. For instance, Participant 22 and Participant 27 highlighted "democratic approaches to solving classroom challenges" by "using a behaviour chart and a seating plan" and "allowing choice in project topics, allowing choice in partner or groupings, class meetings and conversations" to address challenging behaviours. Notably, Participant 28 suggested positive psychology-based intervention: "We complete mindfulness tasks through the Smiling Minds program, and we use Restorative Justice Framework to resolve issues". Such a statement explains the need to apply positive psychology-based approaches in fostering a positive classroom environment.

6.4.2.3 Professional Relationships

Participants described positive interactions with leadership, colleagues and school supporting staff. For example, Participant 19, a female primary school teacher, recalled: "Last year, leadership did class observations each term with verbal feedback provided about their observations. In this process, we collectively agreed that our school needs to offer more classroom support for our students with disabilities and who are on OnePlans." By providing observations and feedback through respectful social interactions, teachers and leadership collectively agreed to prioritise school improvement goals. Participant 16, also a female primary school teacher, spoke highly of school supporting staff: "There has been an increase in classroom assistance by School Support Officers (SSOs). SSOs offered support to any challenges taking place especially with student behaviours." Positive interactions between teachers and supporting staff can result in a more harmonious classroom and better educational experiences for students.

6.5 Results of Positive Emotion Management

Results for *Positive Emotion Management* were analysed at the node and sentence levels. This section provides the detailed results.

6.5.1 Work Environment, Organisational Support, and Teacher Resilience

Nodes were developed for analysis and listed based on the weighted percentage of words (see Table 6.4). Current literature examples were reviewed to indicate specific nodes, including *Develop Trust*, *Resolve Challenges*, *Ongoing Support*, *Collective Responsibilities*, *Positive Minds*, and *Sustainable Goals*. Six nodes were identified that contributed to three key constructs: *Work Environment*, *Organisational Support* and *Teacher Resilience*. The three key constructs were embedded in further CA at the sentence level in the following section.

Table 6.4

Constructs: Work Environment, Organisational Support and Teacher Resilience

Constructs	Nodes	Word clusters	Links to literature
Work Environment	Develop Trust	develop trust; establish trusted friends/colleagues; share expertise, coach/mentor (others)	trust in colleagues for challenging situations (Li et al., 2019)
	Resolve Challenges	resolve challenges/ difficulties/anxieties/ disharmony; develop restorative practice	strong commitment to work for managing challenging circumstances (Li et al., 2019)
Organisational Support	Ongoing Support	regularly/continuously/ongoing/ support (and) assistance	social support in managing work-related issues at schools (Lam, 2019)
	Collective Responsibilities	establish collective responsibilities; foster collaborations	praise, advice, counselling and respect within school for social support (Park et al., 2020)
Teacher Resilience	Positive Minds	(having) positive minds/ approaches; mindfulness practice; embracing strengthens/success	proactive participation, critical awareness and activated reflectivity to enhance teacher resilience (Sappa & Barabasch, 2020)
	Sustainable Goals	sustainable/achievable goals; developing confidence, capacity to changes; allowing change	manage positive attitudes and work productivity (Day, 2019)

6.5.2 Positive Emotion Management

Data were retrieved from the open-ended questionnaire responses and categorised based on the identified key constructs: *Work Environment, Organisational Support and Teacher Resilience*.

6.5.2.1 Work Environment

Participants expressed the importance of being open and transparent to ensure authentic school-context-specific practice. The findings were similar to prior studies; for example, Ma et al. (2023) found that expressions of natural feelings within school communities could inspire teachers to adopt collective school values. For example, Participant 17, a female secondary school teacher, commented: "I believe that open communications ensure positive and collaborative relationships with each other. In the faculty meeting, I was able to share my opinions on professional learning opportunities school offered and be clear on how it improved my teaching knowledge."

Moreover, Participant 10 and Participant 9 suggested professional approaches to resolve concerns when in the face of emotional difficulties: "I often ask my line manager first before attempting to speak to others" and "I normally express my professional needs to my line manager and be open with him". As mentioned, both participants chose to be open and have trust in their direct leadership to express any concerns. By applying openness, teachers can more effectively adopt school-context-specific practices. For example, Participant 10 mentioned: "I was open to seek support for my one of my professional goals, to integrate high-impact teaching strategies (HITS) in my teaching practice. I was supported through communication with leadership to provide opportunities for trainings and collaborative learning with the year level teams." As confirmed, open expressions of teachers' needs can cultivate a collective work environment for adapting school improvement practices. As mentioned, HITS has been the focus of the Department for Education in South Australia. Interestingly, the participant demonstrated agentic engagement to exercise her decision-making towards HITS goals. This finding contradicted the prior study, which stated that the decentralisation of decision-making from education officials to school-based management and

teachers created extra demands on teachers when exercising their power in decision-making in Hong Kong (Wu et al., 2017).

6.5.2.2 Organisational Support

Participants recalled their experiences of seeking and gaining organisational support. Participant 40 noted: "Colleagues in our unit regularly share their own experiences. We help organise and run professional development days within the unit. I always left the meeting and was feeling positive about my teaching practice and moving forward." By offering teaching practices and resources regularly, teachers can develop positive emotions and feel a sense of hope in "moving forward".

Similarly, Participant 17, a female primary school teacher, described supporting each other as "a great opportunity to learn from fellow professionals and seek guidance from other peoples' strengths". Providing support in professional teams and effective exchanges of individuals' expertise brought teachers positive feelings. This claim was supported by Participant 1: "It was an amazing opportunity that brought us closer together and consolidated our collaborative practice at school" and Participant 23: "I organise regular staff wellbeing meetings that are engaging for teachers and enable them to connect with each other and feel valued". Positive emotions of feeling closer together and valued may sustain teachers in professional commitment so they can more effectively engage in teaching practice and provide mutual support in schools.

6.5.2.3 Teacher Resilience

Participants illustrated their resilience in transitions to newly appointed teaching roles. For example: "This year with the Year 7 cohort transitioning into high school learning was a major challenge to my teaching practice as the students did not respond to my usual teaching style", said Participant 22, a female secondary school teacher. She continued to explain some less

effective teaching practices associated with the change, namely, Year 7 students' transition to high school. By understanding the situation of change, Participant 22 applied strategies as "something they may have been accustomed to in primary school" rather than developing negative emotions towards the change. As a result, those strategies assisted students and herself in managing the transition.

Participants showed resilience by adjusting teaching strategies in new working environment situations. Participant 8, a female teacher working at a Disability Unit within a school, recalled: "The last time, my leadership evaluated my professional practice, and I felt very negative. I felt deflated; my self-esteem and confidence fell. I believe this is why I had thought about changing careers and doing training for a new role. I have just accepted a new contract, and I now feel confident on taking on a new role that will challenge me professionally and look forward to learning new skills."

Similarly, Participant 12, a female teacher working as an English as Additional Language teacher, recalled: "Instead of feeling uneasy about my students are whom English might be their 2nd or 3rd or 4th language. I started to learn new strategies to manage my teaching role. I started to speak more slowly, explain vocabulary clearly with visuals and actions; and use translations of their own languages, wait longer for students to respond and answer." These findings aligned with prior studies; for example, Smith and Whitley (2023) determined that teachers with a high level of teacher resilience can respond to students in sensitive ways, such as helping students' cognitive development by adjusting their own teaching approaches.

6.6 Results of Teacher Autonomy

Results for *Teacher Autonomy* were analysed at node level and sentence level. This section provided the detailed results.

6.6.1 Teacher Empowerment, Providing Expertise and Professional Development

Nodes were developed for analysis and listed based on the weighted percentage of words (see Table 6.5). Current literature examples were reviewed to indicate specific nodes, including Establish Agreements, Initiate Agency, Evaluate Practice, Strengthen Practice, Various Modes, and Educational Reform There were six nodes identified which contributed to three key constructs: Teacher Empowerment, Providing Expertise and Professional Development. The three key constructs were embedded in further CA at sentence level in the following section.

Table 6.5

Constructs: Teacher Empowerment, Providing Expertise and Professional Development

Constructs	Nodes	Word clusters	Links to literature
Teacher Empowerment	Establish Agreements	establishing agreements; (having) impact; (having) personalised agreements	individuals' needs for teachers' participation in decision-making (Runhaar et al., 2019)
	Initiate Agency	initiating agency/ownership/advocacy	involvement in decision-making process for (Heffernan et al., 2019)
Providing Expertise	Evaluate Practice	evaluating teaching practice in (PLCs); modelling projects in (PLCs); engaging strategies in (PLCs)	voice of teachers for innovation in curriculum and practice (Gozali et al., 2017)
	Strengthen Practice	providing initiations in (PLCs); refining standards/plans in (PLCs)	initiate new practice and strengthen instructional practice with colleagues (Walker & Qian, 2018)
Professional Development	Various Modes	professional development from trainings/observations/ meetings/discussions, conversations/evaluations	regular workshops, conferences, observational visits to other schools to access professional development (OECD, 2019)

Constructs	Nodes	Word clusters	Links to literature
	Educational Reform	revising outcomes/goals	teachers' participation in reform across schools (Bryant & Rao, 2019)

6.6.2 Teacher Autonomy

Data were retrieved from open-ended questionnaire responses and categorised based on the identified key constructs: *Teacher Empowerment, Providing Expertise and Professional Development.*

6.6.2.1 Teacher Empowerment

Participants shared their experiences of feeling empowered to achieve autonomous professional goals. For example, Participant 9, a female primary school teacher, detailed: "My school leader regularly meets with me to update my Performance and Development Plan (PDP) and have professional discussions about my teaching after observations. Particularly, my line manager supported me with a personalised plan for a student who struggled to engage in learning. This was a goal for my PDP. My line manager and principal are very supportive of me with these challenges. I have been given extra non-instructional time, so I am able to learn about my role in managing this goal." Such statements reinforced that having ownership of professional goals can encourage teacher empowerment.

Participants felt a sense of empowerment when they were encouraged to set autonomous goals and gained support to achieve these goals. For instance, Participant 2 commented: "I continue to set achievable goals to ensure I stay up-to-date with teaching professional development. My goals are changing as the needs change. I seek opportunities from my school leadership to participate in professional development programs that focus on elevating a particular teaching skill." Similarly, Participant 32, a female primary school teacher, mentioned occasions for autonomously contributing to the school site plan, which brought a sense of empowerment.

Participant 32 had a voice in the School Site Plan Committee by representing the year-level team and explaining and justifying their lesson plans.

These findings highlighted that sufficient support from leadership—including time, administrative and curricular resources—enabled teachers to achieve professional goals aligned with collective school visions. Surprisingly, this was dissimilar to a prior study by Runhaar et al. (2019) that addressed the need for teachers' individualised goals in the decision-making process.

6.6.2.2 Providing Expertise

Participants recommended agentic participation in group settings when offered professional dialogues, bringing ideas forward and reflecting on change. For example, Participant 32, a female secondary school teacher, explained agentic ways for encouraging people to provide expertise in a group setting, such as "focusing on positive gains rather than negatives, focusing on team rewards rather than individual, developing routines and expectations together".

Meanwhile, teacher autonomy can enable school-based reform and change by offering expertise in addressing challenges and successes (Dail et al., 2018). Participant 10 and Participant 39 suggested a sense of autonomy when seeking and offering expertise from colleagues for managing challenges and embracing individuals' strengths. For example, Participant 10 recalled: "I seek assistance from each other with best practice examples for certain situations. By providing expertise to others, we can reflect on what is working well and what is needing improvement, then search for inspiration."

In providing expertise to others, teachers need to autonomously develop plans and expectations within the school to ensure consistency in programs, share workload and utilise individuals' strengths. Teacher autonomy can broaden effective teaching strategies by offering expertise in

collaborative ways, and teachers can become agentic providers in group settings and individual conversations to assist each other with specific guidance and strategies.

6.6.2.3 Professional Development

Tay et al. (2021) claimed that a sense of autonomy can promote effective professional development by encouraging teachers' voices and decision-making for engaging in relevant professional development activities. Participants shared experiences of autonomously engaging in various professional development. For example, Participant 5, a male primary school teacher, and Participant 6, a female primary school teacher, mentioned: "I choose to gain additional qualifications, such as going back to university for obtaining [a] Master of Teaching Degree" to build further expertise as educators.

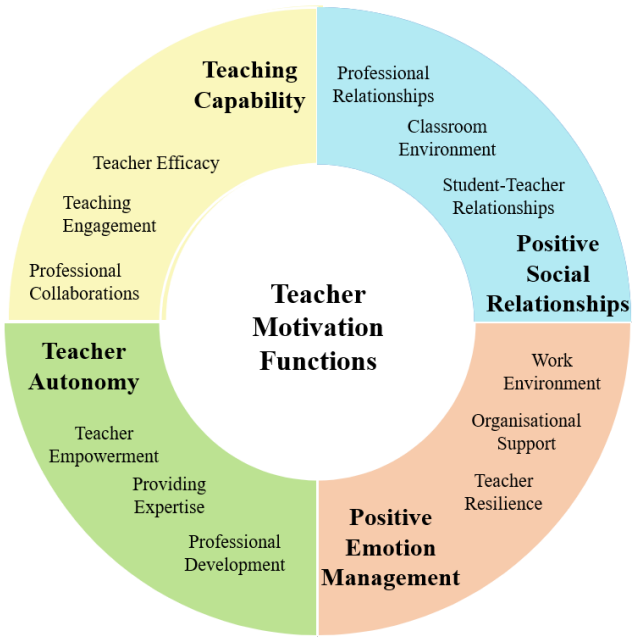
Meanwhile, Participant 20 and Participant 23 focused on school-context-specific professional development. They highlighted the importance of allowing continuous professional development to expand teachers' job resources and to enable the implementation of teaching strategies to address a school-wide focus. For instance, Participant 20 attended professional developments designed to use strategies for undertaking restorative practice processes to resolve conflict in classroom settings. Participant 23 attended professional development that assisted in implementing a school-wide approach to teaching functional grammar. The participants demonstrated autonomous decision-making in their professional development that was aligned with collective goals. Interestingly, this finding was contradicted by Huang et al. (2024); making decisions at work to meet high cognitive demands was not beneficial for teachers. For example, given excessive autonomy, teachers may lack guidance and direction, resulting in a cognitive burden (Huang et al., 2024).

Hence, there were four major motivation functions based on the CA results that may sustain teachers' motivation (see Figure 6.1) and answer Research Question Three: What are the major motivation functions for sustaining teacher wellbeing?

Teaching capability was identified as the first motivation function, and consisted of the key constructs of *Teacher Efficacy, Teaching Engagement,* and *Professional Collaborations.* Positive social relationships were identified as the second motivation function, and consisted of the key constructs of *Classroom Environment, Student-Teacher Relationships,* and *Professional Relationships.* Positive emotion management was identified as the third motivation function, and consisted of the key constructs of *Work Environment, Organisational Support* and *Teacher Resilience.* Lastly, teacher autonomy was identified as the fourth motivation function, and consisted of the key constructs of *Teacher Empowerment, Providing Expertise* and *Professional Development.*

Figure 6.1

Teachers' Motivation Functions Model



6.7 Interrelationships between motivation functions

By exploring the interrelationships of motivation functions, this research study proposed that teaching capability may assist in fostering positive social relationships; quality social relationships may encourage teachers to apply positive emotion management during stressful circumstances; positive emotions of teachers may cultivate respect, trust and support in school cultures that enable autonomy-support approaches; and a stronger sense of teacher autonomy may more effectively improve teaching capability.

6.7.1 Teaching capability and positive social relationships

A higher level of teaching capability may enable engaging learning activities that contribute to positive student–teacher interactions. Participant 12 displayed enhanced teaching capability for effectiveness in teaching engagement: “I have welcomed volunteers into the classroom to work with students. My students have enjoyed the experiences because they were excited to learn from those speakers.” She continued to comment on purposeful conversations with her students: “I have regular meetings and conversations with individual students to find out how they travel in learning activities”.

As demonstrated, enhanced student–teacher relationships were achieved by engaging students through purposeful teaching practices. This claim was supported by Participant 12’s comments: “Students have developed commitment, respect and high expectations for learning. Together, we negotiated an approach that matched student learning needs.” A higher level of teaching capability increases learning engagement, which may foster meaningful student–teacher relationships.

Further, enhanced teaching capability promotes professional collaborations, which may cultivate quality collegial relationships. For example, Participant 25 reflected: “I have been engaging in site-specific professional development and working collaboratively in PLCs. We

normally break off into teaching teams or PLCs to work towards achieving site-specific goals." Similarly, Participant 18 highlighted: "I have been working with my PLC to embed high-impact teaching strategies into everyday instruction". These findings support the view that teaching capability can nurture collaborative interactions in professional working parties, echoing Cai et al.'s (2022) assertion that teaching capability has an important mediating effect on work engagement in PLCs.

6.7.2 Positive social relationships and positive emotion management

Quality student–teacher relationships can develop a respectful and positive classroom culture, which may encourage teachers to apply positive emotion management approaches like introducing student-led educational activities and encouraging student agency. Participants experienced positive emotions from meaningful interactions with students during certain learning tasks. For example, Participant 26 suggested: "I provide students with more choices in how they present, perform peer assessments, and use open-ended tasks. I challenge students in their work to exercising independence and embracing struggle."

Likewise, Participant 38 recalled: "I create the classroom agreement, have class discussion or individual discussion. I promote student agency, and I encourage students to express their own opinions during discussions. I use Classroom Circles to share ideas, get to know each other and create positive class norm." Allowing these student-driven activities may encourage students to exercise their own agency, which may develop positive emotions when interacting with teachers. Reciprocally, teachers may receive positive emotions from the students, which may influence them positively.

Positive collegial relationships may assist teachers in developing positive emotion management skills, such as collectively working towards managing students with additional needs. This finding supported Chen's (2020) argument that positive social relationships from harmonious

working cultures can cultivate positive emotional experiences. Participants recalled positive emotional experiences after receiving assistance from leaders, colleagues and school supporting staff. For example, Participant 19 mentioned: “My leadership and I collectively agreed that our school needs to offer more classroom support for our students with disabilities and who are on OnePlans”.

Meanwhile, Participant 16 claimed: “School Support Officers offered support to any challenges taking place, especially with student behaviours”. By receiving professional assistance from leadership and colleagues, teachers may gain a sense of trust and feel supported when confronted with additional demands and learning difficulties.

6.7.3 Positive emotion management and teacher autonomy

Teachers’ positive emotional experiences may nurture a stronger sense of autonomy; for example, a positive school culture may encourage teachers to autonomously attempt collegial collaborations. Participants emphasised the importance of collaborative work environments to manage ongoing demands. For example, Participant 17 highlighted specific skills for enhancing collaborative approaches, such as “time management and organisational skills to ensure effectiveness in collaborations with colleagues”.

Teachers may develop a stronger sense of autonomy after being actively involved in determining relevant tasks and preparing clearly defined meeting structures in professional collaborations. This finding similarly indicated that a positive school culture can assist in managing change and adapting to the work dynamics (Zhang et al., 2023).

Further, positive emotional experiences may cultivate greater degrees of trust between teachers and leadership for developing a higher level of autonomy. As Participant 9 mentioned: “I have formal meetings with my line manager to discuss Professional Development Plan (PDP). I normally express my professional needs to my line manager and be open with him. We have

professional chats and meetings with other providers to best support children with special needs as my goals from PDP."

Open communications between teachers and leaders may foster further teacher autonomy in providing support for students, especially when confronted with complicated student needs. A trusting work environment may encourage a higher level of teacher autonomy by prioritising tasks within working teams and openly communicating to leaders the need for support in achieving determined professional goals.

Positive emotional experiences, such as feeling supported, may enhance teacher autonomy by sharing teachers' professional expertise, passion and interests. For example, Participant 17 was offered an opportunity to share opinions on determining learning opportunities that the school can offer to improve site-specific teaching knowledge. Participant 17 recalled that it was "a great opportunity to learn from fellow professionals and seek guidance from other people's strengths". Supporting teachers in expressing professional guidance and opinions may cultivate enhanced autonomy by acknowledging an individual's strengths.

A prior study by Li and Lv (2022) argued that improving teaching practice with confidence and support could maintain teacher autonomy. Participant 23 commented: "Within my school there is an opportunity to teach or show others the practice they have learnt or used. This opportunity helped with implementation in my own classroom." A supportive culture may encourage teachers to share practices, which develops a stronger sense of autonomy after actively mentoring and guiding others in implementing new practices.

6.7.4 Teacher autonomy and teaching capability

Autonomously taking on additional responsibilities may strengthen teachers' capability after demonstrating professional interests and knowledge to others. This finding was supported by Ninković et al.'s (2022) study, which found that teachers who were encouraged to adopt a

stronger sense of shared responsibility predicted a higher level of teaching capability. For example, Participant 12 recalled: “I have facilitated a program called 16 Personalities to help better understand ourselves and others”. Participant 12 took an autonomous role in facilitating a program based on professional interests, which led to an opportunity to enhance teaching capability by developing skills and presenting relevant practices to others.

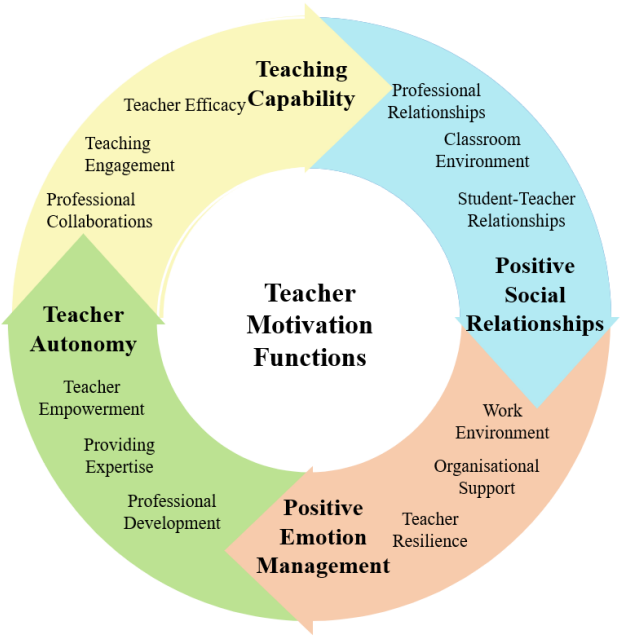
Similarly, Participant 32 highlighted an autonomous role of representing, explaining and justifying lesson plans on behalf of the year-level team: “I am being a part of the School Site Plan Committee, representing my year level and actively contributing to the Site Plan”. As suggested, by having a higher level of autonomy, teachers may develop capability by facilitating professional learning activities and demonstrating practices for achieving collective goals within school communities.

Professional goals autonomously selected by teachers, such as improving instructional strategies, may increase teaching capability in pedagogical practice. For example, Participant 2 shared: “I am linking my professional goals to the professional standards, explaining those goals in Professional Development Plan meetings with my leader, showcasing the methods for achieving those goals in [a] writing program”.

Participant 2 identified improving instructional strategies for teaching writing as the focused professional goal and decided to participate in a series of professional development to implement effective teaching strategies. When the school leaders value specific goals that teachers autonomously select, it allows the teachers to participate in purposeful professional development. In turn, teachers may feel a sense of autonomy in participating in relevant professional development and implementing targeted strategies.

Figure 6.2

Interrelationships of Teachers' Motivation Functions



Hence, this research study proposes a holistic view on sustaining teachers' motivation: teaching capability may assist in fostering positive social relationships; quality social relationships may strengthen teachers' abilities to apply positive emotion management approaches; positive emotional experiences may encourage a stronger sense of teacher autonomy; and a higher level of autonomy may improve teaching capability (see Figure 6.2).

6.8 Part Two—Thematic Analysis

TA was applied to analyse the semi-structured interview transcripts. TA is a popular approach to conducting narrative analysis research due to its flexibility in data analysis (Braun & Clarke, 2006, 2017, 2022; Castleberry & Nolen, 2018; Nowell et al., 2017). Braun and Clarke (2006) argued that "a thematic analysis, driven by theoretical and epistemological commitments" (p. 84), can provide opportunities to add new knowledge to the existing field, detect and identify themes by using interpretations and reflect upon the research questions. The current study followed the six steps of Braun and Clarke's (2022) thematic analysis process to conduct the

TA for the semi-structured interview dataset. The following sections also discuss the preliminary information, including demographic data and sampling details, to inform the authenticity and credibility of the TA (Braun & Clarke, 2022; Castleberry & Nolen, 2018; Nowell et al., 2017).

6.8.1 Demographic information

Table 6.6 presents demographic information on the teachers who participated in the semi-structured interviews (n = 19). The 19 participants' details are listed in Appendix K. Teachers were predominantly female (85%), and almost three-quarters (73%) of the participants held permanent employment. Five (26%) of the participants had more than 24 years of teaching experience; other participants had 0–7 years (42%) or 8–24 years (36%) of teaching experience. The majority of the participants (73%) held a bachelor's degree.

Table 6.6

Demographic Information of DfE Teachers (Semi-structured interview)

	Number n	Percentage %
Gender		
Male	3	15
Female	16	85
School level		
Preschool	1	5
Primary	10	52
Secondary	7	36
Others	1	5
Employment status		
Contract	4	21
Permanent	14	73
Temporary Relief	1	5
Years of teaching		
0-7 years	8	42
8-24 years	7	36
more than 24 years	5	26
Educational degree		
Master	5	26
Bachelor	14	73

6.8.2 Sampling

Purposive sampling was used to ensure the appropriateness and adequacy of the inclusion criterion (Creswell, 2014). The main responses regarding participation in the semi-structured interviews were collected via social media posts on the Facebook Groups platform. All participants were employed at the DfE in South Australia. The current study's scope was to explore the differentiated needs of teachers across the professional phases (Day & Gu, 2010). The study's aims and further clarification regarding participation were explained on the Participant Information Sheet and communicated via emails between the researcher and the participants once initial contact was established.

The semi-structured interviews were conducted from May to August 2022. Teachers at DfE in South Australia experienced disruptions at this time due to the COVID-19 pandemic, so interview were conducted online via Zoom. The interview transcripts were downloaded from Zoom, and NVivo 12 was utilised to code all transcripts.

A total of 19 teachers from three different professional phases (Day & Gu, 2010) volunteered to participate in the semi-structured interviews, including:

- 8 teachers from the novice phase (0–7 years teaching)
- 7 teachers from the mid-career phase (8–23 years teaching)
- 5 teachers from the veteran phase (24+ years teaching).

The qualitative results (Part Two) implied that teachers with different levels of teaching experience—that is, novice, mid-career and veteran teachers—demonstrated similar trends with a few minor variations for occupational needs. Novice teachers had a slightly stronger view on providing care approaches and affective responses for younger-aged students. For example, the novice teachers demonstrated care for their students by sharing life experiences and considering family situations and assisted young students in developing intellectual,

emotional and social capabilities through affective responses. Mid-career teachers reported slightly more confidence in developing job-demands resources by actively practising innovative teaching methods and enhancing time management skills. Veteran teachers displayed some awareness of positive psychology approaches, such as recognising and embedding their characteristic traits of justice and love of learning in their teaching practice.

Practising mindfulness and autonomy-supportive approaches were identified as important occupational factors by teachers across all professional phases. Teachers with different teaching experiences displayed some levels of mindfulness practice, such as adopting compassionate approaches to caring for others and themselves. In turn, teachers across the three phases appreciated autonomy-support approaches, such as opportunities to demonstrate specific teaching approaches and take an active role in implementation.

6.9 Occupational Factor One: Teacher Efficacy

Data were retrieved from semi-structured interview transcripts and categorised based on the identified sub-themes: *Job Resources* and *Job-demands Resources*.

6.9.1 Job Resources

Interviewees developed timely strategies for meeting professional expectations and embedding school-wide curriculum consistency. Interviewee 18, a mid-career teacher (8–23 years' experience) who was employed as an Italian language teacher at a secondary school, explained the complexity of her school contexts, including new school leadership. The newly appointed principal had been actively seeking feedback and providing support across different faculties in her school. Interviewee 18 recalled: "My principal sat down with groups of staff and paid attention to what we liked and what we wanted to change. Bit by bit, many of those change have happened. Due to the change, Faculty leaders have got a lot more time to deal with things and things are being attended to more promptly. We're going to get better results on all fronts."

Attending to teachers' needs in a timely manner and allowing extended time to manage change may be essential support from school leaders to assist teachers in developing job resources.

Teacher efficacy can further develop improved job resources through various practices to create a more favourable instructional environment (Daumiller et al., 2021). Again, Interviewee 18 displayed awareness of conventional practice for teaching the Italian language in secondary school contexts and encountered some unsatisfactory outcomes. Instead, she advocated innovative approaches in the Language Faculty: "We're trying to move away from just outright testing for assessments, instead, doing more investigative or collaborative tasks. We do those changes and carry them out different types of assessments in two separate classrooms. We want to improve and modernise what we're doing." A higher level of teacher efficacy may enhance teachers' job resources to more effectively deliver curricula and achieve individual professional goals.

A study by Lauermann and Berger (2021) claimed that teacher efficacy can cultivate teachers' job resources of autonomy-supportive teaching practice. Interviewees recalled their experiences of expanding job resources to fulfil educational expectations and embedding autonomy-supportive approaches. Interviewee 19, a novice teacher (0–7 years' experience) recently employed as an English teacher at a secondary school, mentioned: "We are creating our own slides for reading comprehension to teach the students within a framework from the Education Department. The overarching decision is made by our coordinator to make sure there's continuity throughout different levels in our school." This process could ensure consistency in the reading program and improve the effectiveness of program delivery with personal passion. As she continued: "We've made decisions about personal tweaks. For example, if I've had a passion in short story writing or poetry, I have got some decision on a choice of what you are creating." Hence, a high level of teacher efficacy may encourage

teachers to take the initiative to improve conventional practice by integrating more autonomy-supportive tasks.

In turn, Interviewee 19 highlighted the integration of individuals' interests in meeting school-wide goals. In her faculty, there was a focus on developing a consistent reading program within the DfE framework. As she commented: "The school's aim is to have that consistency throughout the different years and there is opportunity for your own interest. I always change and put my own twist on things and make sure it's not just from the Department units." Driven by her interests, Interviewee 19 effectively introduced her own twist on the standardised curriculum across the school, building her job resources to achieve the collective goals of the school's focus. Timely support for educational change and integrating personal goals and interests in school-wide curricula focus may enhance job resources and improve teacher efficacy for effective professional practice.

6.9.2 Job-demands Resources

Interviewees developed job-demands resources to reduce the stress associated with challenges and improve their skills to meet professional requirements. Interviewee 1, a mid-career teacher (8–23 years' experience) passionate about practising innovative methods, explained his intentions for seeking innovations in teaching as his personal resources. He expressed his passion for frequently embedding up-to-date teaching strategies, his willingness to become a future leader and his knowledge of wellbeing education. He stated that the "teaching profession is to always keep things fresh and keep things interesting. I can always learn something new, and I acknowledge there's always new challenges that come." He intentionally sought out new things and tackled challenges to improve his job-demands resources.

Interviewee 3, a mid-career physical education (PE) teacher (8–23 years' experience), recommended improving individual teachers' time management skills as an important job-

demands resource. The interview was conducted in the school gymnasium, where Interviewee 3 normally organised before- and after-school sports sessions and ran PE lessons. As a mid-career teacher specialising in PE and health, Interviewee 3 demonstrated many daily events associated with his core role as a primary school PE teacher. To effectively manage teaching tasks and extra-curricular commitments, he suggested: "Time management skills became almost as important as my teaching skills and abilities. I am prioritising core businesses and planning less to adapt my teaching approaches." Interviewee 3 prioritised the core teaching values by selecting the fundamental teaching components and applying adaptive approaches for delivery. The findings supported prior research that teacher efficacy can reduce teaching stress (Huang et al., 2018) and grow independence in managing excessive demands (Lazarides et al., 2020) by developing job-demands resources. Proactively engaging in challenges, prioritising curricular core elements and allowing flexibility in planning may enhance teachers' job-demands resources.

6.10 Occupational Factor Two: Student–Teacher Relationships

Data were retrieved from semi-structured interview transcripts and categorised based on the identified sub-themes: *Care for Students, Affective Responses for Students,* and *Interpersonal Skills*.

6.10.1 Care for Students

Interviewees demonstrated care for their students by sharing life experiences and considering family situations. Interviewee 19, a novice teacher, shared: "I've been using different resources and activities to encourage my students to talk a bit more. As soon as I open up to them and I share things about my life, and I am not like a robot, my students appreciate that." Interviewee 19 recently obtained her permanent teaching contract in a different school where she did not have prior relationships with any students. She expressed that she was always connected to her

students on a personal level at her previous school and would continue to follow the same approach as the bonding experiences with her students drove her.

By being open and sharing appropriate life stories with students, Interviewee 19 developed a personal bond with her students; in turn, students felt a sense of care by having positive student–teacher relationships. She continued: “At the end of the day, these students just want to have that continuity, and they want to have that person who actually cares. By having care relationship with my students, I am able to push them through to complete learning tasks.” With the caring relationship between her and her students, Interviewee 19 could more effectively activate students’ intrinsic motivation and commitment to achieve desired educational outcomes.

Interviewee 16, a passionate novice teacher (0–7 years’ experience) at a preschool, expressed her caring considerations for the students: “We use a lot of personal approaches, such as contact with students’ families and working out how their family was, what their family situation was. Once we started having those discussions and that's something we carry through in our practice.” It is essential for her to take into account students’ family situations to develop a holistic view, which can guide her to adjust professional practice to effectively deliver learning. She explained that the reason for changing careers to teaching was her passion for caring for young students, especially teaching at a preschool level. As Interviewee 16 concluded: “Essentially, it's just being able to be there and listen to the children, listen to what they're saying, but also think as a teacher, where I can take this to give the children a gentle nudge to develop a particular skill.” By establishing personal connections between her and her students, Interviewee 16 can help her students learn in more caring and personal ways. Positive student–teacher relationships may foster a strong sense of care from teachers to students to attain desired educational outcomes.

6.10.2 Affective Responses for Students

Interviewees demonstrated affective responses to assist young students in growing intellectual, emotional and social capabilities in preschool settings. Interviewee 16, the novice teacher, detailed her teaching methods for young students as “teaching in the moment” and “children learning while they’re playing”, reflecting the affective responses. She provided examples of preschoolers talking about “big” while they were building the blocks. She explained that she would question, “What do you mean by big? Is it really tall? Is it really wide?” She suggested that introducing fundamental vocabularies to students through affective responses is effective for learning and constantly engages students, which reduces behavioural problems.

Interviewee 16 continued with another example about applying affective responses to demonstrate self-regulation skills to her young students. She asked her student: “I know you want to knock that down. What can you do instead? You need to go and squeeze something.” By demonstrating how to cope with some problematic behaviours, she offered alternatives for the child to discontinue with the poor choices. Finally, Interviewee 16 illustrated affective responses for helping her children to develop social-emotional skills during play. She approached a student: “I noticed you’re watching. Why don’t you come and join us? You could ask that person over there to come to join as well.” She approached two students who might have difficulties in applying social-emotional skills to participate in group games and then modelled prosocial behaviours for those students to relate to that particular situation. Quality student–teacher relationships may encourage affective responses from the teacher to students to grow fundamental skills for young students in their early years. Evans et al. (2019) and Nurmi et al. (2018) also found that quality student–teacher relationships can encourage teachers to apply affective responses to students for positive learning experiences in early childhood settings.

6.10.3 Interpersonal Skills

Interviewees demonstrated effective interpersonal skills in providing engaging learning experiences. For instance, Interviewee 12, a novice female teacher (0–7 years' experience) employed as a biology and science teacher at a secondary school, said: "Understanding personalised interests from my students, helps me to build the trust relationship with them and gain respect from them". She explained that personal topics, such as her family, pets and weekend activities, were appropriate strategies to engage her students to understand her on a personal level.

By introducing herself to her students, Interviewee 12 commented that a reciprocal trust and respect between her and her students had developed: "In return, I got to know what they did on the weekend and if they've got pets. The small stuff eventually builds up so that I get a whole understanding of them." She continued: "Once I have this relationship, and I can talk to them about the learning intentions, and I can support them from what I have understood about them". Effective interpersonal interactions between the students and teachers may develop reciprocal trust and respect, and foster more productive learning outcomes.

Likewise, Interviewee 8, a veteran teacher (24+ years' experience) at a primary school, highlighted the importance of interpersonal interactions: "On a personal level, I understand my students' interests and their life experiences, and if you are developing a connection, then they're more inclined to want to do well". She explained that she always tried to introduce examples from her students' personal experiences. She continued: "I also bring in a sense of humour with my students in some learning activities". Those interactions were effective because she brought in the genuine interests of her students and humour when introducing the examples. By doing so, her students were more engaged in listening in those teaching moments. García-Moya (2020) and Morgan et al. (2022) also found that interpersonal skills—such as

using personal level approaches to engage students and cultivating trust relationships for supporting students' learning—can develop the quality of student–teacher relationships.

6.11 Occupational Factor Three: Teacher Resilience

Data were retrieved from semi-structured interview transcripts and categorised based on the identified sub-themes: *Emotion Regulation Strategies, Mindfulness Practice,* and *Positive Approaches*.

6.11.1 Emotion Regulation Strategies

Interviewees suggested emotion regulation strategies to manage teaching challenges. Interviewee 18, a mid-career teacher, recalled some complexity of student behaviours in her class, and she acknowledged: "I am getting better at not taking it personally from my students, whether they have an undiagnosed problem that needs to be addressed or there's so many things happening in their personal lives". She addressed the importance of gaining teaching experience: "the more experience you get, the better you are at guessing and narrowing down what that might be". Consequently, she developed teacher resilience: "I'm trying to make it as interesting as I can for my students. I don't want them to feel devalued or negative about it just because they don't like my subject."

Interviewee 7, a passionate novice teacher (0–7 years' experience) and a recent university graduate, expressed her enjoyment of teaching. She recommended regulating her emotions by being away from her class at appropriate times. She commented: "I'm learning to take a break, and I have to draw that line and understanding this it's better for my children if I'm not there. I know today is a day that one of those challenging children with behavioural and learning needs is away. So, I know it [is] easier to have a day off today for my leadership and the teacher in the room." By empathising with the students and acknowledging their own emotions, teachers may improve their emotion regulation strategies for teacher resilience.

Similarly, Interviewee 5, a mid-career teacher (8–23 years' experience), shared her strategies for separating emotion domains by spreading positivity and accepting occasional compromises. She explained the current challenges within her school with a large number of newly appointed school leaders. She expressed her concerns about the drastic change and different expectations. She mentioned: "I try to make that positivity around and try to spread. After a while, I know a lot of strategies for presenting and thinking about the positive ways to get small challenges done. However, there's a bit of compromise I has to do. I try to have a cut-off time, so when I go home after a certain time, I just don't check emails or anything work-related, so that's my own time just try and cut it off." Althammer et al. (2021) found that teachers can achieve better work-life balance by separating emotional domains between work and home.

6.11.2 Mindfulness Practice

Interviewees implemented mindfulness practices to manage professional demands. Interviewee 19, a novice teacher, displayed self-awareness and understanding of the school vision: "The school has got a real big drive on building the capacity of teachers and students". She commented on this collective drive: "At the same time, I feel that they really are not overloading teachers". She tried to focus on the present: "I don't want to do too much at once, so I'm just going in and rolling with it now, by using my own knowledge and providing my expertise in my own way". Prior teacher resilience studies by Ainsworth and Oldfield (2019) and Neumann and Tillott (2021) found that mindfulness practices can develop teacher resilience, such as differentiating work demands to reduce the pressure of teaching.

Pennington et al. (2021) focused on the effect of self-care from a mindfulness perspective on teacher resilience; in particular, teachers may develop a sense of self-care by adopting compassionate approaches to caring for others and themselves. Interviewee 11, a veteran teacher (24+ years' experience) who has been recognised as a Highly Accomplished Teacher from the DfE, mentioned how she helped colleagues to stay connected. She displayed genuine

care and non-judgemental views on colleagues with different teaching approaches or professional values. She was willing to help colleagues: “I think we can be very isolated just in our own classrooms. I like helping other people, so one way I can help other people is to help them improve their practice and ask them how they go.”

Similarly, Interviewee 7, a novice teacher (0–7 years’ experience), displayed care among colleagues: “I’m people-oriented and just get along with everyone. Last year, my mum was diagnosed with breast cancer, that was a huge demand on me. I still worked and I’ve leaned on other colleagues at work. They took my class if I needed to go early, and they moved around to help my duties. I always appreciated [that] and I know I can go to any staff member at my work site and ask for help.” Teachers can grow a positive relational climate with their co-workers by displaying compassion and care for others.

6.11.3 Positive Psychology Approaches

Positive psychology-based approaches can foster teacher resilience, such as being kind to acknowledging others’ teaching approaches (Wessels & Wood, 2019) and maintaining positive traits of character strengths (Yeh & Barrington, 2023). Interviewees embedded positive psychology-based approaches in pursuing desired professional experiences. Being kind and acknowledging others’ teaching approaches was based on actions of kindness and gratitude from positive psychology.

Interviewee 14, a veteran teacher who has been recognised as a Highly Accomplished Teacher and an Acting Assistant Principal, acknowledged the effectiveness of working with colleagues. She said: “When we have difficulties in planning unit projects, things seem to generally run more smoothly if we share ideas. I am able to have a sense of shared understanding when my colleague and I approach the job with similar core values. We are discussing about particular students’ needs or project requirements. Your colleague can offer suggestions to building upon

ideas." Acts of kindness may develop a collegial bond by encouraging each other's contributions to teaching and sharing teaching beliefs.

Interviewee 6, a veteran teacher, leading English teacher at a secondary school and passionate about positive psychology, emphasised that curiosity kept her fresh and energised in teaching. She shared: "I'm growing all the time. I mean the students teach me more than I teach them. I think the people whom I find get the most drained or burnt out, of those that don't have the same level of curiosity, because you must work on your curiosity as well." As she mentioned, her character strength of curiosity played an important role in her teaching, and she learned to sustain her level of curiosity: "I will always reflect on what I did with the students and research about more creative process about teaching them".

Similarly, Interviewee 13, a mid-career teacher (8–23 years' experience) committed to teaching at a Special Education Centre from the Department, displayed her characteristic trait of justice. She transitioned from a mainstream school to a school where students required special education. This journey motivated her to sustain her belief of justice: "as a teacher, I feel like I'm advocating social justice issues in some way". Interviewee 13 has been very connected and interested in social justice issues: "When I look at children with disabilities, I'm supporting some of the most marginalised people in our community. It's about empowering, it's about giving a voice to the voiceless by supporting them to find their own voices." As mentioned, sustaining personal traits and beliefs may maintain enthusiasm for teaching and strengthen teacher resilience.

6.12 Occupational Factor Four: Teacher Empowerment

Data were retrieved from semi-structured interview transcripts and categorised based on the identified sub-themes: *Autonomy-Support Approaches and Teacher Leaders.*

6.12.1 Autonomy-support Approaches

Interviewees detailed positive experiences of encouraging a sense of autonomy. Interviewee 7, a novice teacher, shared her opportunity to demonstrate specific teaching approaches for improving strategies in teaching writing. She demonstrated: “Bump Up Wall gives a visual representation of writing paragraphs and editing. Two out of the three of my leadership team are supportive with this. We did some Bump Up Wall Professional Development, and everyone came to my room.” Interviewee 7 worked closely with her leaders, and they shared ideas. She highlighted their intentions for improving teaching accountability: “We’re working on making teaching writing better and improving them and extending them and adding stuff”.

Similarly, Interviewee 11, a veteran teacher, recalled that she would take an active role in implementing new teaching practices: “I’m confident in going and talking to the leaders at school about these practices. I try to be actively involved: I ask questions, I share information, and I talked to other people, so that we can get a collective approach”. Empowering teachers by allowing professional dialogues, judgement and justification of innovative practice can encourage teacher autonomy.

Interviewees highlighted autonomous decision-making for professional development. Interviewee 19, a novice teacher, explained a sense of autonomy towards a reading comprehension program at her school, and shared an example: “I prefer to have a variety of teaching points with the resources that seeking for straightforward answers from the text or do they have to build opinions. By giving me indication of where to next, but not just about one point, allows me to be able to make it more specific to what the students need not just on a random level”. She initiated her own spin on developing the reading comprehension program: “I prefer a particular program, which breaks the reading and the comprehension up into the different styles, such as, inferential comprehension question is one where they’re going to analyse. Therefore, I choose the one [that] works for me to implement”. She felt a sense of

autonomy by being able to embed her own spin on developing the reading comprehension program.

Interviewee 4, a mid-career teacher, shared her positive experiences of taking ownership of professional development for writing students' academic reports. For example, "We all stick together in this process. My principal looks at the best way and actually helps with report structure. I have input in revising report structure, so I feel positive to use this to report students' learning and to inform our practice". A sense of ownership for teachers' professional development may effectively fulfil school-context-specific focus and collective goals. Teacher empowerment can cultivate ownership for professional development, such as purposive goal settings aligned with the school improvement plan and valuing school-context-specific professional development (Tay et al., 2021; Tsang et al., 2022).

6.12.2 Teacher Leaders

Interviewees shared a sense of feeling empowered in the experiences of becoming teacher leaders. Interviewee 1, a mid-career teacher, expressed his professional intention to become a leader in future. He claimed: "My line managers were open about their aspirations, so that gave me confidence to know that my line manager is there for me and supports my views and my direction that I'd like to take in my career". He showed his appreciation for being able to work closely with his line manager for the last couple of years to build leadership capacity to win specific leadership jobs. Interviewee 1 continued: "With the respect in our school staff, even if I have been unsuccessful and what do I need to be doing at school to become a bit of a standout, it still has been helpful". As suggested, the empowering culture made him feel safe to keep trying to become a leader.

Similarly, Interviewee 2, a veteran teacher, communicated his passion for taking a leadership role in his specialised area. He was actively involved in a broad range of communities within

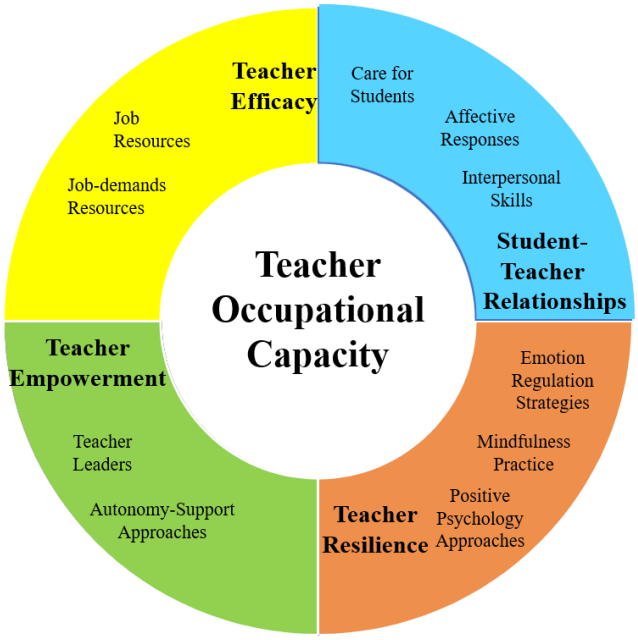
performing and arts areas. For example, he mentioned being a part of the National Mentoring Programs for mentoring music teachers and being a manager of the Festival of Music as his passion in a specialised teaching area. Interviewee 2 spoke highly of his leadership for empowering him in those teacher leader roles: "My leadership understand what I'm doing and why I'm mentoring other teachers or leaving the site at times. They were supportive in my career which I have made decisions to extend myself in certain ways." Teacher empowerment may sustain teachers' career passion and advocacy for developing leadership skills to become teacher leaders in various professional settings.

Thus, four occupational factors were identified that may enhance teacher wellbeing (see Figure 6.3). These four occupational factors answered Research Question Four: What are the major occupational factors across different professional life phases for sustaining teacher wellbeing?

Teacher efficacy was identified as the first occupational factor and consisted of sub-themes of *Job Resources* and *Job-demands Resources.* Student–teacher relationships were identified as the second occupational factor and consisted of sub-themes of *Care for Students, Affective Responses for Students,* and *Interpersonal Skills.* Teacher resilience was identified as the third occupational factor and consisted of sub-themes of *Emotion Regulation Strategies, Mindfulness Practice,* and *Positive Psychology Approaches*. Lastly, teacher empowerment was identified as the fourth occupational factor and consisted of sub-themes of *Autonomy-support Approaches and Teacher Leaders.*

Figure 6.3

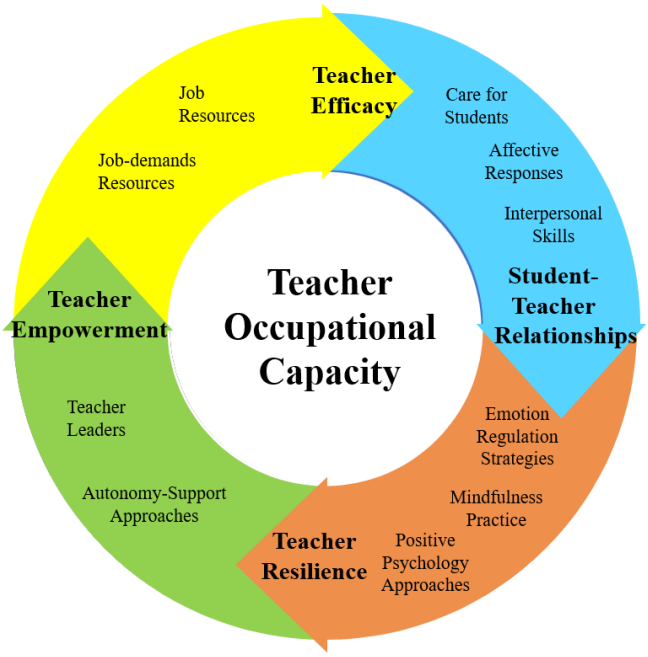
Teachers' Occupational Factors Model



Novice teachers demonstrated a slightly stronger view of student–teacher relationships. Sharing life experiences and considering family situations to assist young students in growing intellectual, emotional and social capabilities were addressed by the novice teachers. Mid-career teachers reported marginally more confidence in teacher efficacy, such as actively practising innovative teaching methods and enhancing time management skills to meet professional demands. Veteran teachers displayed slightly more awareness of resilience by recognising their character traits and applying their character strengths in teaching practice. Novice, mid-career and veteran teachers displayed some level of mindfulness practice and appreciation of autonomy-supportive approaches to meet their occupational needs.

Figure 6.4

Interrelationships between Teachers' Occupational Factors



6.13 Interrelationships between occupational factors

By exploring the interrelationships of occupational factors (see Figure 6.4), this research study proposed that teacher efficacy may assist teachers in delivering engaging learning experiences to foster quality student–teacher relationships; positive student–teacher relationships may help teachers to develop a higher level of teacher resilience; enhanced resilience may encourage teachers to apply empowering behaviours; and a sense of teacher empowerment may improve teacher efficacy.

6.13.1 Teacher efficacy and student–teacher relationships

Teachers with a high level of efficacy may provide more engaging learning experiences, contributing to quality student–teacher relationships. Interviewee 11, a veteran teacher, highlighted the significant role of teacher efficacy as a Highly Accomplished Teacher. She demonstrated a high level of teacher efficacy by conducting self-reflection: "It's crucial to reflect on teaching practice and to see how that progressed, because it has such a big impact on

my 31 different students. They all react differently." As she explained, conducting regular reflections on students' learning helped her refine her teaching strategies. Enhanced efficacy led to positive educational accomplishments for her students and positive professional achievements for herself.

Interviewee 11 continued: "I get a lot of positive evidence by seeing students improve in their learning. It's not just the academics but also seeing students engage more in their learning. They are happy to come to school and trying really hard, wanting to come up and showing me their work. It is really positive for reflecting and see how students react differently." Enhanced teacher efficacy can bring positive learning experiences for students, which contributes to quality student–teacher relationships. This is supported by prior research that found teachers with a high level of efficacy reported high educational achievements and close relationships with their students (Corbin et al., 2019).

Further, a higher level of teacher efficacy can improve data-driven pedagogical strategies for providing differentiated learning approaches for students. Interviewee 5, a mid-career teacher, displayed a high level of efficacy in designing a mathematics program and assessment tasks. She explained: "I will be looking at data evidence and along the course of the program every day. I map out clear data and where I want to extend, based on my students' progress and then adjust the pedagogy and learning approaches."

Teachers with a higher level of efficacy may more effectively develop data-evidence-based pedagogical strategies to extend students' learning with appropriate challenges and support. A research study by Evans et al. (2024) found that motivating styles of autonomy-support and autonomy-structure were positively related to students' engagement. It discovered that by using load-reducing strategies and a motivating style, teachers could reduce students' cognitive load and improve their self-regulated motivation, contributing to better engagement (Evans et al.,

2024). Motivating style can advance students' learning interests and engagement, which may develop positive student–teacher relationships.

6.13.2 Student–teacher relationships and teacher resilience

Positive student–teacher relationships may encourage teachers to build stronger resilience by sustaining professional enthusiasm. Highly valued student–teacher relationships can sustain enthusiasm and reduce emotional exhaustion (Cui, 2022). Interviewee 7, a novice teacher, shared her experiences developing resilience by maintaining her professional enthusiasm through meaningful interactions with her students. For example, she recalled some difficult moments: "Even on the hard days, I still want to go back to teach next week. When it does get hard, I just work a little bit differently."

Interviewee 7 continued and emphasised her professional enthusiasm: "I have to do stuff that I enjoy, because if wasn't enjoyable for me as a teacher, it could not be enjoyable for my students". As she mentioned, she changed learning activities to something she personally enjoyed and tended to work with smaller groups while having some personal chats about leisure time and holidays. She explained that those activities and chats helped her get through some difficult moments, and she developed meaningful interactions with her students through life conversations. Meaningful interactions between students and teachers may sustain teachers' professional enthusiasm and grow teacher resilience for managing difficult encounters.

Further, quality student–teacher relationships may help teachers be more resilient with families' assistance of students. Interviewee 16, a novice teacher, suggested: "We are contacting children's families and working out how their families were. Once we started having those discussions, we carry through in our practice and get the families on board." Teachers could receive first-hand information about the students once they establish connections with their families, which could help diagnose issues and tailor the program to meet particular needs.

6.13.3 Teacher resilience and teacher empowerment

Enhanced teacher resilience may encourage teachers to play active roles in embedding teaching initiatives, which can empower them. This finding echoed prior research by Li and Lv (2022) that found teachers with a higher level of resilience, such as displaying competent emotion regulation strategies, attain more professional satisfaction and a sense of success. Interviewee 12, a novice teacher, recalled her active participation in embedding new topics and developing a sense of confidence. She mentioned: “By having the up-to-date education, it brings another level to it. I planned a lot of content and the whole new topic that I taught with last year.” However, as a novice teacher, she was also stressed and challenged when designing a joint program for two science-based subjects.

Interviewee 12 continued: “But none of the assessment tasks and sequence wasn’t complete or in a proper order. Then we had to devise the whole subject, and it was stressful at the time, because it was ongoing while teaching rather than ahead of time.” She explained that she struggled but persisted with this task, which resulted in a positive experience: “I learned a lot from this struggle” and “I feel confident now in dealing with developing similar tasks”. With a higher level of teacher resilience, teachers may manage challenging tasks by acknowledging their professional capability and persisting in finishing those tasks, which could lead to a sense of confidence and empowerment.

Teachers’ resilience may help to manage interpersonal conflicts when advocating for teacher agency to update practice. Interviewee 18, a mid-career teacher, expressed her concerns when she initiated modernising teaching practices in her professional community: “One of the biggest battles is working with the more experienced teachers in the community. Ones who are perhaps a bit more embedded in their ways of doing things. However, I want to share resources so that I can help them update what they're doing and being open-minded.” By having a sense of resilience, Interviewee 18 did not give up on modernising teaching practice in her

professional community. She turned to seek assistance from her faculty leader, who attempted to support the modernisation of teaching practices across the community.

This situation echoed previous research by Polat et al. (2023), which found that teachers with higher psychological resilience experienced reduced organisational ostracism. With the help of her faculty leader, Interviewee 18 found positive change, such as being "more open-minded" and "do[ing] practice which suits rather than having [a] standardised system". Teachers with a higher level of resilience may persist in challenges and seek collegial support to resolve interpersonal conflicts.

6.13.4 Teacher empowerment and teacher efficacy

Feeling a sense of empowerment may encourage teachers to develop a higher level of efficacy, such as genuinely participating in the implementation of innovative teaching strategies in professional development contexts. This finding is supported by Gore and Rosser's (2022) assertion that pedagogy-focused professional development can change teachers' beliefs and practices and enhance collegiality. Their study found that genuine professional learning involves providing teachers with a safe and empowering environment to engage in critical discussions about practice.

The authors suggested that active engagement in professional learning significantly improved teaching quality and practice (Gore & Rosser, 2022). For instance, as a Highly Accomplished Teacher, Interviewee 11 was offered opportunities to make various decisions on teaching practice, school goals and professional development. For example, she said: "I try to be actively involved: I ask questions about certain professional development content, and I share information about how I could make the change according to the professional development, so that we can get a collective approach." With her active participation, Interviewee 11 gained a sense of empowerment: "I like having the opportunities to discuss those decisions and I'm

confident in going and talking to the leaders at school". By actively working with school leadership and colleagues, teachers can develop a higher level of teacher efficacy in exercising innovative teaching practices and planning teaching programs to achieve collective goals.

Empowering behaviours for teachers may also grow their efficacy in becoming future leaders. Interviewee 1, a mid-career teacher, shared his career goal of becoming a future leader: "My line managers were open about their aspirations, so that gave me confidence to know that my line manager is there for me and supports my views and my direction that I'd like to take in my career". Empowered by his leadership, Interviewee 1 gained some level of efficacy in building specific skills for certain leadership positions. He continued, "I have been working with my line manager for last couple of years to build leadership capacity to win specific leadership jobs". By winning specific leadership opportunities, teachers may become competent and advance teacher efficacy in leadership direction. Raymond and Gabriel (2023) found that empowering leadership cultivates appropriate contextual conditions to grow professional practice.

6.14 Summary

This chapter presented the qualitative results of the online questionnaire in Phase Two and the qualitative results of the semi-structured interview in Phase Three.

The qualitative results (Part One) identified four major motivation functions by conducting CA. Four major motivation functions were identified that may sustain teaching motivation. Teaching capability may develop teacher efficacy, improve teaching engagement and encourage professional collaborations. Positive social relationships may assist in creating positive classroom environments, quality student–teacher relationships and respectful professional relationships. Positive emotion management may foster supportive work environments, promote organisational support and grow teacher resilience. Teacher autonomy

may strengthen a sense of empowerment and encourage teachers to provide expertise and take ownership in professional development.

By exploring the interrelationships of the four major motivation functions, this study suggested a holistic relationship to advance teachers' motivation: teaching capability may assist in fostering positive social relationships; quality social relationships may encourage teachers to apply positive emotion management approaches during stressful circumstances; positive emotional experiences may cultivate respect, trust and support in school culture where enables autonomy-supportive approaches; and a stronger sense of teacher autonomy may more effectively improve teaching capability.

The qualitative results (Part Two) identified four key occupational factors that may sustain teachers' occupational needs across different professional life phases by conducting TA. The qualitative results (Part Two) implied that teachers with different teaching experiences—including novice, mid-career and veteran teachers—demonstrated similar trends with only a few variations for occupational needs. Novice teachers demonstrated a slightly stronger view of student–teacher relationships. Sharing life experiences and considering family situations to assist young students in growing intellectual, emotional and social capabilities were addressed by the novice teachers. Mid-career teachers reported faintly more confidence in teacher efficacy, such as actively practising innovative teaching methods and enhancing time management skills to meet professional demands. Veteran teachers displayed a touch more awareness of resilience by recognising their character traits and applying their character strengths in teaching practice. Novice, mid-career and veteran teachers displayed some level of mindfulness practice and appreciation of autonomy-supportive approaches to meet their occupational needs.

Teacher efficacy may help teachers develop job resources and job-demands resources. Quality student–teacher relationships may cultivate teacher wellbeing by growing care for students, applying affective responses for students, and developing interpersonal skills. A higher level of competence in emotion regulation strategies, as well as effectiveness in mindfulness practice and positive-psychology-based approaches, may enhance teacher resilience. Teacher empowerment may sustain teacher wellbeing by promoting autonomy-support approaches and supporting teacher leaders.

By exploring the interrelationships of the four key occupational factors, this study proposed a holistic relationship to advance teachers' occupational needs: teacher efficacy may assist teachers in delivering engaging learning experiences for fostering quality student–teacher relationships; positive student–teacher relationships may help teachers to develop a higher level of teacher resilience; enhanced resilience may encourage teachers to apply empowering behaviours; and a sense of teacher empowerment may improve teacher efficacy.

Jointly, the four major motivation functions and key occupational factors guide discussions in the following chapter, Chapter 7, to address Research Question Five: How do occupational factors impact teaching motivation for the advancement teacher wellbeing?

Chapter 7: Discussion

7.1 Introduction

Widespread international research has addressed a growing concern about teacher wellbeing (Brady & Wilson, 2021; Collie, 2024a; Dreer, 2023; OECD, 2021; Vo et al., 2024; Zhou et al., 2024). McCallum (2022) and Zhou et al. (2024) evaluate teacher burnout, stress and attrition as significant issues that may hamper teacher wellbeing. According to the latest report from the University of New South Wales' Black Dog Institute (2023), a nationally representative survey of more than 4,000 Australian teachers found that 46.8% of participants considered leaving the profession within the next 12 months, and 70% reported having unmanageable workloads. Teachers tend to leave the teaching profession for various reasons, including a lack of professional autonomy and working in isolation (Brady & Wilson, 2021; Heffernan et al., 2022; Patil, 2023). In Australian contexts, lack of professional recognition and intense workload are widely recognised as two main threats to teacher wellbeing (AITSL, 2023; Black Dog Institute, 2023; Education Services Australia, 2021).

The current research study recognises the significance of teachers' motivation and acknowledges their occupational needs. It argues that enhanced teacher motivation and increased occupational capacity can address the concerns for advancing teacher wellbeing.

This chapter discusses the results from the quantitative analysis in Chapter 5 and the qualitative analyses in Chapter 6. Data were collected for this mixed-methods research study from three phases: 1) quantitative survey data (n = 251), 2) qualitative open-ended questionnaire data (n = 41), and 3) qualitative semi-structured interview data (n = 19). All the participating teachers in this research study were employed in DfE schools (preschool–Year 12) in South Australia.

This chapter answers the overarching research question posed in Chapter 2: How do teachers' motivation and occupational needs impact teacher wellbeing? Previously, this research study identified:

- teachers' major motivation functions through CFA of the survey results to address Research Question One: What are major motivation factors impacting on the advancement of teacher wellbeing? Moreover, CA of the open-ended questionnaire results to address Research Question Three: What are the major motivation functions for sustaining teacher wellbeing?
- teachers' key occupational factors through TA of the semi-structured interview results to address Research Question Four: What are the major occupational factors across different professional life phases to enhance teacher wellbeing?
- relationships between teachers' motivation functions and occupational factors by combining the open-ended questionnaire results and the semi-structured interview results to address Research Question Five: How do occupational factors impact on teaching motivation for the advancement teacher wellbeing?
- three basic psychological needs of SDT (Ryan & Deci, 2000) for sustaining teachers' motivation by examining SEM Model Three of the survey results to address Research Question Two: How are three needs for competence, autonomy and relatedness of Self-determination Theory impacting on teacher motivation to advance teacher wellbeing?
- a holistic motivation approach to advance teacher wellbeing by triangulating the three datasets to address Research Question Six: How does teacher motivation underpinned by Self-determination Theory factors impact the advancement of teacher wellbeing?

This chapter presents discussions, including:

- findings aligned and dissimilar to prior research on teachers' motivation and occupational needs, and unique and contextual-based perspectives to address concerns associated with professional recognition and workload (see Section 7.2)
- a holistic view of teachers' motivation and occupational capacity (see Section 7.3)
- an enhancing relationship between motivation functions and occupational factors for advancing teacher wellbeing (see Section 7.4)
- motivation factors of SDT for sustaining teachers' motivation (see Section 7.5)
- *The Holistic Approach of Motivation to Enhancing Teacher Wellbeing Model* (see Section 7.6).

7.2 Teachers' motivation and occupational needs

Teachers in Australia report a lack of professional recognition and concern that the public does not appreciate the teaching profession (AITSL, 2023; Heffernan et al., 2022). A range of research has investigated teachers' motivation functions for sustaining positive professional experiences, such as improving teachers' psychological functioning to increase effectiveness in teaching by raising the sense of teacher self-realisation (Maricuțoiu et al., 2023) and fulfilling teachers' motivation by incorporating their needs and preferences (Beames et al., 2024). As reviewed in Chapter 2, Francesconi (2018) advocates a capability-focus approach to attain teachers' eudemonic happiness, whereas Ramirez et al. (2020) champions motivational dynamics for professional progression to pursue teachers' eudemonic. The research studies share a similar stance that teachers' motivation enables them to pursue eudemonics, which is positively related to their wellbeing. Again, the current research study emphasises the role of motivation in celebrating teachers' professional capabilities and establishing a positive school culture for better wellbeing, which could tackle issues related to poor professional recognition.

Further, the Black Dog Institute's (2023) survey of some 4,000 Australian teachers found that 70% of the participants reported having unmanageable workloads. A wide range of research

on teachers' occupational needs agrees that the role of teachers' occupational capacity is critical to addressing professional demands, such as enhanced self-efficacy to improve teaching practice (Du Plessis & McDonagh, 2021; Maricuțoiu et al., 2023), a high level of teacher resilience to address teachers' emotional needs and deal with demanding work conditions (Mansfield, 2020; Sappa & Barabasch, 2020), quality student–teacher relationships for teaching productivity (Haldimann et al., 2023; Zheng, 2022), and empowering teachers via autonomy-supportive practices to encourage voluntary decision-making (Collie, 2023a; Vo & Allen, 2022). Once more, this study underlines teachers' occupational needs for managing demanding workloads for greater wellbeing, which could help teachers reduce professional burnout and stress.

This research study provides empirical evidence to consolidate a range of prior findings to address concerns associated with professional recognition and workload that hamper teacher wellbeing. Notably, fostering a positive relational culture, embracing teacher expertise, and enabling teachers' career growth provide authentic professional recognition within the teaching profession. Meanwhile, increasing teaching capacity, applying adaptive teaching strategies, integrating individualised approaches, and encouraging natural emotions have sustained teachers' occupational needs to manage intense workloads. This research study contributes to expanding the understanding of enhancing professional recognition and managing workloads by providing unique and contextual perspectives. The following sections detail the study's significant findings.

7.2.1 Elevating professional recognition

This research study argues that sustaining teachers' motivation can address concerns of professional recognition by fostering a positive relational culture, embracing teacher expertise and enabling teachers' career growth.

7.2.1.1 Fostering a positive relational culture

The results of the qualitative analyses in Chapter 6 indicate that compassionate approaches are intentional and helpful for developing a positive relational culture. Teacher participants suggest simple gestures for displaying their compassion, such as helping to cover yard duty and initiating a casual chat about experiences of a new teaching practice. These intentional interactions help teachers feel that they are not isolated in their classroom or facing demands on their own. Acts of kindness and gratitude are also important factors in building a positive relational culture. Pennington et al. (2021) suggest that displaying caring gestures to colleagues can create a positive collegial culture, while Vo et al. (2024) consider colleagues' respect and trust as fundamental contributors to greater teacher wellbeing. Teachers in this research study demonstrate acts of kindness and gratitude, specifically acknowledging different professional values, encouraging colleagues to build upon different ideas, and exercising practice by reflecting individuals' core beliefs. Similarly, prior studies by Wessels and Wood (2019) and Yeh and Barrington (2023) claim that acts of gratitude can encourage all school members to develop helpful interactions with each other for a positive school culture. Hence, people-oriented minds and acts of kindness and gratitude can foster a positive relational culture in which teachers can grow their connectedness to the school and the teaching profession.

This research study also identifies positive emotions, such as a sense of closeness and feeling valued, when teachers provided mutual help. ANOVA results show no significant difference in the practice of positive coping between novice teachers and veteran teachers. Qualitative results confirm this trend: teachers across different professional phases highlight that collegial support helps manage professional challenges and create teachers' positive emotions. Lucey and van Nieuwerburgh (2021) and Song et al. (2021) consolidate this finding, particularly that positive emotions can extend teachers' cognitions and actions for developing coping skills. Providing mutual help between teachers can create a positive psychological environment in

which to grow positive coping skills and release negative emotions. In turn, positive emotions can encourage professional support between teachers to manage difficult situations.

Respectful manners in professional interactions can nurture a sense of belonging, which increases mutual trust between teachers and leaders. This finding consolidates leaderships' emotional support to promote a sense of trust (Vo et al., 2024) and empowers teachers to cultivate a sense of trust and agency (Collie, 2023b). Uniquely, this study discovered that making an agreement between leadership and teachers on prioritising professional goals and providing in-class observations and constructive feedback can foster positive social relationships.

7.2.1.2 Embracing teacher expertise

In the context of promoting individual teachers' PDPs initiated by the DfE in South Australia, the current study found that acknowledging teachers' expertise and enabling individualised professional goals can lead to increased teacher autonomy. This finding aligns with Bryant and Rao's (2019) observation that providing teacher decision-making opportunities to improve teaching practice enhances teacher autonomy in New Education Reform in China. The DfE introduced PDP so teachers are allocated time and resources to make decisions about their own professional development path, including conducting professional dialogues, bringing ideas forward and reflecting on change.

Further, the DfE has focused on improving reading programs across public schools in South Australia. Within this context, the results imply a need to embrace teachers' expertise by allowing teaching approaches like implementing various teaching points, building opinions on the text and analysing inferential questions within the reading program. Individualised teaching approaches can encourage individual teacher's input towards the school's goals and gain ownership of teaching practice. Tay et al.'s study (2021) similarly found that engaging in

school-context-specific professional development with self-selected goals and methods can lead to a sense of ownership. This process encourages a sense of ownership by embedding preferred teaching approaches and can ensure consistency for the targeted program initiated by the educational body, in this case, the DfE.

7.2.1.3 Enabling teachers' career growth

This research study highlights the importance of teachers' professional goals for developing leadership capacity and subject-related specialisations for sustaining their career growth. Providing opportunities for teacher leaders, such as leading small groups of teachers to create teaching activities and demonstrating innovative practice, could develop certain leadership skills and enhance subject-related skills. Supporting teachers to progress in their specialised subject areas can encourage teacher leaders (Dail et al., 2018; Wilcoxen et al., 2019). Supporting teachers with extra time and opportunities to take on external roles aligned to subject-related specialisation can effectively sustain teachers' professional goals. Notably, this research study observed teachers demonstrating a genuine appreciation for working with leadership to develop management skills and leadership-related administrative abilities.

The study also found that allowing individualised professional goals for innovative practice could encourage teacher agency. This finding consolidates prior studies' contentions that teachers' regulation motivation may involve taking actions for teaching because teachers value seeing students develop their skills and knowledge (Collie, 2023a), and needs-based support for teachers' professional initiatives increases teacher agency (Chiu, 2022). Again, this study highlights the contextual factor for promoting teacher agency within a school-improvement-focus perspective; that is, teachers are able to craft their own professional goals with a collective perspective for career growth. Similarly, Power and Goodnough (2019) and Barrable and Lakin (2020) recommend a collaborative environment for shared personal interests, goals and challenges. Hence, active engagement in developing innovative practices can cultivate

teacher career growth to achieve individualised professional goals in the context of school-improvement focus.

7.2.2 Managing teacher workload

Enhancing teachers' occupational needs can help to manage intense workloads by increasing teaching capability, applying adaptive teaching strategies, integrating individualised approaches and encouraging natural emotions. The following sections detail the discussions of teachers' occupational needs.

7.2.2.1 Increasing teaching capability

The results in Chapter 5 imply that being able to make decisions for developing teaching capability can encourage teachers' sense of autonomy. This finding confirms Collie's (2023b) conclusion that autonomy-supportive leadership positively impacts teachers' job resources, particularly teachers' self-initiative and self-empowerment in professional growth, cultivating teachers' sense of agency. The current study was conducted within government schools in South Australia that have implemented systematic approaches for monitoring teachers' professional development. Unlike prior studies (Fix et al., 2020), this research emphasises autonomy in the context of teachers' professional development initiated by the DfE. The findings suggest that leadership providing resources and supporting decision-making in professional development activities can fulfil teachers' autonomous goals within the framework introduced by the educational body (the South Australian DfE).

Developing cognitive practice to ensure open conversations and transparent actions is essential for teachers to manage change from educational needs. The results in Chapter 6 suggest that teachers who display enhanced cognitive practice tend to seek support by openly expressing their needs and inviting leaders to observe their class. In turn, leadership was inclined to support them in increasing their teaching capacity to manage change by providing physical resources

and constructive feedback. This finding supports prior research by Lee et al. (2020) and Ma et al. (2023), which argues that fulfilling teachers' cognitive needs can promote teachers' change-oriented behaviours.

Teachers in this research study also expressed that actively seeking innovative teaching strategies and intentionally tackling challenges have encouraged and sustained their professional enthusiasm by feeling "fresh" and "interesting". This finding echoes prior research into teacher efficacy for developing professional capabilities and effectively managing professional burnout (Keller-Schneider, 2021). Ongoing professional enthusiasm for enhancing teacher capacity can encourage innovative teaching strategies for reducing burnout.

7.2.2.2 Applying adaptive teaching strategies

The results in Chapter 6 revealed that prioritising core curriculum goals is an effective approach to adaptive teaching strategies. Well-designed teaching unit plans and term overviews can guide teachers to stay on track to deliver core curriculum and reduce distractions from unnecessary extra-curricular demands. Small professional achievements can help teachers manage their workload to some extent. Heffernan et al. (2019, 2022) argue that well-paced and manageable tasks are essential for teachers to adopt educational change, practice updated curriculum and manage workload demands. This research study reinforces this argument: making conscious choices for working towards collective goals at their own pace can contribute to teachers effectively managing new demands.

This finding also supports an awareness of teachers' own teaching interests and suggests that working towards collective goals in their preferred ways can assist in effectively managing professional demands. Teachers in this study appreciated the autonomy for allowing choices and creativities, such as personal twists and interactive elements, to deliver the content within their school's overarching curricular framework. Prior studies support this statement, such as

enhancing personalised teaching strategies by creating a more favourable instructional environment (Daumiller et al., 2021) and cultivating teachers' autonomy (Lauermann & Berger, 2021) for fulfilling educational demands.

7.2.2.3 Integrating individualised approaches

This research study identified "teaching in the moment" when closely interacting with young students as a valuable affective response. In such a process, teachers can model social-emotional skills for resolving conflicts and initiating social interactions as well as introduce fundamental literacy and numeracy to the young students. The finding highlights that applying affective responses in early years brings more independence to students' learning in later years (Nurmi et al., 2018). Further, the results in Chapter 6 reveal that personal-level interactions, including a sense of humour and an engaging topic, inspire students to participate in learning activities. García-Moya (2020) and Morgan et al. (2022) confirm that personal-level approaches effectively engage students in learning activities. Similarly, the current study claims that affective responses can assist learning activities via engaging student–teacher interactions and reduce the instructional time for delivering a large amount of learning content.

Teachers in this research study propose the need to gain information on appropriate family backgrounds and acquire an understanding of students' personal interests. Receiving appropriate personal information about students can help teachers develop suitable practices, including more caring and personal teaching approaches. This finding aligns with Lavy and Naama-Ghanayim's (2020) observation that sharing personal interests and considering students' external factors support developing positive student–teacher relationships. Further, this research discovered effectiveness in individualised, democratic and positive-psychology-based approaches for meeting differentiated students' needs. Applying effective teaching approaches can help develop positive and meaningful social interactions between students and teachers. Matteucci et al. (2017) and Narea et al. (2021) claim teaching strategies for fulfilling

distinguished students' needs can foster meaningful student–teacher interactions. Therefore, teaching practices such as individualised, democratic and positive-psychology-based approaches may enhance positive student–teacher relationships.

7.2.2.4 Encouraging natural emotions

The ANOVA in Chapter 5 revealed no significant difference in the practice of positive coping between novice teachers and veteran teachers. Similarly, the results in Chapter 6 implied that teachers across different professional phases are able to apply effective strategies, to some extent, to regulate their own emotions in dealing with students' externalising behaviours. Seeking more information on challenging behaviours is essential, and teachers could determine whether it is a diagnosed or an undiagnosed behavioural issue. By understanding the circumstances, teachers could apply more natural emotions to manage those behaviours. Similarly, Huang et al. (2019) found that teachers who express their natural feelings towards problematic situations tend to understand students' circumstances, reducing negative emotional encounters. Hence, developing an informative understanding of students' challenging behaviours may be important. It can assist teachers to apply natural emotions during the encounters, which can reduce the emotional burden of negative experiences to some extent.

Participants in this research study reported they tended to purposefully disconnect from work after school hours. Being physically and emotionally absent from work environments after hours allows teachers the time and space to acknowledge their natural emotions to reduce work-related burnout. In turn, their students benefit from learning activities after they return to work with less distress. This finding shares some similarities with prior research into separating emotion domains between work and home to achieve work-life balance (Althammer et al., 2021) and valuable downstream benefits for students after teachers reduce their own work stress (Carroll et al., 2021; Collie, 2024b). Hence, equipping teachers at different professional phases with skills for regulating their own emotions when dealing with students' externalising

behaviours and managing emotion domains between work and home can help them express their natural emotions.

This research study offers significant evidence of teachers' motivation and occupational needs to address professional recognition and workload issues, which may hinder teacher wellbeing. Fostering a positive relational culture, embracing teacher expertise and enabling teachers' career growth can sustain teaching motivation, which may contribute to uplifted professional recognition. Thus, increasing teaching capacity, applying adaptive teaching strategies, integrating individualised approaches and encouraging natural emotions can enhance teachers' occupational capacity to manage demands associated with a heavy workload more effectively.

7.3 Teachers' motivation and occupational capacity

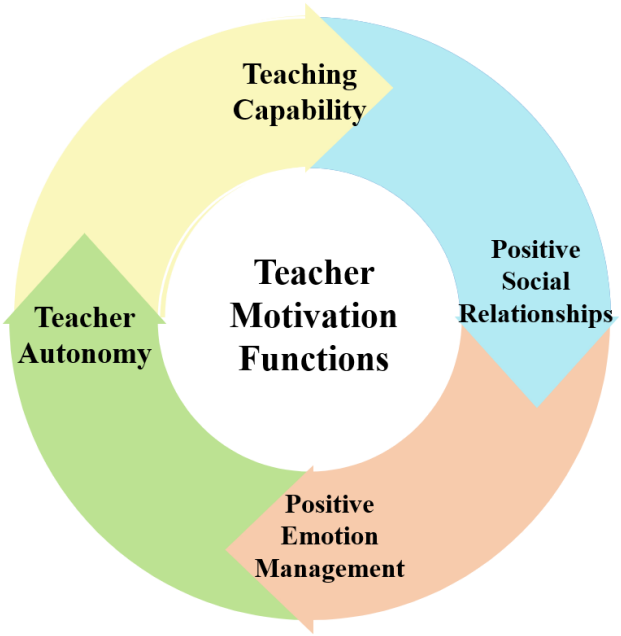
This research study devises a holistic view of teachers' motivation and occupational capacity, which may advance teacher wellbeing.

7.3.1 A holistic view of teachers' motivation

The current study identified four motivation functions—teaching capability, positive social relationships, positive emotion management and teacher autonomy—based on CFA of the survey results in Chapter 5 and CA of the open-ended questionnaires in Chapter 6. The following sections discuss how teaching capability helps to cultivate positive social relationships; positive social relationships support positive emotion management; positive emotion management encourages a strong sense of teacher autonomy; and teacher autonomy promotes a higher level of teaching capability (see Figure 7.1).

Figure 7.1

A Holistic View on Teachers' Motivation



7.3.1.1 Teaching capability to cultivate positive social relationships

The DfE in South Australia initiated PDP for individual teachers and integrated school improvement plans for all public schools. The participating teachers in this research study were encouraged to determine individual career goals in the context of PDP and present individual-focused teaching strategies in PLCs. As suggested, sharing teaching practices to achieve school improvement plans has encouraged collective practice and led to authentic collegial interactions. This finding affirms that teaching capability cultivates positive collegial relationships by sharing innovative behaviours (Klaeijsen et al., 2018), and collaborative approaches help manage challenges (Barni et al., 2019). Teaching capability in the context of whole-school focus can develop authentic social relationships to achieve collective goals between teachers and colleagues.

The results in Chapter 6 suggest that teachers who report a higher level of teaching capability demonstrate varied teaching strategies to serve students' differentiated needs. Needs-support

teaching strategies can effectively encourage students' commitment and engagement to achieve positive learning outcomes. In turn, enhanced student commitment and engagement can reduce misbehaviours and develop positive student–teacher relationships. Han et al. (2020) and Lauermann and Berger (2021) posit that improving teaching instructions for better educational outcomes for students leads to engaging interactions with students. A higher level of teaching capability can enable needs-support teaching strategies, contributing to engaging interactions between teachers and students.

7.3.1.2 Positive social relationships to strengthen positive emotion management

Student-driven learning activities—such as student-led presentations, peer assessments and integrating open-ended tasks—are effective strategies to encourage student agency. Promoting student agency fosters a safe environment for students who are struggling with learning while also enabling students who are succeeding in learning to extend their learning at their own pace. In turn, a positive class culture, such as a democratic class norm and a safe environment for students' voices, can provide teachers with joyful emotions. Similarly, Collie (2022) found that relatedness in positive social relationships between students and teachers could assist teachers in more effectively managing time pressure and disruptive student behaviour, contributing to teachers' higher enjoyment and sustaining their positive attitudes. Positive interactions through student-driven activities can ensure students' differentiated learning needs and provide teachers with positive emotional encounters.

Results in Chapter 6 indicate that administrative resources provided by leadership when teachers face educational demands, such as managing students with negotiated education plans and disabilities, have brought them positive emotions like a sense of being supported and valued. This study argues that positive social relationships between teachers, colleagues and leadership can yield positive emotions. This argument aligns with Vo et al.'s (2024)

observation that collegial and leadership support can help teachers attain a sense of belonging, contributing to experiencing positive emotions.

7.3.1.3 Positive emotion management to encourage teacher autonomy

Teachers in this research study demonstrated positive emotions, such as trust and respect. A safe working culture encourages teachers to actively exercise their opinions and practice; for example, honest and open communication about their needs allows teachers to be active agents in their professional development, leading to enhanced teacher autonomy. When teachers feel a sense of respect and trust, it can yield a safe working culture for greater wellbeing (Vo et al., 2024; Zhou et al., 2024). Positive emotions can create a safe working culture that cultivates teacher autonomy by encouraging open conversations with colleagues and embracing open minds for adopting innovative practices.

The results suggest that teachers who effectively manage emotional stress during the process of co-constructing a program and teamwork towards common goals reported a higher sense of autonomy. Li and Lv (2022) report that teachers' emotional competence for handling stress and managing negative emotions is positively correlated with work success, such as maintaining teaching endeavours and facing stressful situations with confidence. Likewise, the current study argues that teachers who display positive emotions towards additional workload and extra challenges associated with professional tasks can receive more opportunities to demonstrate their strengths and share their practice with others. In turn, they gain a sense of autonomy to progress in their teaching career.

7.3.1.4 Teacher autonomy to promote teaching capability

Participating teachers in this research study spoke highly of embedding personal adjustments in leading professional learning activities in the school-improvement-focus contexts. A sense of autonomy enhances teaching capability in school-context-specific professional learning

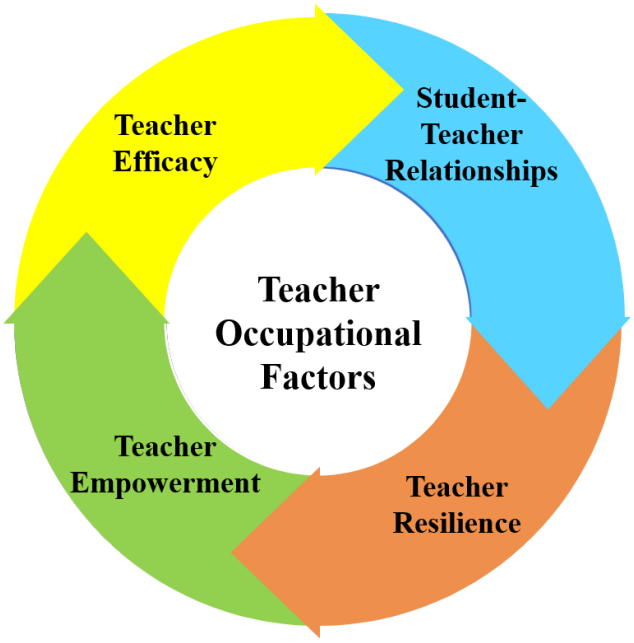
activities. As indicated, they gain a higher level of teaching capability when encouraged to embed their own interests and passion in leading professional development. Studies by Aguirre-Muñoz et al. (2024) and Ortan et al. (2021) claim teachers who tend to broaden opportunities for sharing beliefs and interests beyond the classroom can obtain a higher level of teaching capability. Teachers' autonomous engagement in professional learning activities can bring them a high level of teaching capability when applying and demonstrating focused strategies.

Further, teachers in this research study were able to make decisions on school goals after self-selecting as members of the School Site Plan Committee. In the decision-making process, they provided evidence-based explanations and justifications of teaching practice for determining collective decisions towards school goals. This finding is similar to Huang et al.'s (2024) assertions that teachers may develop a stronger sense of autonomy while improving teaching practice through person-centred approaches. Enabling teachers to make decisions for preferred teaching practices in the context of collective goals enhances a degree of teaching capability. Therefore, autonomous involvement through evidence-based decision-making processes can enhance teaching capability with a school-wide focus on collective goals.

Teaching capability, positive social relationships, positive emotion management and teacher autonomy can holistically enhance teachers' motivation. Markedly, teaching capability has a positive impact on fostering positive social relationships through collaborative teacher–colleague interactions and engaging teaching-learning experiences; positive social relationships can assist in providing teachers with positive emotions in daily interactions with students and from leadership and collegial support; positive emotion management can cultivate a sense of autonomy by ensuring a safe working environment and sustaining career progression; and teacher autonomy can improve teaching capability through sharing professional interests and promoting evidence-based decision-making processes.

Figure 7.2

A Holistic View of Teacher Occupational Capacity



7.3.2 A holistic view of teachers' occupational capacity

This research study found that four major occupational factors—teacher efficacy, student–teacher relationships, teacher resilience and teacher empowerment—can holistically enhance teachers' occupational capacity based on the Chapter 6 TA of the semi-structured interview results. The following discussions argue that teacher efficacy assists in fostering positive student–teacher relationships; quality student–teacher relationships help teachers develop stronger resilience; teacher resilience encourages teachers' empowering behaviours; and teacher empowerment improves teacher efficacy (see Figure 7.2).

7.3.2.1 Teacher efficacy to foster student–teacher relationships

Teachers in this research study reported that their students demonstrated positive attitudes and a sense of joy after participating in engaging learning activities. Consequently, teachers develop a sense of accomplishment and happiness after witnessing their students' positive experiences. Enhanced teacher efficacy, such as regularly reflecting on teaching practice and

monitoring students' progress, can effectively engage students in learning activities and lead to positive student–teacher relationships. Herman et al. (2018) and Lee et al. (2023) posit that increased teacher efficacy for more effective pedagogical strategies can advance students' learning interests, providing positive emotions for both students and teachers. High levels of teacher efficacy can assist teachers in meeting students' educational needs, which can foster positive learning experiences between students and teachers for quality student–teacher relationships.

The results in Chapter 6 identify that using data evidence to guide planning, daily programs and assessments is an effective method for supporting students with diverse needs. For instance, informed by individual student data, the teachers could adjust the learning program for students who were struggling in learning and extend learning materials for students who were succeeding in achieving the standards. By fulfilling their learning needs, students developed intrinsic motivation for committing to learning and extending their learning goals. This finding aligns with developed teacher efficacy for achieving positive student academic outcomes, which can foster close relationships between teachers and students (Corbin et al., 2019; Lauermann & Berger, 2021). High levels of teacher efficacy, such as applying data-evidence evaluations for individualising students' learning, can effectively support students with negotiated educational plans and extend students who are succeeding in achieving the standards.

7.3.2.2 Student–teacher relationships to develop teacher resilience

The results in Chapter 6 reveal that positive encounters with their students, such as developing enjoyable conversations through chats about hobbies, leisure time and family, provide teachers with a sense of meaningfulness to the teaching profession. In turn, teachers develop closeness to students and become more resilient in managing students' behavioural issues and emotional demands. This finding shares some similarities with prior studies by Collie and Martin (2023)

and Simon et al. (2022); that is, a stronger sense of relatedness to students could allow teachers to bear a higher sense of intolerance for the student's difficult behaviours and developing a higher level of behavioural management. Experiencing joyful moments of working with students and gaining family support from students could foster closeness to students. Through a closer bond with students, teachers may develop a higher level of teacher resilience for higher tolerance of students' emotional and behavioural challenges.

Teachers in this study reported that positive bonding experiences between their students and themselves in preschool contexts foster caring relationships. To some extent, strategies for developing positive bonding may help teachers grow resilience to manage challenging situations. Cui (2022) and Narea et al. (2021) assert that proactive strategies enhance teacher resilience to behavioural challenges and reduce emotional exhaustion. Bonding strategies, including sharing transparent information about young students and conducting consistent approaches between school and families, could effectively address young students' needs. Through these strategies, teachers can grow resilience for effectively diagnosing issues and developing programs to meet the young children's specific needs.

7.3.2.3 Teacher resilience to promote teacher empowerment

Participating teachers in this research study explain that enhanced teacher resilience allows them to persist with tasks and achieve professional demands. It made them proud to take on the tasks and helped them gain professional confidence for future challenges. Teacher resilience can help teachers develop abilities in managing similar challenges in the future and also foster a sense of empowerment through growing professional confidence. Prior studies reinforce this argument that proactive participation in teaching challenges to achieve positive academic outcomes can encourage higher teaching performance and confidence (Li & Lv, 2022; Zhao, 2021).

The current study found that resilience helped teachers to improve teaching practice. Resilience plays an important role in perseverance, particularly when confronted with resistance from colleagues to updating teaching practice. Pennington et al. (2021) and Polat et al. (2023) contend that enhanced teacher resilience increases professional acceptance and enables new methods and notions to be embedded. Teachers in this research study were resilient when persuading colleagues to improve, such as being open-minded to innovative teaching practices and making small changes. During this process, they felt empowered by advocating, supporting and eventually succeeding in improving teaching practice. Therefore, teacher resilience can assist teachers in managing difficult collegial encounters when refining teaching practice. Teachers can gain a sense of empowerment after initiating change in teaching practice.

7.3.2.4 Teacher empowerment to strengthen teacher efficacy

The results in Chapter 6 imply that teachers who are actively involved in decision-making for practice and achieving collective school goals tend to develop a higher level of teacher efficacy in implementing innovative teaching strategies. Hughes and Lewis (2020) advise that empowered teachers in curriculum reform can increase teacher efficacy for more effective pedagogical practice. Teachers can enhance their efficacy by being actively involved in decision-making due to a high level of professional inquiries and taking responsibility for promoting collective approaches.

Teachers in this research study detailed opportunities for working closely with school leaders and obtaining certain leadership positions. These experiences provide them with a sense of empowerment. This finding shares some similarities with prior research into empowering the school environment to develop teacher capacity (Collie, 2023b; Raymond & Gabriel, 2023) and supporting teachers to achieve leadership-oriented goals (Yao et al., 2020). Increasing leadership capacity and developing specific leadership skills can grow teacher efficacy in dealing with specific leadership-associated tasks.

Four major occupational factors—teacher efficacy, student–teacher relationships, teacher resilience and teacher empowerment—can holistically enhance teachers' occupational capacity. Markedly, teacher efficacy cultivates positive student–teacher relationships by providing engaging learning experiences for students and assisting students to achieve positive academic outcomes; positive student–teacher relationships sustain professional enthusiasm to develop teacher resilience for buffering against challenging periods in classrooms; teacher resilience develops teacher empowerment in initiating innovative teaching practice by managing relational climate with colleagues; and teacher empowerment enhances teacher efficacy by encouraging effectiveness in professional practice and promoting leadership capacity.

7.4 Teachers' motivation to enhance occupational capacity

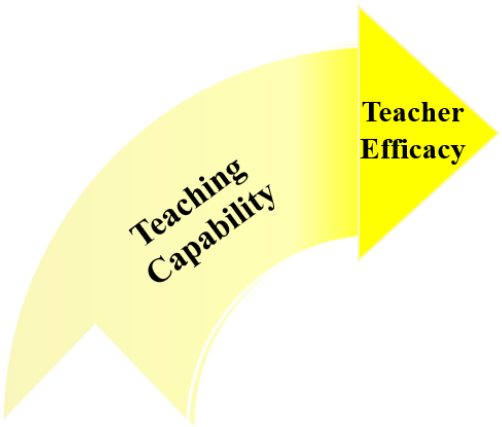
Based on the qualitative evidence in Chapter 6, this research study argues to enhance the relationship between teachers' motivation and occupational capacity for advancing teacher wellbeing, which contributes to the knowledge gap for teacher wellbeing research. The following discussions assert that the four motivation functions can enhance the four occupational factors to sustain teacher wellbeing. Figures 7.3 to 7.6 illustrate the enhancing relationships between teachers' motivation and occupational capacity.

7.4.1 Teaching capability to develop teacher efficacy

This study argues that teaching capability can help develop a higher level of teacher efficacy (see Figure 7.3) by enhancing job resources and job-demands resources to sustain teacher wellbeing.

Figure 7.3

Teaching Capability Enhances Teacher Efficacy



Participating teachers in this study who sought autonomously to improve their job resources reported reduced stress associated with challenges and professional requirements. Teaching capacity can promote individualised teaching interests and enable teachers to make their own professional decisions on how and when to apply new initiatives to teaching practice. Ryan and Hendry (2023) suggest being with teachers so they are encouraged to implement new strategies. Similarly, autonomy-supportive leadership can encourage teachers' self-initiative to enhance professional growth (Collie, 2023b). Enhanced job resources, including selecting appropriate pace and methods to improve teaching practice within the school-specific contexts, may reduce teachers' burdens associated with the stress of the new initiatives.

Teaching capability can help develop teachers' job-demands resources, such as allowing teachers to prioritise core curriculum to ensure school-wide curriculum consistency. This finding shares some similarities with prior research, such as enhanced job-demands resources for buffering against job-related anxiety (Huang et al., 2018; Zhou et al., 2024) and reducing perceived challenges from teacher appraisals (Keller-Schneider, 2021). Allowing a degree of prioritising essential pedagogy and developing timely strategies as job-demands resources can achieve professional expectations with reduced professional burnout.

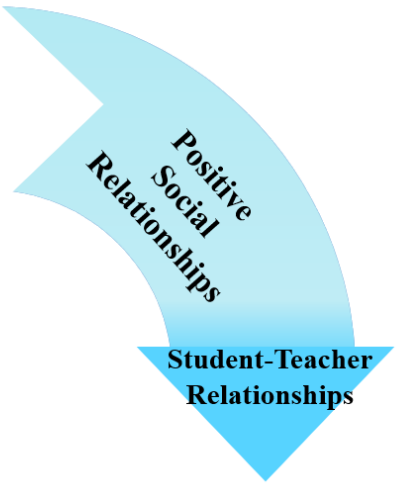
The results in Chapter 6 imply that teachers with high levels of teaching capability demonstrate autonomy-supportive teaching practice in the programs based on the school improvement plan. Similarly, studies by Ryan and Hendry (2023) and Hughes and Lewis (2020) suggest enhanced teaching capability for growing mastery practice in delivering new curricula programs. Teaching capability can encourage more favourable professional practice to enhance teacher efficacy.

7.4.2 Positive social relationships to foster student–teacher relationships

Positive social relationships can help foster positive student–teacher relationships by cultivating care for students, affective responses and interpersonal skills. As mentioned in Chapter 2, positive student–teacher relationships can enhance teacher wellbeing (Haldimann et al., 2023; Narea et al., 2021). This section details the discussions, and Figure 7.4 illustrates the enhancing relationship between positive social relationships and quality student–teacher relationships.

Figure 7.4

Positive Social Relationships Enhances Student–Teacher Relationships



The results in Chapter 6 show that providing care to students—for instance, by considering students' appropriate life experiences and students' family situations—teachers tend to engage with students in learning activities more effectively. Lavy and Naama-Ghanayim (2020) consider students' welfare to achieve positive educational experiences, while Corbin et al. (2019) suggest warm relationships between students and teachers contribute to a positive learning journey. Similarly, the current study argues that teachers who demonstrate a higher level of care for their students can more effectively foster students' intrinsic motivation to engage in learning tasks and achieve positive educational outcomes.

Teachers in this study reported that affective responses to young students in early school contexts contributed to positive bonding experiences. For example, introducing fundamental literacy and numeracy vocabulary and modelling social-emotional skills during young students' playtime resulted in regular affective responses. Cui (2022) advises that high-quality student–teacher interactions can nurture students' passion for learning and develop an awareness of self-regulation for emotional and social abilities. Affective responses are important elements of positive social interactions between students and teachers, particularly in early childhood settings. It can enhance young students' development in intellectual, emotional and social capabilities through meaningful student–teacher interactions.

An approach driven by student characteristics is an effective interpersonal communication strategy for cultivating quality student–teacher relationships. Introducing learning topics based on students' interests and initiating conversations about life experiences can yield an inclusive learning environment for engaging students in learning activities. This finding reinforces Simon et al.'s (2022) contention that enhanced teachers' interpersonal skills develop positive learning environments for producing positive socio-emotional outcomes for students. Hence, this research study asserts the need to develop teachers' interpersonal skills by embracing students' characteristics to foster positive student–teacher relationships.

Figure 7.5

Positive Emotion Management Enhances Teacher Resilience



7.4.3 Positive emotion management to strengthen teacher resilience

This study argues that positive emotion management can assist teachers in developing a higher level of resilience by enabling emotion regulation strategies, implementing mindfulness practice, and practising positive psychology approaches to enhance teacher wellbeing (see Figure 7.5).

The study found that teachers' understanding of professional expectations was positively associated with the effectiveness of emotion regulation strategies. Participant teachers who demonstrated a mature understanding of their work expectations reported feeling some degree of confidence in their ability to manage professional demands. This finding is supported by Beltman and Poulton (2019) and de Ruiter et al. (2021), who note that teachers tend to apply effective emotion regulation strategies like deep acting. The ability to evaluate professional expectations can assist teachers to more effectively apply emotion regulation strategies to manage emotional stress associated with professional demands.

The results in Chapter 6 suggest that teachers who display a high level of self-awareness in stressful encounters more effectively apply self-care to manage their emotions. Neumann and Tillott (2021) advise paying attention to the present moment to manage emotions, while

Pennington et al. (2021) recommend developing a sense of professional acceptance to reduce stress. Similarly, the current study asserts the need to exercise self-care—that is, accepting one's effort for the best possible teaching practice—and allow time and physical space away from stressful situations.

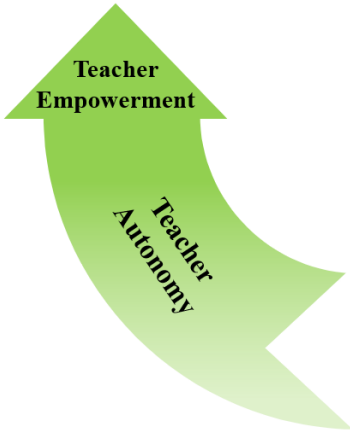
Teachers in this research study identified their character strengths as important traits for sustaining professional satisfaction. For example, some teachers reported that curiosity has helped them to acquire ongoing energy, and empathy has encouraged them to embrace others' professional values. By holding these character strengths, teachers sustain professional passion and develop healthy collegial relationships in this study. This finding aligns with research on teachers' positive traits correlated to job satisfaction (Song et al., 2021) and socialisation (Zadok-Gurman et al., 2021). Providing teachers with positive psychology perspectives can help them identify their own strengths, which can sustain professional enthusiasm in the teaching profession.

7.4.4 Teacher autonomy to encourage teacher empowerment

Teacher autonomy can yield a sense of empowerment by advocating ownership for professional development, promoting teacher leaders and ensuring teaching accountability. As mentioned in Chapter 2, teacher empowerment can enhance teacher wellbeing (Cann et al., 2022; Çoban et al., 2023). The following section presents the discussions, and Figure 7.6 illustrates teacher autonomy in enhancing a sense of empowerment.

Figure 7.6

Teacher Autonomy Enhances Teacher Empowerment



Teachers in this research study who effectively integrate their professional passion with a school-improvement focus were more likely to gain ownership in their professional development. Dail et al. (2018) and Liu et al. (2023) claim that encouraging teachers to provide subject expertise in school-based curriculum programs contributes to teacher empowerment. Activating teachers' professional passion with a school-improvement focus can cultivate ownership of their professional growth.

Further, the results show that teachers with a leadership-orientation attitude demonstrate a strong willingness to take on "acting" leadership positions and develop specific leadership skills. This finding is reinforced by enhanced teacher autonomy for making an effort and taking extra responsibilities to fulfil career goals (Runhaar et al., 2019). Similarly, Gouëdard et al. (2023) suggest that empowering teachers with leadership opportunities can enhance career satisfaction. The current study argues the need to provide leadership-related tasks or subjective-expert-related roles for teachers who are autonomously seeking teacher leader responsibilities.

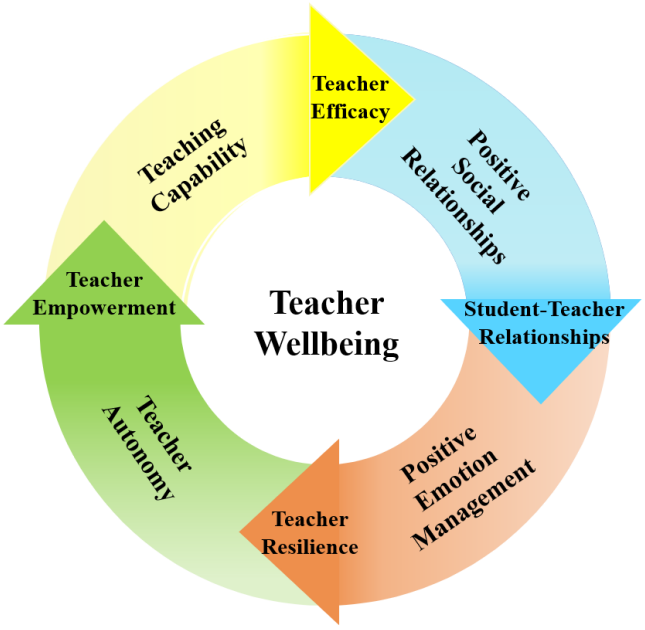
Participating teachers in this research study who aligned their own professional goals to school-improvement goals tended to effectively develop teaching accountabilities. In the context of

school-improvement focus, this research study suggests that leadership who support teachers' own professional goals can promote teacher autonomy. This argument is shared by prior studies' (Tay et al., 2021; Wilcoxen et al., 2019) claims that supportive leadership for conducting non-evaluative processes through coaching, mentoring and communications can help teachers feel trusted and cultivate their autonomy. In turn, with enhanced autonomy, teachers can have a voice in achieving the goals, which contributes to increase teaching accountability.

The *Teacher Motivation Enhancing Occupational Capacity Model* (see Figure 7.7) explains the relationship between motivation functions and occupational factors for enhancing teacher wellbeing. Notably, this research study argues that teaching capability develops a higher level of teacher efficacy by enhancing job resources and job-demands resources. Then, positive social relationships assist in fostering positive student–teacher relationships by cultivating care for students, affective responses and interpersonal skills. Next, positive emotion management helps teachers develop a higher level of resilience by enabling emotion regulation strategies, implementing mindfulness and practising positive psychology approaches. Finally, teacher autonomy encourages empowering behaviours by advocating ownership for professional development, promoting teacher leaders and ensuring teaching accountability.

Figure 7.7

The Teacher Motivation Enhancing Occupational Capacity Model



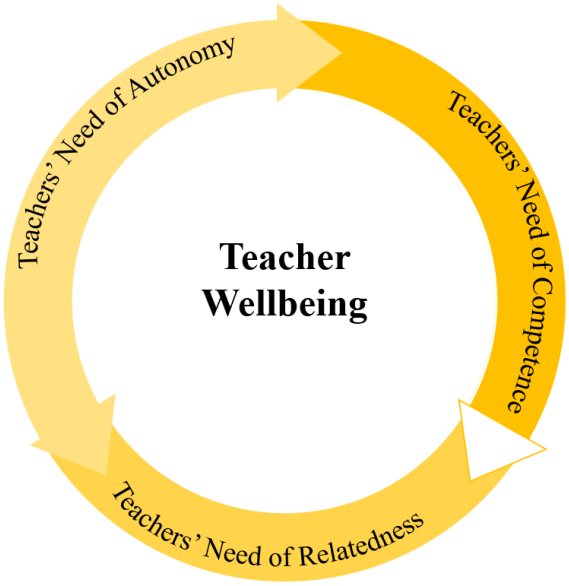
7.5 Teachers' motivation and self-determination theory

Teachers' motivation has been sustained by fulfilling three basic psychological needs of competence, autonomy and relatedness of SDT (Ryan & Deci, 2000) according to a wide range of research studies (Chiu, 2022; Collie & Martin, 2024; Hobsona & Maxwell, 2017; Power & Goodnough, 2019; Wu et al., 2022).

As presented in Section 5.5.3.1, the preliminary results from SEM Model Three indicated seven motivation constructs: *Autonomy, Agency, Perceived Distributed Leadership, Perceived Recognition, Connectedness to Teaching Profession, Manage Change,* and *Positive Coping*. Interrelationships between those motivation constructs were identified from the SEM Model Three in Chapter 5 (see Sections 5.5.3.2 to 5.5.3.4) to construct the direct relationships between the needs of autonomy, competence and relatedness (see Figure 7.8). The following sections discuss relationships between the needs of autonomy, competence and relatedness, which contribute to sustaining teachers' motivation for better wellbeing.

Figure 7.8

Motivation Underpinned by SDT for Teacher Wellbeing



Note. The white arrow indicates a negative relationship.

7.5.1 Teachers' needs of autonomy and relatedness

Teachers' needs of autonomy and relatedness have been investigated for enhancing teacher wellbeing, such as a sense autonomy for teachers to fully maximise professional development engagement in collegial environments (Power & Goodnough, 2019) and supporting teacher autonomy to intrinsically engage in professional development opportunities (Bayly et al., 2022). The current study identifies moderate, direct and positive relationships between teachers' needs of autonomy and relatedness.

SEM Model Three (see Section 5.5.3.2) reveals moderate, positive and direct relationships between teachers' need of autonomy and relatedness. As indicated, *Perceived Recognition* directly and positively affects *Connectedness to Teaching Profession* ($\beta = 0.64$); *Autonomy* directly and positively affects *Perceived Recognition* ($\beta = 0.28$) and *Perceived Distributed Leadership* ($\beta = 0.38$); and *Perceived Distributed Leadership* ($\beta = 0.32$) directly and positively

effects *Connectedness to Teaching Profession*. Providing teachers with professional recognition, encouraging teachers to autonomously exercise teaching strategies and providing opportunities for leadership responsibilities for teachers may achieve teachers' need of autonomy. This aligns with Collie's (2023a) argument that achieving positive professional outcomes may sustain teachers' long-lasting commitment to teaching.

Meanwhile, cultivating connectedness to the teaching profession by providing professional recognition from school leadership and line managers mentoring future teachers directly may cultivate teachers' need of relatedness. These findings reinforce previous research on teacher autonomy, such as promoting teachers' initiative and participating in educational change and reform (Thomson & Riddle, 2019) and positive interactions with principals for cultivating a sense of belonging to the school (Collie et al., 2020a).

The moderate, direct and positive relationships between teachers' needs of autonomy and relatedness were noteworthy. The SEM Model Three (see Section 5.5.3.2) indicated that satisfying teachers' need of autonomy may cultivate teachers' need of relatedness in teaching. In turn, this may develop effectiveness in professional collaborations, encourage innovative teaching practices and create a supportive school culture, leading to advancements in teacher wellbeing.

7.5.2 Teachers' needs of autonomy and competence

Chiu (2022) claims needs-based support for autonomy can motivate teachers to become competent in high-quality, technologically integrated practice, while Kaplan (2021) suggests autonomous resources for teachers to gain teaching competence. The current study identifies moderate, positive and direct relationships between teachers' needs of autonomy and competence to support teachers work engagement and wellbeing.

Based on SEM Model Three (see Section 5.5.3.3), there are positive and direct relationships between teachers' need of autonomy and competence. As indicated, *Agency* directly and positively affects *Perceived Recognition* ($\beta = 0.44$) and *Perceived Distributed Leadership* ($\beta = 0.36$). The results indicate teachers can become agentic in sustaining professional competence. In prior research, Collie (2023a) suggests that teachers' self-determined form of motivation, such as identified regulation for teachers, may involve putting effort into work and taking actions to increase teaching competence as they value seeing students develop their skills and knowledge. With enhanced agency, teachers may achieve autonomous goals for teaching practice and career progression and subsequently fulfil the need of competence for taking on leadership tasks and more noticeable recognition for their professional accomplishments.

Agency ($\beta = 0.11$) and *Autonomy* ($\beta = 0.08$) directly and positively affect *Manage Change* as revealed by the SEM Model Three (see Section 5.5.3.3). The results indicate weak associations between the needs of autonomy and competence, particularly in relation to the ability to manage change. The results align with prior research on teachers' need of autonomy for embedding educational change; for example, growing teachers' ability to promote change-oriented work behaviours (Lee et al., 2020) and inviting teachers' participation in organisational change for teachers' autonomy (Jansen in de Wal et al., 2020). Due to the weak loadings, this research study calls for further investigation to strengthen the understanding of the relationship between the needs of autonomy and competence for developing teachers' capacity to manage change.

The SEM Model Three results (see Section 5.5.3.3) suggest that satisfying teachers' need of autonomy may cultivate teachers' need of competence for achieving professional goals based on individuals' career progression requirements, contributing to advanced teacher wellbeing.

7.5.3 Teachers' needs of competence and relatedness

This research study found a direct and negative relationship between teachers' needs of competence and relatedness based on the SEM Model Three (see Section 5.5.3.4). These findings share a common stance with prior research studies, including Hobsona and Maxwell's (2017) examination of contextual factors in relation to early-career teachers' needs of competence and relatedness for organisational commitment, and Lee and Nie's (2020) exploration of change-oriented work behaviours.

The SEM Model Three revealed a negative and direct relationship between teachers' need of competence and relatedness. As indicated, *Manage Change* ($\beta = -0.10$) directly and negatively affects *Connectedness to Teaching Profession* (see Section 5.5.3.4). This finding implies that teachers who developed enhanced competence may be less likely to be connected to the teaching profession. It reveals a noteworthy relationship between teachers' need of competence and their professional commitment. This result is similar to Lee and Nie (2020) finding teachers' need for competence does not predict organisational commitment as teachers' need for relatedness. Due to the weak loading, this research study cannot provide sufficient evidence to argue that managing change from the need of competence in relation to connectedness to teaching from the need of relatedness. Lazarides et al. (2020) calls for growing discussions in managing change to maintain the effectiveness of job resources while Lee et al. (2020) advocate exploring teachers' change-oriented behaviours. Therefore, the current study suggests a future direction for a further investigation to strengthen the understanding between teachers' need of competence and relatedness, particularly in relation to teachers' capacity for managing change.

Notably, the SEM Model Three (see Section 5.5.3.4) revealed a significant relationship between positive coping and managing change, reflecting on teachers' need of competence. *Positive Coping* significantly and positively ($\beta = 0.98$) affects *Manage Change*. This result

consolidates positive coping, including mindfulness practice, positive psychology approaches and multimodal interventions, as important aspects for developing teachers' capacity for managing change. This finding reinforces that positive coping can grow positive emotions by sharing and supporting each other through positive-psychology-based strategies (Kern et al., 2024) and fostering mindfulness in teachers through emotion recognition and emotion regulation (Carroll et al., 2022b).

The SEM Model Three results in Chapter 5 identified moderate, positive and direct relationships between the seven motivation constructs. These findings validate moderate, positive and direct relationships between the needs of autonomy, competence and relatedness, whereas there is a direct and negative relationship between teachers' needs of competence and relatedness. This research study asserts that satisfying teachers' needs for autonomy, competence and relatedness can sustain their motivation and enhance teacher wellbeing.

7.6 The holistic approach to motivation

Teacher wellbeing is one of the key contributors to fulfilling positive educational outcomes for students and school communities (Collie, 2023a; Dreer, 2023; Song et al. 2020; White & McCallum, 2020; Zhou et al., 2024). Based on Viac and Fraser's (2020) definition of teacher wellbeing, this study claims teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment are critical in improving teaching capacity for the advancement of teacher wellbeing. It has been argued that teachers should enhance teaching capacity to promote responsibility, productivity and engagement to manage demanding workloads.

Moreover, SDT (Ryan & Deci, 2000) comprehensively explains how the three basic psychological needs can assist motivation functions in fulfilling one's potential—including self-efficacy, emotion, social relationships and agency—in a wide selection of research disciplines (Greenaway et al., 2016; Hansen & Jessop, 2017; Raven & Pels, 2021; Trigueros et

al., 2019). This research study claims that fulfilment of teachers' three basic psychological needs can sustain teachers' motivation. In turn, sustained teachers' motivation through teaching capability, positive emotion management, positive social relationships and teacher autonomy can address concerns associated with professional recognition.

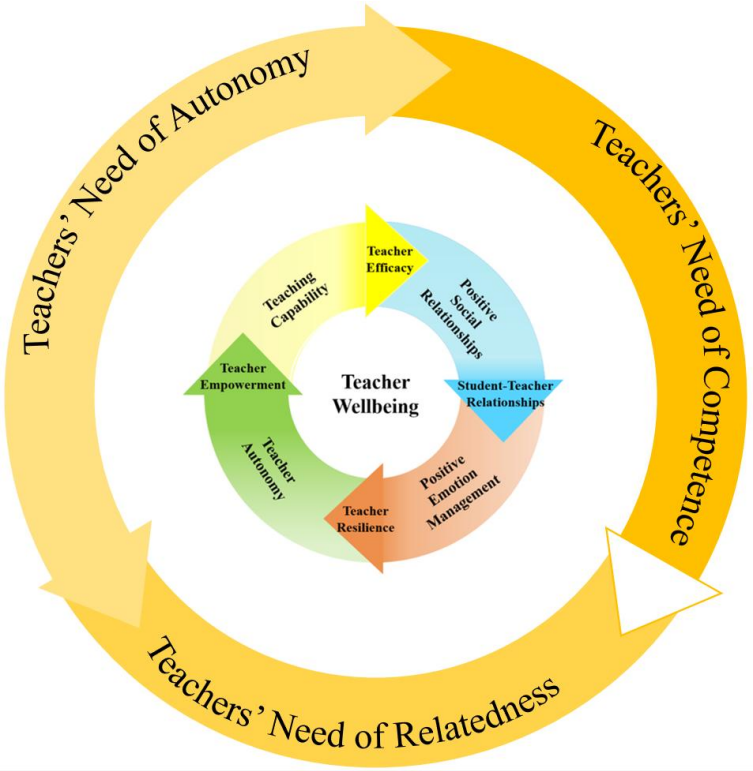
Teachers' motivation and occupational capacity are not interpreted in isolation; rather, they facilitate teachers' everyday work holistically, positively and continuously. This research study argues a holistic view for enhancing teacher wellbeing by considering teachers' motivation and occupational capacity underpinned by SDT.

The holistic approach to motivation addresses the overarching research question: How do teachers' motivation and occupational needs impact teacher wellbeing? This research study contends that satisfying teachers' basic psychological needs of SDT and sustained teachers' motivation can enhance their occupational needs, which leads to advancements in teacher wellbeing. *The Holistic Approach of Motivation to Enhancing Teacher Wellbeing Model* (see Figure 7.9) is developed to illustrate the holistic approach.

The research study findings suggest that teachers can sustain teaching motivation by fulfilling their basic psychological needs of SDT. With sustained teaching motivation, teachers can develop teaching capability, positive social relationships, positive emotional management and teacher autonomy. In turn, these motivation functions can enhance teachers' occupational capacity, such as teacher efficacy, student–teacher relationships, teacher resilience and teacher empowerment, which ultimately contributes to advancing teacher wellbeing.

Figure 7.9

The Holistic Approach of Motivation to Enhancing Teacher Wellbeing Model



7.7 Summary

This chapter has presented discussions on teachers' motivation and occupational needs for addressing concerns associated with professional recognition and workload, a holistic and positive view of teachers' motivation and occupational capacity, an enhancing relationship between motivation functions and occupational factors for advancing teacher wellbeing, teaching motivation underpinned by SDT, and the *Holistic Approach of Motivation to Enhancing Teacher Wellbeing.*

This study offers significant empirical evidence of teachers' motivation and occupational needs to address a lack of professional recognition and demanding workloads that hinder teacher wellbeing. By fostering a positive relational culture, embracing teacher expertise and enabling teachers' career growth, teachers can sustain their motivation, which contributes to developing

positive professional recognition. By increasing teaching capacity, including applying adaptive teaching approaches, integrating individualised approaches and encouraging natural emotions, teachers can enhance occupational competence to manage the demands associated with heavy a workload.

This research study posits a holistic view of sustaining teachers' motivation. Teaching capability develops a higher level of teacher efficacy, enables authentic professional collaborations and improves teaching engagement. Positive social relationships enhance quality student–teacher relationships, create positive classroom environments and strengthen professional relationships. Positive emotion management cultivates a higher level of resilience, fosters positive work environments and obtains organisational support. Teacher autonomy embraces empowering behaviours, provides subject-related expertise and encourages effective professional development.

This research study also presents a holistic view of increasing teachers' teaching capacity. Teacher efficacy enhances job resources and job-demands resources. Student–teacher relationships cultivate care for students, affective responses and effective interpersonal skills. Teacher resilience enables emotion regulation strategies, implements mindfulness practices and practises positive psychology approaches. Teacher empowerment encourages teacher leaders and promotes autonomy-support approaches.

This research study asserts an enhancing relationship between motivation functions and occupational factors for advancing teacher wellbeing. Notably, teaching capability can develop teacher efficacy through job resources and job-demands resources. Positive social relationships can foster student–teacher relationships by caring for students, and applying affective responses and effective interpersonal skills. Next, positive emotion management can strengthen teacher resilience through effective emotion regulation strategies, implementations of

mindfulness and positive psychology approaches. Lastly, teacher autonomy can promote teacher empowerment through ownership of professional development, teacher leaders and teaching accountability.

Together, teachers' three basic psychological needs of SDT positively impact teaching motivation. There are positive and direct relationships between the needs of autonomy, competence and relatedness, whereas there is a direct and negative relationship between teachers' needs of competence and relatedness. By satisfying the three basic needs, teachers can sustain teaching motivation to enhance their wellbeing.

In conclusion, teachers' motivation underpinned by the three basic psychological needs of SDT serves as a strengthening role to enhancing teachers' occupational capacity for the advancement of teacher wellbeing.

Chapter 8: Conclusion

8.1 Introduction

This chapter summarises the research study by reflecting on the research questions. It highlights the main findings, which consolidate the key role of teaching motivation for sustaining positive professional experiences and reinforce the vital contributions of enhanced teachers' occupational capacity to manage professional expectations effectively. Cultivated teaching motivation can foster teachers' self-determined actions for achieving positive professional outcomes, while increased teachers' occupational capacity can improve teaching practice and yield teaching productivity.

This chapter demonstrates significance by justifying a contribution to the knowledge gap and clarifying methodological and contextual strengths. It provides practical implications, acknowledges research limitations and suggests future research directions. It concludes the research study by emphasising the importance of teacher wellbeing and its significant role in wellbeing research.

8.2 Summary of the study

This section briefly outlines each chapter in this thesis and presents the research study's major findings.

8.2.1 Thesis chapter summary

Chapter 1 provided the background contexts of this thesis. It highlighted the ongoing crisis of teacher burnout and attrition; it identified the significant role of teacher wellbeing in addressing the crisis, considering excessive workload and lacking professional recognition in the Australian teacher context. Chapter 2 explored the challenges of teacher wellbeing and determined an occupational emphasis for enhancing teacher wellbeing. Chapter 3 examined motivation functions and adopted SDT (Ryan & Deci, 2000) to navigate teachers' motivation.

Chapter 4 presented research objectives and research questions and outlined the three stages of data collection, including an online survey, an online open-ended questionnaire and semi-structured interviews. Chapter 5 revealed motivation factors based on CFA and identified key relationships between motivation constructs via SEM. The first part of Chapter 6 outlined motivation functions according to CA of the open-ended questionnaire results. The second part of Chapter 6 identified occupational factors based on TA of the semi-structured interview results. Chapter 7 addressed major motivation functions for sustaining teaching motivation and highlighted key occupational factors for enhancing teaching capacity. Triangulating the results, it advised a holistic approach to sustaining teachers' motivation for improving teaching capacity, contributing to greater teacher wellbeing. Finally, Chapter 8 concludes the study by remarking on the significance of teacher wellbeing and providing future research recommendations and practical implications.

8.2.2 Major findings

This research study employed a mixed-methods approach to investigate teacher wellbeing from triangulated data sources collected across three phases. In Phase One, the online survey data (n = 251) were collected to quantitatively identify major motivation factors from the SDT perspective in sustaining teachers' motivation. In Phase Two, the online open-ended questionnaire data (n = 41) were collected to qualitatively explore teachers' motivation functions for advancing teacher wellbeing. In Phase Three, the semi-structured interview data (n = 19) were collected to qualitatively examine teachers' occupational factors across different professional life phases for achieving teacher wellbeing.

This research study answered the overarching research question: How do teachers' motivation and occupational needs impact teacher wellbeing? Teachers' motivation, including teaching capability, positive social relationships, positive emotion management and teacher autonomy underpinned by the three basic psychological needs of autonomy, competence and relatedness,

can enhance teachers' occupational capacity—that is, teacher efficacy, student–teacher relationships, teacher resilience and teacher empowerment—to sustain teacher wellbeing.

The major findings of this research study are:

1) We compared the four factors in the ANOVA and identified no significant differences based on the demographic variables, notably years of teaching. Multiple comparisons test in ANOVA revealed a statistically significant difference ($p = 0.004$) of the dependent variable *Positive Coping* between novice teachers and veteran teachers. However, the effect size was small, implying little practical difference. The trends shared similarities to Zhou et al.'s (2024) meta-analysis of teacher wellbeing factors, which did not yield evidence of effects on teaching experience.
2) The correlation results revealed that positive emotion management, positive social relationships, teacher autonomy and teaching capability were significant motivation factors. Positive emotion management and positive social relationships demonstrated a strong correlation (correlation = 0.788), according to Pearson's correlation coefficient (Schober et al., 2018). The qualitative results consolidated the finding that engaging interactions with students and supportive encounters from leadership and colleagues help teachers develop positive emotional experiences.
3) The correlation results demonstrated a moderate correlation between positive social relationships and teacher autonomy (correlation = 0.460). The qualitative results reinforce that teachers who work in a respectful school environment and whose leadership support their career progression develop a stronger sense of autonomy.
4) The CFA results confirmed adaptive behaviour was significant in relation to positive emotion management; that is, item "Adapt behaviour to suit the situation" has high loading (= 0.827). The qualitative results consolidate that teachers who apply natural concerns and express openness to change more effectively adapt school improvement

practices to achieve collective goals. Meanwhile, change-oriented behaviour was significant in relation to positive emotion management; that is, item “Cope with frequent change” has high loading (= 0.789). This finding is underpinned by the qualitative results that teachers who demonstrate a higher level of emotional competence tend to manage extra workloads and responsibilities from change introduced by school improvement initiatives.

5) The CFA results confirmed that a respectful school environment and supportive leadership were significant in relation to positive social relationships; that is, items “Treated with respect at this school” and “Leaders give praise” have high loadings (= >0.750). The qualitative results demonstrate respect at school; that is, teachers and leadership collectively agree to prioritise school improvement goals by providing observations and feedback. The qualitative results show respectful collegial interactions—that is, openness and transparency in representing, explaining and justifying professional needs—in their PLCs.
6) The CFA results confirmed leadership’s support for teachers in making changes in teaching practice was significant in relation to teacher autonomy (= 0.806). This is underpinned by the qualitative results that teachers who autonomously engage in professional development display a stronger willingness to make changes to their teaching practice. As agentic selves, these teachers autonomously seek professional development and take action to change teaching practices to improve a particular teaching skill.
7) The CFA results confirmed hard-working for career goals was significant in relation to teaching capability (= 0.887). The qualitative results suggest that administrative support, such as providing extra non-instructional time to learn about the new role,

helps teachers manage the challenges of career goals and gain a sense of empowerment for achieving those goals.

8) A relationship was established between seven latent variables using SEM. CFI of 0.952, RMSEA of 0.059 and TLI of 0.934 indicated a good fit of the model. The SEM Model Three highlighted latent variables, including autonomy, agency, distributed leadership, recognition, connectedness to teaching, managing change and positive coping. It validated direct and positive relationships with moderate coefficients. The findings supported teachers' need of autonomy directly and positively affected teachers' need of relatedness, teachers' need of competence directly and positively affected teachers' need of autonomy. Notably, it discovered a significant relationship between positive coping and managing change reflecting on the need of competence; that is, predicting variable *Positive Coping* affected the mediating variable *Manage Change* directly and positively with significant coefficients (= 0.976).
9) The qualitative results (Part One) developed a holistic view of understanding teacher motivation to address teachers' professional recognition. Teaching capability, positive social relationships, positive emotion management and teacher autonomy can holistically enhance teacher motivation. Teachers highlighted the positive impact of a positive relational culture for sustaining their motivation. The qualitative results show that embracing teacher expertise and enabling teachers' career growth can foster a positive relational culture, reflecting the concerns of poor professional recognition posed in the introductory chapter.
10) The qualitative results (Part Two) implied that novice teachers, mid-career teachers and veteran teachers demonstrate similar trends for occupational needs. The qualitative results (Part Two) established a holistic view for developing teachers' occupational capacity to manage workload. Enhancing teachers' occupational capacity can address

the issue of intense workload, as proposed in the introductory chapter. The qualitative results reinforce developing teachers' occupational capacity to manage change from educational demands and sustain professional enthusiasm. Notably, teachers across three professional life phases shared similar views for enhancing occupational capacity by adopting mindfulness practices and autonomy-supportive approaches.

11) By triangulating three datasets, this research confirms that satisfying the needs of autonomy, competence and relatedness of SDT can sustain teachers' motivation. In turn, sustained motivation can enhance teachers' occupational capacity to improve teacher efficacy, increase teacher resilience, foster quality student–teacher relationships and seek teacher empowerment. Ultimately, enhanced teacher capacity leads to the advancement of teacher wellbeing.

8.3 Significance and strength of the study

This section outlines the study's contribution to teacher wellbeing research and presents the methodological strengths of this research.

8.3.1 Contribution to teacher wellbeing research

The findings of this research study are significant because they provide a holistic understanding of teachers' motivation and wellbeing, which could sustain teachers' professional enthusiasm for developing teaching capacity. As previously argued, teachers' motivation and their occupational capacity are not understood in isolation; rather, they facilitate teachers' everyday work holistically and positively. This research study conceptualises a holistic understanding of motivation in enhancing teacher wellbeing, leading to increased occupational capacity. Teachers with enhanced occupational capacity can deliver high-quality learning experiences for students, making immeasurable differences in students' lives and wider communities.

This research study is significant because it further illuminates the importance of teacher motivation in sustaining teacher wellbeing. Previous studies have investigated motivation by specific measures, such as teachers' motivation for professional aspirations (Turner & Thielking, 2019), teachers' motivation profiles by person-centred approaches (Wang et al., 2024) and participating decision-making process for activating teacher motivation (Nwoko et al., 2023). This has made it difficult to understand how the functions of teachers' motivation affect wellbeing through the lens of occupational needs, such as teacher resilience (Mansfield et al., 2020; Huang et al., 2024; Park et al., 2020) and student–teacher relationships (Lavy & Bocker, 2018; Olivier et al., 2024; Vagos & Carvalhais, 2022).

Uniquely, the current study integrates examinations on how motivation may influence teacher wellbeing by comprehensively investigating occupational factors, including teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment. Considering the nature of teaching, daily teaching activities encompass interwoven interactions between teachers and students, colleagues and leadership, shaping teachers' professional values and the development of their own beliefs of this profession. Stemming from contemporary teacher wellbeing research, Viac and Fraser (2020) reflect upon eudemonic wellbeing and emphasise "teacher occupational wellbeing" by defining teacher wellbeing as "teachers' responses to the cognitive, emotional, health and social conditions pertaining to their work and their profession" (p. 18). The current study significantly contributes further knowledge by providing robust empirical evidence that highlights the role of teachers' motivation for advancing teacher wellbeing, leading to improved teacher occupational capacity.

This research study establishes and applies a holistic approach to investigating teachers' motivation by focusing on their occupational needs to achieve the eudemonic wellbeing. Specifically, teachers' motivation can sustain teacher wellbeing by enhancing teachers' occupational capacity. In this way, the research findings provide practical value to guide the

strategies to enhance teacher wellbeing through sustaining teaching motivation, contributing to improved professional practice. This research study can inform future wellbeing studies undertaken in motivation psychology, positive psychology and teacher education disciplines, and it would be helpful to promote teacher wellbeing from a cross-disciplinary perspective.

8.3.2 Contribution to self-determination theory research

Research studies have recommended different propositions of motivation associated with SDT (Collie, 2023a; Deci & Ryan, 2017; Howard et al., 2020; Ryan et al., 2022). Collie (2023a) posited SDT by describing qualitatively different types of motivation that fall along a continuum of self-determination. In earlier research, Collie et al. (2015) adopted separate variables from different types of motivation for modelling SDT motivation, while Howard et al. (2020) specified higher-order factors of autonomous and controlled motivation in examining the nature of self-determined motivation. Deci and Ryan (2020) called for further investigations of SDT and teacher wellbeing by considering professional practice and social relationships.

As discussed in Chapter 2, a growing number of studies have focused on the three basic psychological needs and teacher wellbeing (Collie et al., 2015; Holzer et al., 2021; Lee & Nie; 2020; Vedder-Weiss et al., 2024). These studies examine motivation functions, such as agency and self-efficacy, pertaining to three basic psychological needs for advancing teacher wellbeing. Howard et al. (2020) suggests a global factor for capturing the continuum of SDT motivation and allowing the specific types of motivation associated with SDT. As argued in Chapter 2, to date, no research has holistically examined how the motivation functions of self-efficacy, emotion, social relationships and agency, underpinned by SDT, affect the occupational factors of teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment for the advancement of teacher wellbeing. Hence, this research study contributes to SDT research and establishes an understanding of motivation functions in enhancing teachers' occupational needs to improve teacher wellbeing.

8.3.3 Methodological strengths

This research study demonstrates methodological strengths for researching teacher wellbeing. It adopted a mixed-methods approach and collected quantitative and qualitative data through a three-phase research design. Cohen et al. (2018) suggest that utilising mixed-methods to triangulate quantitative and qualitative data sources can develop cohesive and robust analysis. A convergent mixed-methods design—that is, concurrently collecting and analysing both quantitative and qualitative data—was employed in this research study. The concurrent quantitative and qualitative data warranted an equal weight of teaching motivation and occupational factors for investigating teacher wellbeing. Primarily, the online survey results (Phase One) quantitatively explored relationships of identified motivation factors by conducting inferential explorations via SEM (Dawadi et al., 2021). This approach found variations in teacher motivation by integrating participants' points of view rather than collecting predetermined constructs, and provided an in-depth understanding of interrelationships between major motivation factors underpinned by SDT.

The online open-ended questionnaire results (Phase Two) provided qualitative narratives to consolidate concepts of teachers' motivation. This study explored the key motivation factors by comprehending the narratives from teachers (Molina-Azorin & Fetters, 2019) in South Australian government schools. As a result, it identified positive and holistic relationships.

The semi-structured interview results (Phase Three) qualitatively specified the relationships between teachers' occupational needs. By engaging teachers' voices through interview conversations, this approach offered a conducive way to empower teachers by doing research with them, listening to them, and having meaningful dialogue with them (Cohen et al., 2018). This process offered positive and empowering discussions to participating teachers in South Australian government schools, fostering a sense of ownership and elevating a sense of professional recognition through their authentic voice.

8.4 Implications

This research study promotes a holistic understanding of motivation and teacher wellbeing to enhance teachers' occupational capacity. It argues that enhanced teaching motivation can sustain greater teacher wellbeing, contributing to elevating teachers' perceived professional recognition and improving teaching capacity to manage intense workloads more effectively. Such a view offers an avenue that sustained teacher wellbeing could fulfil teachers' psychological and occupational needs by promoting PLCs, providing contextualised professional development for in-service teachers, encouraging autonomy-supportive practice, and delivering positive psychology training in initial teacher education. Practical implications are highlighted as follows:

1) Professional learning communities

Vo and Allen (2022) address how community or group formats can promote positive professional recognition and develop supportive collegial relationships. This research study advocates continuously embedding PLCs to provide safe and respectful spaces for teachers to share positive emotions and professional challenges. PLCs play an important role in ongoing professional development by encouraging teaching expertise and sharing professional responsibilities. PLCs can foster authentic collaborations that celebrate individuals' strengths for uplifting professional recognition. This research study identifies teachers' voices for thriving in a professional environment. PLCs provide opportunities to encourage teachers' voices. In particular, teachers in PLCs can be allocated time and resources to voice their concerns and passions. Teachers' voices enable them to exercise teacher-centric characteristics strategies for growing teaching capacity and develop collective inquiries to achieve school-focus goals. Hence, it provides ongoing opportunities for engagement in PLCs, contributing to sustained teaching motivation, increased professional capabilities and positive connections with others.

2) Contextualised professional development

Contextualised professional development could be more effective in implementing practice and strategies that are initiated and facilitated by teachers who have experience teaching in schools, according to studies by Lemon and Turner (2024) and Vo and Allen (2022). Teachers are more likely to increase motivation to learn the skills and mindsets that are tailored to meet the contextualised needs and circumstances.

As indicated in the qualitative results (Part Two), novice teachers, mid-career teachers and veteran teachers demonstrated some levels of mindfulness practice. Positive psychology strategies would help teachers to manage educational change. For instance, studies by Vo and Allen (2022), Beames et al. (2024) and Kern et al. (2024) share the view that positive psychology programs help teachers to develop positive coping skills and mindfulness practices, including self-care. From a physiological perspective, positive psychology interventions can provide time and space for teachers to engage deeply in awareness of the breath, meditation and mindful yoga to release negative emotions. Notably, Carroll et al. (2022b) identify beneficial results for teachers who participated in an eight-week mindfulness practice program. By participating in the program, teachers gained social support from engaging in regular collaborative dialogues, such as learning new skills for work-life balance and reconciling challenges.

Further, Maricuțoiu et al. (2023) highlight interventions for enhancing teachers' job resources based on social-cognitive theories. Optimising job resources, including time management skills and effective interpersonal skills, should be provided to teachers. By obtaining these job resources, teachers could develop relevant skills to set boundaries and prioritise tasks to manage work-life balance, which is fundamental to teacher wellbeing (Vo et al., 2024).

There are existing wellbeing frameworks and positive education programs across Australian schools (Curren et al., 2024; Kern et al., 2024; White, 2021). For instance, Curren et al. (2024) argue there are important relationships between educational environments, learning and flourishing in positive education. Beames et al. (2024) suggest extending these frameworks to include teacher wellbeing, which could benefit student learning, achievement and emotional development. This research study supports the development of a contextualised teacher wellbeing framework. It could integrate the needs and preferences of teachers in the schools, enabling authentic teacher engagement. For instance, teachers can be guided by trusted colleagues to develop personal resources, such as building character strengths of resilience and practising adaptive practice to better fit their needs and capabilities.

3) Autonomy-supportive practice

As indicated in the qualitative results (Part Two), novice teachers, mid-career teachers and veteran teachers appreciated autonomy-support approaches from their leadership. School leadership plays a key role in providing teacher autonomy (Beames et al., 2024; Collie, 2023b; Collie & Carroll, 2023). For example, Collie (2023b) found autonomy-supportive leadership practice could foster teachers' self-determined motivation. The current study suggests that supporting teachers to have personal approaches within the curriculum could cultivate teacher autonomy. Within the collective school improvement goals, school leadership can invite teachers to actively engage in decision-making processes, attentively listen to teachers' voices and provide rationales when tasks are assigned to teachers. The overarching curriculum ensures content continuity, whereas personal approaches value teachers' individuality for a sense of autonomy.

4) Positive psychology in initial teacher education

As indicated, veteran teachers in this research study displayed some understanding of positive psychology, in particular, character strengths. It may indicate some absence of positive psychology in novice and mid-career teachers. Embedding positive psychology training in initial teacher education could be beneficial for pre-service teachers. This is aligned with a study by Dreer-Goethe (2024) on educating future teachers to engage in habits and behaviours that positively influence their wellbeing. Through university programs, pre-service teachers can develop emotion regulation strategies with positive psychology approaches, which could prepare them to manage challenging emotional encounters in the upcoming novice teaching phase. In particular, skills for retrieving and applying implicit positive attitudes should be integrated in initial teacher education.

Hepburn et al. (2021b) investigate mindfulness-based strategies in relation to pre-service teachers' subjective wellbeing. In their study, pre-service teachers (n = 257) reported that higher levels of mindful attention awareness may be associated with higher levels of subjective wellbeing (Hepburn et al., 2021b). The findings reinforce the necessity of embedding mindfulness-based interventions in initial teacher education. Similarly, Collie and Martin (2023) identified the important role of teachers' relatedness to students, particularly in supporting teachers' wellbeing over a long period. The authors suggest building emotional and social skills for positive student–teacher relationships as a key component of initial teacher education.

Raymond and Gabriel (2023) suggest that initial teacher education plays a key role in developing pre-service teachers' resilience in self-efficacy beliefs. Incorporating resilience-building training along with programs for developing specific pedagogical and content

knowledge may benefit pre-service teachers. They would carry it forward into their teaching career to continuously develop their teacher efficacy for upcoming demands.

8.5 Limitations

Despite its empirical contributions to the knowledge, this research study has limitations. The study was conducted in one state in Australia, in one schooling sector. Public sector teachers' motivation and wellbeing in South Australia may differ from teachers working in independent sectors or other states in Australia or other countries.

The educational policies and influence of governmental contexts situated in the public school sector should be taken into account (de Oliveira et al., 2019). As mentioned, South Australian public school teachers have career management based on South Australian government policies, so it would be difficult to generalise their career management in different governmental contexts. Moreover, the collected samples are from a decentralised education system situated in a Western cultural context. As McInerney et al. (2018) note, the educational system in Western and non-Western cultural contexts differ. Therefore, the findings may not necessarily apply to more centralised and non-Western cultural contexts.

Song et al. (2020) argue that self-reporting measures are subject to socially desirable responses and biases. This study employed self-reporting measures, as suggested, and common method biases may have influenced the outcomes of analyses. Also, considering the cross-sectional nature of the study, causal relationships between the constructs should not be generalised (Ke et al., 2019); instead, a future study with a longitudinal design may help clarify and validate the causality among the factors.

8.6 Future research recommendations

The study's major findings reflect on SDT and positive psychology perspectives; future research may consider the following directions:

1) Teachers' need of autonomy may predict teachers' need of competence in managing change. This research study calls for further investigation into teachers' need of autonomy in predicting teachers' need of competence to manage change that is contextualised in the school improvement process. Collie and Carroll (2023) share a similar direction; that is, a further investigation on competence-supportive leadership and the "low-pressure-satisfied" profile, in which teachers had a moderate probability of transitioning to a preferred state for above-average autonomy and below-average time pressure.
2) Teachers' needs of autonomy and relatedness may impact professional commitment. This research suggests further investigating teachers' need of autonomy in predicting teachers' need of relatedness that is situated in PLCs for sustained professional commitment.
3) This research study found a difference between the needs of competence and autonomy from individual and collective perspectives. It is noteworthy to investigate teachers' competence and autonomy at self and collective levels further. This recommendation aligns with Ryan and Hendry's (2023) investigations on self and collective teaching competence.
4) Motivation construct *Manage Change* directly and negatively affected *Connectedness to Teaching Profession*. This research study calls for further investigation into managing change and professional commitment, considering contextual factors.
5) Motivation construct *Positive Coping* directly and positively affected *Connectedness to Teaching Profession*. This research study recommends further investigation into positive coping and professional commitment, considering personal–social factors. Hascher et al.'s (2021) teacher wellbeing and resilience model can be employed to link constructs related to personal–social aspects for further investigation.

6) Positive coping was somewhat effective for managing change in the teaching profession. It is noteworthy to investigate a wider range of positive psychology approaches for predicting teachers' need of competence in managing change. Vella-Brodrick et al. (2022) share a similar view that positive psychology with interdisciplinary approaches may be innovated to expand and complement what already exists.
7) Providing emotional support and professional assistance to colleagues may enhance professional commitment. This research study suggests further investigation of positive psychology approaches in social relationships for predicting teachers' professional commitment. This recommendation aligns with future research directions from Dreer-Goethe's (2024) study.
8) This research study found that open and transparent communications between teachers and leadership were essential for teachers to manage change. It calls for further investigation into how leadership can adopt positive psychology-based approaches in assisting teachers to manage change and support their wellbeing. This recommendation reinforces Lemon and Turner's (2024) call for further research to examine the effectiveness of school leadership's application of positive psychology principles and strategies.

8.7 Concluding remarks

Teacher wellbeing not only significantly contributes to fulfilling positive educational outcomes for students and school communities (Brady & Wilson, 2021; Collie et al., 2020a; Mansfield & Beltman, 2019; McInerney et al., 2018) but also can effectively prevent teachers from burnout and attrition (Collie, 2023a; Dreer, 2023; White & McCallum, 2020; Song et al. 2020). This research study has explored literature from education and psychology disciplines to identify factors that sustain teaching motivation and improve teacher capacity for enhancing

teacher wellbeing. It addresses the challenges of excessive workload and poor professional recognition that hinder Australian teacher wellbeing, and advances the understanding of how motivation may enhance teacher wellbeing by fulfilling teachers' occupational needs.

This research study adopted SDT (Ryan & Deci, 2000) to navigate the theoretical framework. Three basic psychological needs of competence, autonomy, and relatedness were implemented to conceptualise the effects of motivation functions, considering self-efficacy, emotion, social relationships and agency. Further, these four motivation functions provided a pathway to explore occupational needs, including teacher efficacy, teacher resilience, student–teacher relationships and teacher empowerment for advancement in teacher wellbeing. This process scaffolded the formation of the study's theoretical framework—*The Motivation for Teacher Wellbeing Model*.

This research study provides discussions that address the overarching research question and the knowledge gap of the study. Employing mixed-methods with a convergent design, it concurrently analysed quantitative and qualitative data sources collected across three phases. At the time of writing, this thesis was the first study to integrate a holistic examination of teachers' motivation and their occupational needs for the advancement of teacher wellbeing. By sustaining teaching motivation, teachers can develop more effective teaching practices for better productivity, which may address workload-related challenges pertaining to Australian teacher wellbeing.

Fundamentally, teaching capability could cultivate a higher level of teacher efficacy to sustain daily operations in the classroom, whereas positive emotion management could improve teachers' resilience to manage excessive demands. By growing teacher efficacy and emotional capabilities, teachers may reduce burnout from intense administrative duties and emotional exhaustion to some extent, which may prevent them from leaving the teaching profession. By

cultivating a positive school culture, teachers could foster quality student–teacher relationships and establish supportive collegial relationships to elevate perceived professional recognition, which may sustain longstanding professional commitment. To some degree, nurtured professional recognition could sustain teachers' intrinsic motivation for providing more effective pedagogical practice and curriculum delivery, leading to positive and authentic professional recognition from colleagues and leadership.

In conclusion, this research study argues for a holistic approach to motivation for improving teacher wellbeing. Teachers' motivation underpinned by SDT, including teaching capability, positive social relationships, positive emotion management and teacher autonomy, can enhance occupational capacity, including teacher efficacy, student–teacher relationships, teacher resilience and teacher empowerment to advance teacher wellbeing.

Appendices

Appendix A Online Survey Questions

This appendix consists of Teacher Motivation and Wellbeing Scale Items.

Table 1

Teacher Motivation and Wellbeing Scale Items

Subscales	Items
Self-Efficacy	I am enjoying teaching because my teaching is effective. I am enjoying being a teacher because I am good at building positive relationships with students. I am satisfied because I have achieved a lot of professional accomplishment as a teacher. I am content because I have opportunities in my career development. I have a well-defined set of career goals. I work hard towards the set of career goals. I am satisfied because I keep achieving in my career goals. I am content because I keep working hard towards the career goals.
Emotion	I remain calm when emergencies occur. I stay calm under pressure. I control my emotions in all circumstances. I am firmly in control of my emotion. I cope with frequent changes to situations. I adapt my behaviour to suit the situation. I can change my approach to achieve a goal. I change my behaviour as circumstances demand. I readily adapt my personal approach to the situation.
Social Relationships	I support and encourage the contribution of others. I like to resolve issues by consensus. I seek consensus on group decisions. I consider different views in reaching consensus. I can keep a group working together as a team. I am seen as an effective leader. I am confident directing the activities of others. I like to have leadership responsibility. I confidently approach leadership tasks. I feel like I belong at this school. I can really be myself at this school. I feel like people at this school care about me. I am treated with respect at this school.
Agency	My leaders give me recognition for my work. My leaders give praise me for doing a good job. My leaders give me the authority to make changes necessary to improve things.

Subscales	Items
	My leaders give me the authority to make decisions that improve work processes and procedures. My leaders delegate the authority that is equal to the level of responsibility that I am assigned. I seek recognition from my leaders in works or actions. I seek praise from my leaders. I seek the authority to make changes necessary to improve things from my leaders. I seek the authority to make decisions that improve work processes and procedures from my leaders. I seek the authority that is equal to the level of responsibility that I am assigned from my leaders.

Appendix B Online Open-Ended Questionnaire

This appendix consists of online open-ended questionnaire questions.

Table 2

Online Open-Ended Questionnaire

The Anticipate Phase
Please provide an example that you have adapted and/or refined your teaching practice to extend and/or sustain your teacher capacity. Please provide an example that you have supported your students to establish and maintain positive student-teacher relationships in your classroom. Please provide an example that you and your colleagues have jointly participated in professional development as a part of your learning community. Please provide an example that your leaders have evaluated your professional practice?
The Act Phase
How have you been improving your professional practice to address challenges in your practice? How have you and your students been working collaboratively to improve challenges in your classroom? How have you and your colleagues been working collaboratively to improve challenging areas as a part of your learning community? How have you and your leader/s been working collaboratively to improve challenges in your practice?
The Reflect Phase
Please provide an example where you have established ownership of your teaching practice according to your professional goals. Please provide an example where you have supported your students to establish ownership in their learning by exercising student agency. Please provide an example where you have taken ownership in your learning community by exercising your teacher's voice. Please provide an example where your leadership have supported you to establish ownership of your practices by exercising your voice.

Appendix C Semi-Structured Interview Questions

This appendix consists of online semi-structured interview questions.

Table 3

Semi-Structured Interview Questions

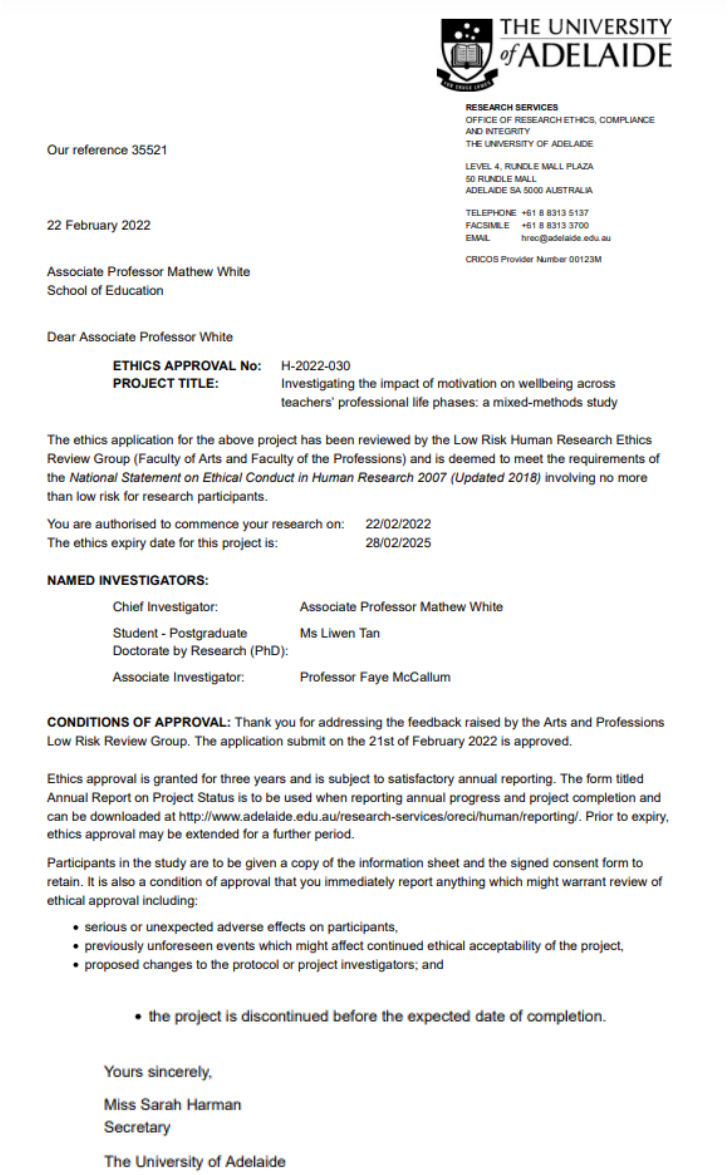
Teacher Efficacy and Autonomy
On a scale of 1-10, how effectively do you use evidence-based pedagogical practices to engage and challenge all learners in your classroom? Could you please think of an example to share?
On a scale of 1-10, how effectively are you and your colleagues involved in shared decision-making that builds a cohesive team in your learning community? Could you please think of an example to share?
Have you been involved in shared decision-making processes with your leader/s to build your teacher efficacy? Could you please think of an example to share?
Professional Demands and Personal Resources
Do the school's financial, human and physical resources support you with your work's professional demands and challenges? Could you please think of an example to share?
How do professional demands and challenges help you to develop your resources? Could you please think of an example to share?
How do your resources support your professional demands and challenges? Could you please think of an example to share?
Connectedness to the Profession
Can you provide an example of how your teaching practice assists you to connect with your students?
Does collaboration between you and your colleagues help to build your connectedness to your learning community? If so, how?
How do you work collaboratively with your leader/s to build connectedness to the school? If so, how?

Appendix D Ethics Approval from University of Adelaide

This appendix consists of the details of ethics approval from University of Adelaide for the current study.

Picture 1

Ethics Approval from University of Adelaide Screenshot



THE UNIVERSITY of ADELAIDE

RESEARCH SERVICES
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND INTEGRITY
THE UNIVERSITY OF ADELAIDE

LEVEL 4, RUNDLE MALL PLAZA
50 RUNDLE MALL
ADELAIDE SA 5000 AUSTRALIA

TELEPHONE +61 8 8313 5137
FACSIMILE +61 8 8313 3700
EMAIL hrec@adelaide.edu.au

CRICOS Provider Number 00123M

Our reference 35521

22 February 2022

Associate Professor Mathew White
School of Education

Dear Associate Professor White

ETHICS APPROVAL No: H-2022-030
PROJECT TITLE: Investigating the impact of motivation on wellbeing across teachers' professional life phases: a mixed-methods study

The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions) and is deemed to meet the requirements of the *National Statement on Ethical Conduct in Human Research 2007 (Updated 2018)* involving no more than low risk for research participants.

You are authorised to commence your research on: 22/02/2022
The ethics expiry date for this project is: 28/02/2025

NAMED INVESTIGATORS:

Chief Investigator:	Associate Professor Mathew White
Student - Postgraduate Doctorate by Research (PhD):	Ms Liwen Tan
Associate Investigator:	Professor Faye McCallum

CONDITIONS OF APPROVAL: Thank you for addressing the feedback raised by the Arts and Professions Low Risk Review Group. The application submit on the 21st of February 2022 is approved.

Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled Annual Report on Project Status is to be used when reporting annual progress and project completion and can be downloaded at http://www.adelaide.edu.au/research-services/oreci/human/reporting/. Prior to expiry, ethics approval may be extended for a further period.

Participants in the study are to be given a copy of the information sheet and the signed consent form to retain. It is also a condition of approval that you immediately report anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol or project investigators; and
- the project is discontinued before the expected date of completion.

Yours sincerely,

Miss Sarah Harman
Secretary

The University of Adelaide

Appendix E Ethics Approval from the Department for Education

This appendix consists of the details of ethics approval from Department for Education for the current study.

Picture 2

Ethics Approval from Department for Education Screenshot



Government of South Australia
Department for Education

System Performance
31 Flinders Street
Adelaide SA 5000
GPO Box 1152
Adelaide SA 5001
DX 541
Tel. +61 8 8226 1609
Education.ResearchUnit@sa.gov.au
www.education.sa.gov.au

Reference No: 2021-0077

Liwen Tan
University of Adelaide

Dear Liwen

Your research project "Investigating the impact of motivation on wellbeing across teachers' professional life phases: a mixed-methods study" has been reviewed by a senior officer within the Department.

I am pleased to advise you that your application has been approved, subject to the following conditions:

- That a copy of any final reports, presentations or manuscripts accepted for publication be submitted to the Education.ResearchUnit@sa.gov.au mailbox 30 days prior to their publication.
- That a copy of any reports, presentations or manuscripts provided to participants be submitted to the Education.ResearchUnit@sa.gov.au mailbox.

Please contact Tanya in the Data Reporting and Analytics directorate for any other matters you may wish to discuss regarding your application (Tel. (08) 8226 1609 or email: Education.ResearchUnit@sa.gov.au).

I wish you well with your research.

Yours sincerely

David Engelhardt
DIRECTOR, DATA REPORTING AND ANALYTICS

23 February 2022

Government of South Australia
Department for Education

System Performance
31 Flinders Street
Adelaide SA 5000
GPO Box 1152
Adelaide SA 5001
DX 541
Tel. +61 8 8226 1609
Education.ResearchUnit@sa.gov.au
www.education.sa.gov.au

REFERENCE NO: 2021-0077
RESEARCHER: Liwen Tan
RESEARCH BODY: University of Adelaide

Dear Principal/Director/Site Manager

The research project titled "Investigating the impact of motivation on wellbeing across teachers' professional life phases: a mixed-methods study" has been reviewed centrally and granted approval for access to Department for Education sites. However, the researcher will still need your agreement to proceed with this research at your site.

The researcher(s) whose names appear below are the only persons permitted to conduct research on your site:

Name	Clearance Type	Expiry Date
Liwen Tan	Working With Children Check	9/07/2025

Please contact Tanya in the Data Reporting and Analytics directorate for any other matters you may wish to discuss regarding your participation (Tel. (08) 8226 1609 or email: Education.ResearchUnit@sa.gov.au).

Yours sincerely

David Engelhardt
DIRECTOR, DATA REPORTING AND ANALYTICS

23 February 2022

Appendix F The Participant Information Sheet

(Online Survey)

This appendix consists of The Participant Information Sheet (Online Survey) as below:

PROJECT TITLE: Investigating the impact of motivation on wellbeing across teachers' professional lives: A mixed-method study

HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER: H-2022-030
PRINCIPAL INVESTIGATOR: Associate Professor Mathew White
STUDENT RESEARCHER: Liwen Tan
STUDENT'S DEGREE: PhD in Education

Dear Participant,

You are invited to participate in the research project described below.

What is the project about?
This research project is about teacher wellbeing. The research at investigating the influence from motivation on teacher wellbeing across teachers' professional lives. This research hopes to use the data collected to inform future support for teachers in Australia to maintain their teaching motivation and advance teacher wellbeing.

Who is undertaking the project?
This project is being conducted by Liwen Tan. This research will form the basis for the degree of PhD in Education at the University of Adelaide under the supervision of Associate Professor Mathew White and Professor Faye McCallum.

Why am I being invited to participate?
You are being invited as you are permanent contract/temporary contract teachers from Department for Education at South Australia.

What am I being invited to do?
You are being invited to participate in an online survey. It is an anonymous survey; you will not be identified. You are free withdraw your consent to participate at any time of the survey and can do so without providing an explanation. You are requested to answer 40 questions by rate from 1 (Strongly disagree) to 5 (Strongly agree). The 40 questions are reflecting upon your experiences and perceptions of teacher wellbeing and teaching motivation. You will access the survey online; therefore, there is no physical location. There are no follow-up activities.

How much time will my involvement in the project take?
It would take approximately 15 minutes to complete the survey.

Are there any risks associated with participating in this project?

There will be no health or safety risk to the researchers when undertaking this project as it will not involve physical exercise, body contact, travel, etc. The survey will be accessed online by the participants. However, potential burdens and inconvenience could occur, i.e., access a

device to complete the survey, and giving up time in filling the online survey, i.e., it would take approximately 15 minutes to complete the survey.

What are the potential benefits of the research project?
Participants have the opportunity to express their concerns and perceptions of maintaining teaching motivation and improving teacher wellbeing, with the aim of improving the current teacher motivation and wellbeing in the Australian public-school context.

The results of this study may help inform a variety of stakeholders within the research community, education government body and public schools on new opportunities and process for supporting maintaining teaching motivation and improving teacher wellbeing through this process.

Can I withdraw from the project?
Participation in this project is completely voluntary. If you agree to participate, you can withdraw from the study at any time.
If the participants express the intention of withdrawal during the participation in the survey; the participants can exit the online survey platform voluntarily; results in no survey submissions from the participants.

If the participants request to be released from the project participation after submitting the online survey, the participants have the freedom to withdraw from this research project at any time within 7 days. Their data will be automatically terminated, and data will not be included in the data set and will be destroyed upon request.

What will happen to my information?
Before submitting the online survey, participants have the right to refuse a request for the use of collected data for any future purposes and it would not proceed to submit, and their survey results would automatically be terminated.

Confidentiality and privacy: The identity of the participants will be treated in the strictest confidence during data collection through participant coding to preserve their anonymity. Participants' identity will not be revealed in discussion sessions with the supervisory panel. Participants will be invited to create a self-generated identification code if you wish to withdraw from the study, within seven days. Once participants have generated the code, they will be asked to write it down as you can't access it after you have exited the survey.

Example of self-generated code

Respond to the following four questions.

1. A parent's first initial

2. First letter of the make of your car

3. A parent's month of birth (as a 2-digit number e.g. 01)

4. Your post code

For example: LM065070

Storage: All recordings and details of participants will be stored on a password protected in the "Box" system, the University of Adelaide's online research storage system, accessible only to the researchers, and will be kept for 5 years.

Publishing: PhD dissertation, journal articles (e.g. Teaching and Teacher Education) and conference presentations.

Sharing: Findings may be made accessible to the public in the form of a journal article or PhD of Education dissertation, while retaining participant anonymity.

Who do I contact if I have questions about the project?
Should you have any inquiry regarding this project, the principal supervisor and the researcher are available to discuss these with you. Please feel free to contact them via the details below:

Name	Phone	Email
Dr. Mathew White	8313 5245	mathew.white@adelaide.edu.au
Liwen Tan	N/A	liwen.tan@adelaide.edu.au

What if I have a complaint or any concerns?
The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2022-030). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator: Dr. Mathew White. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:
Phone: +61 8 8313 6028
Email: hrec@adelaide.edu.au
Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000
Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

If you feel uncomfortable during the participation, you are advised to access the DfE's Employee Assistance Program (EAP) (https://humanpsychology.com.au/department-for-education-eap/) from Department for Education for further assistance.

Yours sincerely,

Ms Liwen Tan (PhD Candidate, The University of Adelaide)

Associate Professor Mathew White (School of Education, The University of Adelaide)

Professor Faye McCallum (School of Education, The University of Adelaide

Appendix G The Participant Information Sheet

(Open-ended Questionnaire)

This appendix consists of The Participant Information Sheet (Open-ended Questionnaire) as

below:

PROJECT TITLE: Investigating the impact of motivation on wellbeing across teachers' professional lives: A mixed-method study

HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER: H-2022-030
PRINCIPAL INVESTIGATOR: Associate Professor Mathew White
STUDENT RESEARCHER: Liwen Tan
STUDENT'S DEGREE: PhD in Education

Dear Participant,

You are invited to participate in the research project described below.

What is the project about?
This research project is about teacher wellbeing. The research at investigating the influence from motivation on teacher wellbeing across teachers' professional lives. This research hopes to use the data collected to inform future support for teachers in Australia to maintain their teaching motivation and advance teacher wellbeing.

Who is undertaking the project?
This project is being conducted by Liwen Tan. This research will form the basis for the degree of PhD in Education at the University of Adelaide under the supervision of Associate Professor Mathew White and Professor Faye McCallum.

Why am I being invited to participate?
You are being invited as you are permanent contract/temporary contract teachers from Department for Education at South Australia.

What am I being invited to do?
You are being invited to participate in online questionnaire. It is an anonymous questionnaire; you will not be identified. You are free withdraw your consent to participate at any time of the questionnaire and can do so without providing an explanation. You are requested to answer 12 questions by using phrases and sentences to express your opinions. The 12 questions are reflecting upon your experiences and perceptions of teacher wellbeing and teaching motivation. You will access the questionnaire online; therefore, there is no physical location. There are no follow-up activities.

How much time will my involvement in the project take?
It would take approximately 30 minutes to complete the questionnaire.

Are there any risks associated with participating in this project?

There will be no health or safety risk to the researchers when undertaking this project as it will not involve physical exercise, body contact, travel, etc. The questionnaire will be accessed online by the participants.
However, potential burdens and inconvenience could occur, i.e., access a device to complete the questionnaire and giving up time in filling the questionnaire, i.e., it would take approximately 30 minutes to complete the questionnaire.

What are the potential benefits of the research project?
Participants have the opportunity to express their concerns and perceptions of maintaining teaching motivation and improving teacher wellbeing, with the aim of improving the current teacher motivation and wellbeing in the Australian public-school context. The results of this study may help inform a variety of stakeholders within the research community, education government body and public schools on new opportunities and process for supporting maintaining teaching motivation and improving teacher wellbeing through this process.

Can I withdraw from the project?
Participation in this project is completely voluntary. If you agree to participate, you can withdraw from the study at any time.
If the participants express the intention of withdrawal during the participation in the questionnaire; the participants can exit the online survey platform voluntarily; results in no questionnaire submissions from the participants. If the participants request to be released from the project participation after submitting the online questionnaire, the participants have the freedom to withdraw from this research project within 7 days. Their data will be automatically terminated, and data will not be included in the data set and will be destroyed upon request.

What will happen to my information?

Before submitting the online questionnaire, participants have the right to refuse a request for the use of collected data for any future purposes and it would not proceed to submit, and their questionnaire results would automatically be terminated.

Confidentiality and privacy: The identity of the participants will be treated in the strictest confidence during data collection through participant coding to preserve their anonymity. Participants' identity will not be revealed in discussion sessions with the supervisory panel. Participants will be invited to create a self-generated identification code if you wish to withdraw from the study, within seven days. Once participants have generated the code, they will be asked to write it down as you can't access it after you have exited the questionnaire.

Example of self-generated code

Respond to the following four questions.

1. A parent's last initial

2. First letter of the make of your mobile phone

3. A parent's month of birth (as a 2-digit number e.g. 01)

4. Your post code

For example: TS035070

Storage: All recordings and details of participants will be stored on a password protected in the "Box" system, the University of Adelaide's online research storage system, accessible only to the researchers, and will be kept for 5 years.

Publishing: PhD dissertation, journal articles (e.g. Teaching and Teacher Education) and conference presentations.

Sharing: Findings may be made accessible to the public in the form of a journal article or PhD of Education dissertation, while retaining participant anonymity.

Who do I contact if I have questions about the project?
Should you have any inquiry regarding this project, the principal supervisor and the researcher are available to discuss these with you. Please feel free to contact them via the details below:

Name	Phone	Email
Dr. Mathew White	8313 5245	mathew.white@adelaide.edu.au
Liwen Tan	N/A	liwen.tan@adelaide.edu.au

What if I have a complaint or any concerns?

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2022-030). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator: Dr. Mathew White. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:
Phone: +61 8 8313 6028
Email: hrec@adelaide.edu.au
Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000
Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

If you feel uncomfortable during the participation, you are advised to access the DfE's Employee Assistance Program (EAP) (https://humanpsychology.com.au/department-for-education-eap/) from Department for Education for further assistance.

Yours sincerely,

Ms Liwen Tan (PhD Candidate, The University of Adelaide)

Associate Professor Mathew White (School of Education, The University of Adelaide)

Professor Faye McCallum (School of Education, The University of Adelaide)

Appendix H The Participant Information Sheet

(Semi-structured Interview)

This appendix consists of The Participant Information Sheet (Semi-structured Interview) as

below:

PROJECT TITLE: Investigating the impact of motivation on wellbeing across teachers' professional lives: A mixed-method study

HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER: H-2022-030
PRINCIPAL INVESTIGATOR: Associate Professor Mathew White
STUDENT RESEARCHER: Liwen Tan
STUDENT'S DEGREE: PhD in Education

Dear Participant,

You are invited to participate in the research project described below.

What is the project about?
This research project is about teacher wellbeing. The research at investigating the influence from motivation on teacher wellbeing across teachers' professional lives. This research hopes to use the data collected to inform future support for teachers in Australia to maintain their teaching motivation and advance teacher wellbeing.

Who is undertaking the project?
This project is being conducted by Liwen Tan. This research will form the basis for the degree of PhD in Education at the University of Adelaide under the supervision of Associate Professor Mathew White and Professor Faye McCallum.

Why am I being invited to participate?
You are being invited as you are permanent contract/temporary contract teachers from Department for Education at South Australia.

What am I being invited to do?

You are being invited to participate in an interview (face-to-face or online), as your convenience. You will be de-identified in the transcribed process and your identity will be strictly protected. It is a semi-structured interview, and questions are about your experiences and perceptions of teacher wellbeing and teaching motivation.
You will conduct the interview session at you school site, i.e., school staff room or a meeting room. In the interview session, a digital voice recorder will be used. Only audio recordings will be taken by the researcher. The audio recordings will be transcribed immediately following interviews. There is no follow-up activities.

How much time will my involvement in the project take?
It would take approximately 45 minutes to complete the interview.

Are there any risks associated with participating in this project?

The interviews will take place in public area, such as participant's school staff room, or online via Zoom. However, potential burdens and inconvenience could occur:
Potential stress arising from miscommunication or misunderstanding by either the participant or the researcher. In this event, the interviewer will follow the previously established protocol and terminate the interview and ensure the participants have access to counselling service information and feedback or complaint processes. Potential inconvenience attending the interview regarding location and schedule. The researchers will accommodate the participants' preferred time to complete the interview.

What are the potential benefits of the research project?
Participants have the opportunity to express their concerns and perceptions of maintaining teaching motivation and improving teacher wellbeing, with the aim of improving the current teacher motivation and wellbeing in the Australian public-school context. The results of this study may help inform a variety of stakeholders within the research community, education government body and public schools on new opportunities and process for supporting maintaining teaching motivation and improving teacher wellbeing through this process.

Can I withdraw from the project?
Participation in this project is completely voluntary. If you agree to participate, you can withdraw from the study at any time.

If the participants express discomfort/stress/intention of withdrawal during the participation in the interview; it will be discontinued.

If the participant requests to be released from the project participation after completing the interview; they can withdraw from the study by Friday 29th of October 2022. Their data will be automatically terminated, and data will not be included in the data set and will be destroyed upon request.

What will happen to my information?
Before the participate in the interviews, participants have the right to refuse a request for the use of collected data for any future purposes. The researcher would not proceed to conducting the interview if receive the refusal.

Confidentiality and privacy: The identity of the participants will be treated in the strictest confidence during data collection through participant coding to preserve their anonymity. Participants' identity will not be revealed in discussion sessions with the supervisory panel. Pseudonyms will be generated by the researcher by using an online pseudonym generator (https://www.namegenerator.biz/pseudonym-generator.php#generator-bookmark) and allocated to participants for the interviews. Pseudonyms will be used in data analysis and discussion sessions with the supervisory panel.

Storage: All recordings and details of participants will be stored on a password protected in the "Box" system, the University of Adelaide's online research storage system, accessible only to the researchers, and will be kept for 5 years.

Publishing: PhD dissertation, journal articles (e.g. Teaching and Teacher Education) and conference presentations.

Sharing: Findings may be made accessible to the public in the form of a journal article or PhD of Education dissertation, while retaining participant anonymity.

Who do I contact if I have questions about the project?
Should you have any inquiry regarding this project, the principal supervisor and the researcher are available to discuss these with you. Please feel free to contact them via the details below:

Name	Phone	Email
Dr. Mathew White	8313 5245	mathew.white@adelaide.edu.au
Liwen Tan	N/A	liwen.tan@adelaide.edu.au

What if I have a complaint or any concerns?
The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2022-030). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator: Dr. Mathew White. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:
Phone: +61 8 8313 6028
Email: hrec@adelaide.edu.au
Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000
Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

If you feel uncomfortable during the participation, you are advised to access the DfE's Employee Assistance Program (EAP) (https://humanpsychology.com.au/department-for-education-eap/) from Department for Education for further assistance.

Yours sincerely,

Ms Liwen Tan (PhD Candidate, The University of Adelaide)

Associate Professor Mathew White (School of Education, The University of Adelaide)

Professor Faye McCallum (School of Education, The University of Adelaide)

Appendix I Consent Form

(Semi-structured Interview)

This appendix consists of Consent Form (Interview) as below:

CONSENT FORM

I have read the attached Information Sheet and agree to take part in the following research project:

Title:	Investigating the impact of motivation on wellbeing across teachers' professional lives: a mixed-method study
Ethics Approval Number:	H-2022-030

I have had the project, so far as it affects me, and the potential risks and burdens fully explained to my satisfaction by the research worker. I have had the opportunity to ask any questions I may have about the project and my participation. My consent is given freely.

I have had the project, so far as it affects me, and the potential risks and burdens fully explained to my satisfaction by the research worker. I have had the opportunity to ask any questions I may have about the project and my participation. My consent is given freely.

Although I understand the purpose of the research project, it has also been explained that my involvement may not be of any benefit to me.

I agree to participate in the activities outlined in the participant information sheet, including either a face-to-face interview or an online interview session based on my convenience (45 minutes).

I understand that I am free to withdraw from the project at any time. If I express discomfort/stress/intention of withdrawal during the participation in the interview; it will be discontinued. If I request to be released from the project participation after completing the interview; I can withdraw from the study within 7 days. My data will be automatically terminated, and data will not be included in the data set and will be destroyed upon request.

I have been informed that the information gained in the project may be published in the publication of PhD Dissertation, journal articles (e.g. Teaching and Teacher Education) and conference presentations.

I have been informed that in the published materials I will not be identified, and my personal results will not be divulged.

I agree to my information being used for future research purposes as follows:

Research undertaken by these same researcher(s) Yes ☐ No ☐

Research undertaken by any researcher(s) Yes ☐ No ☐

I hereby provide 'unspecified' consent for the use of my data or tissue in any future research:

Yes ☐ No ☐

I understand my information will only be disclosed according to the consent provided, except where disclosure is required by law.

I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

I gave consent to this study.

Agree ☐ Disagree ☐

Appendix J Participants Details

(Open-ended Questionnaire)

This appendix consists of participants details (Open-ended Questionnaire) as below:

List of participants	Gender	Teaching Experiences	Level of school
Participant 1	Female	8 to 23 years	Preschool
Participant 2	Female	8 to 23 years	Other
Participant 3	Female	8 to 23 years	Year 7 to Year 12
Participant 4	Female	8 to 23 years	Foundation to Year 6
Participant 5	Female	24 and above	Foundation to Year 6
Participant 6	Male	0 to 7 years	Foundation to Year 6
Participant 7	Female	24 and above	Foundation to Year 6
Participant 8	Female	24 and above	Foundation to Year 6
Participant 11	Female	8 to 23 years	Foundation to Year 6
Participant 12	Female	8 to 23 years	Foundation to Year 6
Participant 13	Female	8 to 23 years	Foundation to Year 6
Participant 14	Female	8 to 23 years	Foundation to Year 6
Participant 15	Female	24 and above	Foundation to Year 6
Participant 16	Female	24 and above	Preschool
Participant 17	Female	8 to 23 years	Foundation to Year 6
Participant 18	Female	24 and above	Foundation to Year 6
Participant 19	Female	8 to 23 years	Year 7 to Year 12
Participant 20	Female	8 to 23 years	Foundation to Year 6
Participant 21	Male	8 to 23 years	Foundation to Year 6
Participant 22	Female	8 to 23 years	Foundation to Year 6
Participant 23	Female	0 to 7 years	Year 7 to Year 12
Participant 24	Female	8 to 23 years	Foundation to Year 6
Participant 25	Female	0 to 7 years	Year 7 to Year 12
Participant 26	Female	8 to 23 years	Foundation to Year 6
Participant 27	Female	0 to 7 years	Foundation to Year 6
Participant 28	Female	8 to 23 years	Foundation to Year 6
Participant 29	Female	8 to 23 years	Foundation to Year 6
Participant 30	Female	8 to 23 years	Foundation to Year 6
Participant 31	Male	8 to 23 years	Foundation to Year 6
Participant 32	Female	0 to 7 years	Foundation to Year 6
Participant 33	Female	8 to 23 years	Foundation to Year 6
Participant 34	Female	8 to 23 years	Foundation to Year 6
Participant 35	Female	0 to 7 years	Foundation to Year 6
Participant 36	Female	24 and above	Foundation to Year 6
Participant 37	Female	24 and above	Foundation to Year 6
Participant 38	Female	8 to 23 years	Foundation to Year 6
Participant 39	Male	0 to 7 years	Foundation to Year 6
Participant 40	Female	8 to 23 years	Foundation to Year 6
Participant 41	Female	0 to 7 years	Foundation to Year 6

Appendix K Interviewees Details

(Semi-structured Interview)

This appendix consists of interviewees details (Semi-structured Interview) as below:

List of interviewees	Gender	Teaching experiences	Level of school
Interviewee 1	Male	8 to 23 years	Foundation to Year 6
Interviewee 2	Male	8 to 23 years	Foundation to Year 6
Interviewee 3	Male	8 to 23 years	Foundation to Year 6
Interviewee 4	Female	8 to 23 years	Foundation to Year 6
Interviewee 5	Female	8 to 23 years	Year 7 to Year 12
Interviewee 6	Female	24+ years	Year 7 to Year 12
Interviewee 7	Female	0 to 7 years	Foundation to Year 6
Interviewee 8	Female	24+ years	Foundation to Year 6
Interviewee 9	Female	0 to 7 years	Other
Interviewee 10	Female	8 to 23 years	Foundation to Year 6
Interviewee 11	Female	24+ years	Foundation to Year 6
Interviewee 12	Female	0 to 7 years	Year 7 to Year 12
Interviewee 13	Female	8 to 23 years	Foundation to Year 6
Interviewee 14	Female	24+ years	Foundation to Year 6
Interviewee 15	Female	0 to 7 years	Year 7 to Year 12
Interviewee 16	Female	0 to 7 years	Preschool
Interviewee 17	Female	0 to 7 years	Year 7 to Year 12
Interviewee 18	Female	8 to 23 years	Year 7 to Year 12
Interviewee 19	Female	0 to 7 years	Year 7 to Year 12

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