# WORKLOAD, SELF-EFFICACY AND TEACHER EFFECTIVENESS AMONG SECONDARY LEVEL SCHOOL TEACHERS

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# Contents

# Preface

This study aims to measure the levels of workload, self-efficacy (SE) and teacher effectiveness (TE) among secondary-level school teachers in West Bengal, and the effects of various demographic and professional factors on these variables. It also explored the association of workload, SE and TE among secondary-level school teachers. The entire thesis has six chapters (Chapters I to VI). Chapter I, entitled 'Introduction', I have discussed the concepts and theoretical perspectives of the study. I summarised the previous research in Chapter II, entitled 'Review of Related Literature'. Chapter III, entitled 'Problem Statement', presented the rationale for conducting this study, introduced the research problem, specifically mentioned the research objectives and hypotheses, and mentioned the area where this study was delimited. Chapter IV, entitled 'Methodology of the Study', presents the research design, the study's locale, participants, variables under consideration, data collection and analysis methods, and ethical considerations. Chapter V, entitled 'Analysis and Interpretation of Data', presents the results and their interpretations. Finally, Chapter VI, entitled 'Major Findings and Conclusion', presents the major findings and their discussions, educational implications, limitations, and suggestions for further studies. I have tried to explain each topic in detail and included the figures and diagrams for proper data visualisation and illustration of theories and concepts. In this present synopsis, the key points of the entire thesis are mentioned.

# 1.0. Chapter-I: Introduction

Secondary education is vital in shaping students' academic, personal, and professional development at the school level. It connects primary and higher education, equipping learners with essential knowledge and skills. It lays the foundation for career goals, guiding students in exploring various fields and making knowledgeable selections for their future (Jain & Prasad, 2018). Teachers are significant in addressing learners' various needs at this stage. They are crucial in influencing students' intellectual and psychological growth where learners change from foundational education to specialised subjects and career-oriented pathways. In this stage, teachers' roles have become more complex and demanding, especially at this level, as they juggle instructional duties, administrative responsibilities, and the varied needs of adolescent students. However, several psychological and professional factors significantly affect the effectiveness of teachers (Bardach et al., 2022). For instance, a heavy workload, often characterised by extensive teaching hours, administrative responsibilities, and extracurricular duties, can lead to stress and burnout, ultimately affecting teacher performance and student outcomes (Magtalas & Eduvala, 2024). Conversely, the belief in one's ability to teach well and handle classroom difficulties, known as self-efficacy, is recognised as a crucial factor prompting teacher motivation, resilience, and the quality of instruction. In this context, teacher effectiveness is shaped by teachers' personal and professional factors, evaluated through student outcomes and classroom management, which are crucial for enhancing teacher well-being and educational outcomes (Bardach et al., 2022).

Teachers' workload and self-efficacy are critical factors affecting teacher effectiveness and performance and enhancing learning outcomes. They often balance various responsibilities through self-efficacy, as reducing excessive workload can lead to stress, burnout, and diminished productivity, negatively affecting teaching and learning quality. Research indicates that maintaining a balanced workload is essential for sustaining teacher motivation and engagement in their roles (Magtalas & Eduvala, 2024). Simultaneously, teachers can improve their effectiveness in the classroom when they have manageable workloads that foster focus, creativity, and participation. In this context, self-efficacy plays a significant role in managing workloads, essential for teacher effectiveness at the secondary school level. Teachers with high self-efficacy are more likely to utilise creative teaching and learning strategies, remain resilient when faced with challenges, and foster strong connections with their students. Moreover, research has consistently demonstrated that self-efficacy enhances job performance and improves teachers' effectiveness and emotional well-being, creating a positive classroom environment.

The interplay between workload, self-efficacy, and teacher effectiveness is critical in determining the quality of education at the secondary level. A high workload with lesson

planning, grading, admin tasks, and extracurriculars can cause stress, fatigue, and burnout, reducing teacher effectiveness (Bardach et al., 2022). However, teachers with strong self-efficacy and confidence in managing classroom challenges can better handle heavy workloads and maintain teaching standards. When teachers possess high self-efficacy, they demonstrate greater resilience, implement innovative teaching methods, and cultivate a positive learning environment, which boosts their effectiveness. In contrast, an overwhelming workload without sufficient support can undermine self-efficacy, resulting in decreased motivation, inferior instructional quality, and poorer student outcomes. Thus, maintaining a balanced workload and employing strategies to boost teachers' self-efficacy is crucial for achieving optimal performance and ensuring student success in secondary schools.

This chapter aims to discuss the concept, significance, and theoretical perspective of workload, self-efficacy, and teacher effectiveness among secondary-level school teachers. By identifying the factors that influence teachers' ability to perform effectively, this research seeks to contribute to developing strategies that promote a sustainable and empowering teaching environment.

## 2.0. Chapter-II: Review of Related Literature

This chapter offers the theoretical foundation and new visions, requiring the researcher to assess what previous studies have established and the methodologies they employed. It involves understanding the current study's theoretical orientation, methodologies, and significance to develop reliable and dependable research findings (Fannon, 2021). A systematic literature review covers hypothetical and theoretical knowledge on topics such as workload, self-efficacy, teacher effectiveness, and their interrelations. This study enhances the workload, self-efficacy, and teacher effectiveness among secondary-level school teachers. It employs an extensive literature search to build a critical and inclusive understanding, which aids in formulating the research problems and systematically progressing knowledge in the field.

### 2.1. Methodology of the Present Literature Review

The researcher used the semi-systematic and integrated literature review strategy to plan this investigation. Although semi-systematic literature reviews are less rigorous than systematic literature reviews, he follows systematic procedures such as formulating inclusion and exclusion criteria and choosing search terms (Wong et al., 2013). According to Wong et al. (2013), the semi-systematic review aids in conceptualising research topics throughout various disciplines that obstruct a comprehensive systematic review procedure. Finding gaps in the research is also beneficial. Like semi-systematic reviews, integrative literature reviews combine related literature from various disciplines and methods to

review, critique, and synthesise it cohesively, resulting in new frameworks and perspectives (Cronin et al., 2008; Torraco, 2005). In this review of the literature, the researcher first determined a few search terms, keywords, and phrases associated with the chosen field of study and listed a few online research databases to determine the research literature that is currently available (Wong et al., 2013). The researcher then used the determined search phrases to compile literature from those databases. The researcher also collected research literature from books and printed journals simultaneously.

### 2.2. Inclusion and Exclusion Criteria

The following inclusion and exclusion criteria were used in the study:

| **Inclusion Criteria** | **Exclusion Criteria** |
|---|---|
| I. Studies were conducted on school teachers.<br><br>II. Studies Publish between 2000 to 2024.<br><br>III. Research should provide essential details regarding the study's location, participants, objectives, methodology, data collection instruments, and results. | I. Studies that were not published in English.<br><br>II. Studies for which the full text was unavailable.<br><br>III. Studies that had insufficient data. |

### 2.3. Literature Selection Process

The above-mentioned databases were searched using all notorious search terms, keywords, and phrases, and several studies (theses and articles) were revealed. Meanwhile, only a small number of the research was relevant to the current topic. After reading the study titles, the researcher downloaded just the studies that were appropriate to their area of proficiency. In the second stage, the researcher went over the study abstracts and removed a few more studies that were not related. Lastly, for the full-paper review, the researcher included the most relevant studies (Total- 128).

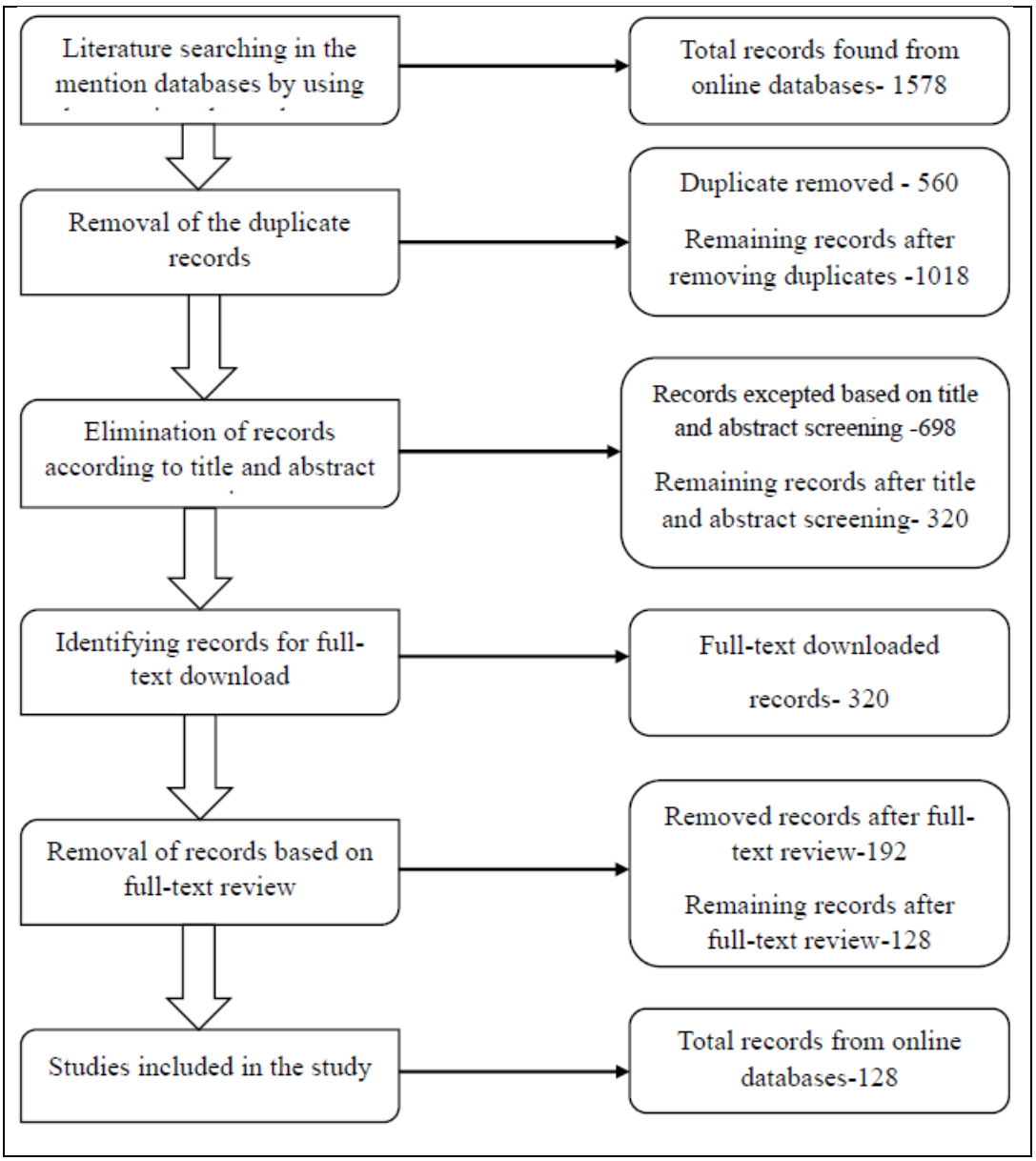



Figure 2.1. Literature Selection Process

## 3.0. Chapter-III: Problem Statement

This chapter provides the context for the present study. The primary purpose of this chapter is to define the research problem, justify the need for the study, and establish its direction. This chapter builds on the previous chapter. This chapter sets the stage for the following chapter, which details the specific methodology of the research. In particular, this chapter highlights the researcher's positionality, the rationale behind the study, the statement of the problem, the operational definition of key terms, research objectives, hypotheses, delimitations, and the conceptual framework guiding the study.

### 3.1. Rationale of the Study

Teachers are essential in forming society's moral and intellectual foundations, especially as they significantly impact the next generation of professionals and citizens through quality teaching (Darling-Hammond, 2000; Hargreaves, 2003). This quality teaching relates to teacher effectiveness. Teacher effectiveness refers to a teacher's ability to enhance student learning outcomes, encompassing academic achievement, critical thinking, and holistic development. It is essential for quality education and societal advancement (Day et al., 2007; Hattie, 2009). Effective teaching positively impacts students' academic performance, personal growth, and social development (Scheerens, 2010). However, various internal and external factors, such as workload and self-efficacy, directly or indirectly influence teacher effectiveness. Workload refers to teachers' tasks and responsibilities, including teaching, lesson planning, assessment, administrative duties, and extracurricular activities (Borg & Riding, 1991). Workload plays a crucial role in determining a teacher's effectiveness. Workload significantly influences teacher effectiveness. Balanced workloads support high-quality instruction, innovative practices, and meaningful student engagement. Conversely, excessive workloads lead to fatigue, reduced motivation, and diminished teaching quality, adversely affecting student outcomes (Hakanen et al., 2006). The other factor that influences TE is SE. Self-efficacy refers to an individual's self-confidence to perform tasks and achieve goals successfully. In the context of teaching, teacher self-efficacy is the belief teachers have in influencing student learning and overcoming challenges in the classroom (Bandura, 1997; Tschannen-Moran & Hoy, 2001). Self-efficacy is closely linked to teacher effectiveness. Teachers with strong self-efficacy are likelier to employ effective teaching strategies, remain engaged with students, and create a supportive learning environment. This confidence translates into improved student outcomes and higher teaching effectiveness. In contrast, low self-efficacy can lead to disengagement, poor classroom management, and lower overall effectiveness (Tschannen-Moran & Hoy, 2001; Hattie, 2009).

Teacher effectiveness is perilous to educational quality, influencing student outcomes and the overall learning environment. Teacher effectiveness is the combination of performance, competence, and the accomplishment of learning objectives. According to Lalchhandami and Lalnunfeli (2019), secondary school teachers have a high level of effectiveness. The results reported that most secondary school teachers exhibit moderate teacher effectiveness (Naik, 2024). Also, results revealed that emotional intelligence and personality traits significantly influence the teaching effectiveness of teachers (Anuodo, 2018), principals' leadership characteristics (Francis et al., 2020), teaching experience and teacher's

qualifications (Onyekuru & Ibegbunam, 2013). The results revealed that the appointment's nature did not influence the effectiveness of tertiary teachers (Dogra & Singh, 2015). The results of this study indicated that there is a positive relationship between teacher effectiveness with personality, among personality with emotional intelligence and teacher effectiveness and emotional intelligence among secondary school teachers (Agarwal et al., 2021), emotional intelligence (Jha & Singh, 2012), general intelligence (Habib, 2018), socio-economic status (Malik, 2017), job satisfaction (Pareek & Kulshrestha, 2021), hardiness (Vats, 2019). The finding of this study reveals that a negative significant relationship exists between the teaching effectiveness of secondary school teachers with work motivation (Bala & Bashir, 2016), teacher stress (Borkar, 2013), mental health problems (Dafare, 2021; Devi & Talukdar, 2018). The findings of this study show that there exists a significant relationship between teacher effectiveness and teaching aptitude of teachers (Mangalamma & Vardhini, 2017), mental health (Sethi, 2015), emotional intelligence (Singh, 2017; Yadav, 2016), quality of work life (Thakur & Garg, 2020). Further, findings showed no significant relationship between teacher effectiveness and organisational climate to their gender and type of school (Kaur, 2018). The findings showed low teaching effectiveness among prevocational subject teachers (Kiadese, 2011). According to Ahmad (2019), directly recruited teachers have better teacher effectiveness than promoted senior secondary school teachers. The results highlighted that teachers significant differences in teacher effectiveness in respect of gender, marital status, type of school, and teaching experience (Azad & Kuchy, 2021; Begum & Vaidharani, 2024; Bhat & Raju, 2019; Bhullar, 2019; Chauhan, 2016; Chauhan & Sharma, 2019; Nagaraju & Janakiramaiah, 2024; Raju & Vardhini, 2022; Sivasakthi & Muthumanickam, 2012; Venkatesh, 2015), trained and untrained secondary school teachers (Barkat, 2021), Govt.-aided and Self-Financed B.Ed college teacher educators (Barman et al., 2015), pre-service teacher education training and stream of education (Bhat, 2017), graduate and post-graduate secondary teachers (Bhat & Arumugam, 2020), locality, class handled and academic streams (Biswas, 2017; Dash & Barman, 2016; Pachaiyappan & Raj, 2014; Pathak & Saxena, 2020; Rani & Devi, 2015), upper primary level school teachers (Brintha & Kumar, 2019), type of school management (Mangalamma & Vardhini, 2017). The findings indicated that there was no significant difference in teacher effectiveness in respect of locality of school (Azad & Kuchy, 2021; Chauhan, 2016; Dash & Barman, 2016; Vats, 2019), gender (Bhat, 2017; Biswas, 2017; Chauhan, 2016; Chauhan & Sharma, 2019; Dogra & Singh, 2015; Geetah, 2010; Jha & Singh, 2012; Habib, 2018; Kalita & Saha, 2013; Kori, 2023; Naik, 2024; Pachaiyappan & Raj, 2014; Pareek & Kulshrestha, 2021;

Pathak & Saxena, 2020; Rani & Devi, 2015; Sehjal et al., 2021; Sen, 2017; Seth & Pandey, 2024; Singh & Attri, 2020; Toor, 2014), marital status, age and teaching experience (Bhat & Arumugam, 2020; Dutta, 2019; Kumar & Kumar, 2015; Sivasakthi & Muthumanickam, 2012; Tyagi, 2013; Uddin & Das, 2020), sex, type of school and teaching experience (Jain, 2017; Raju & Vardhini, 2022; Ritu & Singh, 2012; Sadhukhan, 2018; Sethi, 2015; Zaidi et al., 2022), sense of humour (Jitender & Sarkar, 2019), in-service and pre-service (Halder & Chal, 2020), gender and locality of school (Kumari & Chahal, 2017; Lalchhandami & Lalnunfeli, 2019; Rahaman & Rahaman, 2018), headmaster and teacher towards knowledge of the subject matter, etc. and teachers' characteristics (Lushai & Fanai, 2019), caste categories and service streams (Nigam, 2018; Patel, 2015; Sadhukhan, 2018).

They are essential to the educational process since their efficacy in the classroom directly impacts the standard of instruction. The teaching profession, recognised as one of the most impactful careers in shaping future generations, is also marked by significant challenges, including heavy workloads. Understanding how workload affects teacher's self-efficacy and classroom practices is crucial for improving educational outcomes. However, some studies were found in this area. Research evidence highlights the profound impact of workload on various aspects of teachers' professional and personal lives. Studies have shown that workload strongly correlates with job satisfaction (Gull & Akhtar, 2014; Njuguna et al., 2022), occupational stress (Waweru & Ndambuki, 2021), and teacher burnout (Raman & Othman, 2017; Shah et al., 2024). It also influences educators' well-being (Wahab et al., 2024), emotional exhaustion (Werang, 2018), and job satisfaction (Cayupe, 2023).

The idea of teacher self-efficacy, a belief in one's ability to carry out educational activities successfully, greatly influences teachers' behaviours and students' outcomes. Teacher self-efficacy has emerged as a critical determinant of teaching effectiveness, influencing various aspects of educational practice and outcomes. Teacher self-efficacy significantly influences teaching practices, student motivation, and achievement (Alibakhshi et al., 2020). Self-efficacy is linked to better instructional strategies, classroom management, and student engagement, with rural teachers often demonstrating higher efficacy than their urban counterparts (Boateng, 2024). Self-efficacy also plays a crucial role in inclusive and special education, where teachers are more competent in handling diverse learning needs and disruptive behaviours (Woodcock et al., 2022; Kazanopoulos et al., 2022). Self-efficacy correlates positively with job satisfaction, teaching strategies, and professional commitment (Karabiyik & Korumaz, 2013; Ramakrishnan & Salleh, 2018; Skaalvik & Skaalvik, 2009). However, demographic factors such as gender, teaching experience, and

school management type have been shown to influence self-efficacy levels, while qualifications and stream of education appear less significant (Chandrika, 2022; Sarkar & Roy, 2024).

Workload is a perilous factor influencing teacher effectiveness, as it directly impacts teachers' ability to manage their responsibilities and deliver quality education. The influence of workload on teacher effectiveness is also of considerable interest. Some researchers found that stress from too much work did not significantly affect seven aspects of how well teachers do their jobs. These included how they present lessons, run their classrooms, get student feedback (Amalu, 2013), and how efficiently they teach (Barrios et al., 2022). Also, results reported that teacher workload significantly influenced student academic achievement and teacher effectiveness (Kanwal et al., 2023; Nuwaha, 2023). Magalong and Torreon (2021) found no significant relationship between teachers' workload management, well-being, and teaching effectiveness.

Teachers' workload and self-efficacy are two important things that affect how well they do in the classroom. Teachers' workload includes planning lessons, marking, paperwork, and continuing their education. A teacher's motivation, teaching methods, and overall effectiveness significantly affect their self-efficacy or belief in their ability to do specific teaching tasks well. Belizario et al. (2024) found that teachers' professional self-efficacy is hurt by how much work they think they must do. This makes them less confident and less booming. According to Herrera et al. (2022), university teachers' professional self-efficacy was affected by their workload and how they handled lessons online. Self-efficacy did not modify the effect of stress on burnout, though (Dewi et al., 2024; Szabo et al., 2021). Additionally, noteworthy connections were found between self-efficacy, job happiness, burnout, and workload (Dewi et al., 2024; Szabo et al., 2021); according to Eee et al. (2022), teachers who had much work to do probably had high levels of self-efficacy and mental health problems.

Self-efficacy is a critical factor in the development of teacher effectiveness, as it affects their psychological well-being, overall job satisfaction, and teaching practices. Numerous investigations have examined the relationship between teacher effectiveness and self-efficacy. Research indicates that educators who experience greater job satisfaction, contribute to a positive classroom environment, and exhibit effective teaching practices are more likely to have higher levels of self-efficacy (Raju & Vardhini, 2020; Sehgal et al., 2016; Paschal & Srivastava, 2021; Thapliyal & Joshi, 2023). Additionally, emotional intelligence is positively correlated with self-efficacy, which helps instructors establish student relationships and manage classroom dynamics (Adeyemo & Chukwudi, 2014;

Klassen & Tze, 2014). Furthermore, research indicates that spiritual intelligence is essential for the improvement of self-efficacy and the effectiveness of teachers, particularly in the context of secondary school teachers (Singh, 2024). Haider and Mushtaq (2017) reported that teaching effectiveness is associated with servant leadership through the mediating effect of self-efficacy.

Based on the above discussion, along with an extensive integrative literature review of 128 studies (Chapter- II) and trend analysis, it is evident that there is an increasing interest in the areas of research on workload, self-efficacy (SE), and teacher effectiveness (TE), particularly from 2010 to 2024. It becomes apparent that these areas persist as productive grounds for more scholarly investigation despite many studies focusing on workload, SE, and TE. Studies that specifically concentrate on workload were found in diverse fields like work satisfaction, supervisors, teachers experience, stress, work-life balance, work environment, well-being, occupational stress, individual characteristics, school climate, self-efficacy, life satisfaction, mental health problems, lesson demonstration, use of instructional supports, assessment of students, learning motivation, classroom management, supervision of co-curricular activities, and personal/professional qualities, teaching efficiency, student academic achievement, etc. Concerning TE, the distribution of studies across domains showed a significant emphasis on the significance of TE. Diverse fields such as teaching efficacy, personality attributes, gender, lesson planning, and classroom management contain studies explicitly focusing on TE. Studies on TE link variables such as leadership abilities, emotional intelligence, and personality traits like extroversion to enhance teaching performance. However, other factors, including gender, marital status, school type, and teaching experience, considerably affect teacher effectiveness. However, only a few studies have examined the individual impacts and influences of demographic factors on teacher effectiveness. Various studies on SE relate to variables such as engaging students, managing classrooms, and employing various instructional tactics. Some studies have found that SE is related to variables like emotional health and job satisfaction, classroom management, teaching strategies, classroom instructions, burnout, professional commitment, etc. Some studies were found that explore the relationship between workload and self-efficacy. Few studies were found exploring the relationship between workload and teacher effectiveness. Numerous investigations have also examined the relationship between teacher effectiveness and self-efficacy. However, only a few studies have independently measured the impacts and influence of demographic factors on workload, SE, and TE among school teachers. Most studies were done abroad, some in India, but none in West Bengal.

It is also observed that though several studies were conducted on workload, SE, and TE among secondary-level school teachers separately or on the relationship between the two, rarely any comprehensive attempt had been taken to explore the relationship between workload, SE, and TE among secondary-level school teachers. No studies have examined the direct, indirect, and total effects of workload and SE on TE among secondary-level school teachers. Earlier studies have not explored the mediating effects of SE between workload and TE.

Based on the above discussion and the researcher's own experience, the following questions arose in the research mind:

1. What are the prevalence rates of workload, self-efficacy, and teacher effectiveness among secondary-level school teachers of West Bengal?
2. Are there any demographic and professional factors that can significantly influence workload, self-efficacy, and teacher effectiveness among school teachers?
3. Is there any relationship between workload, self-efficacy, and teacher effectiveness among school teachers?
4. How do workload and self-efficacy affect teacher effectiveness among school teachers?
5. Are there any effects of workload on self-efficacy and teacher effectiveness among school teachers in West Bengal?
6. Does self-efficacy mediate the effects of workload on the effectiveness of school teachers?

To answer the above question, a comprehensive investigation is necessary to explore the relationship between workload, self-efficacy and teacher effectiveness among school teachers while considering various demographic and professional factors.

### 3.2. Statement of the Problem

Considering the comprehensive literature review, research trends, the rationale, the identified research gaps, and the above-raised questions, the problem for the present study can be stated as **"Workload, Self-Efficacy and Teacher Effectiveness among Secondary Level School Teachers".**

### 3.3. Operational Definition of the Major Terms Used

**Secondary-Level School Teachers:** In India, a secondary-level school refers to an educational institution that delivers education to students of classes VI-XII under different boards. The teachers who teach in these schools are considered secondary-level school teachers. They are permanent teachers as well as part-time teachers. In the present study,

secondary-level school teachers refer to the permanent teachers who teach in these schools affiliated with WBBSE/WBCHSE and CBSE.

**Workload:** Workload refers to the total time of work and responsibilities that a teacher is required to achieve within a specified period, including teaching hours, lesson planning, grading, administrative duties, extracurricular activities, and other professional responsibilities (Kyriacou, 2001). In the present study, workload refers to the combination of three measures: the number of classes needed to take per week, the additional responsibilities like head teacher, mid-day-meal, etc, teachers must manage and the number of subjects they need to teach.

**Self-Efficacy (SE):** Self-efficacy means an individual's confidence in their capacity to succeed, which helps create complete conclusions throughout inspiring conditions and can lower total stress levels. Generally, self-efficacy refers to a person's belief in their capability to execute tasks required to accomplish goals (Bandura, 1986). In the present study, self-efficacy is defined as self-confidence, efficacy expectation, positive attitude, and outcome expectation, as identified by Singh and Narain (2014) and Alam (2023).

***Self-Confidence:*** **Self-confidence** refers to an individual's belief in their abilities, judgement, and capacity to succeed in various tasks or situations.

***Efficacy Expectation:*** **Efficacy expectation** refers to an individual's confidence to perform a task or achieve a desired outcome based on their capabilities.

***Positive Attitude:*** A positive **attitude** refers to a positive outlook and a constructive way of responding to challenges, opportunities, and situations in life.

***Outcome Expectation:*** **Outcome expectation** refers to an individual's beliefs about the likelihood of specific consequences or outcomes resulting from performing particular actions or behaviours.

**Teacher Effectiveness (TE):** Teacher effectiveness refers to the behavioural outcomes of classroom performance, reflecting the knowledge, skills, and personal qualities essential for effective teaching. Its outcomes are from the interaction between the teacher, students, colleagues, parents, and other contextual factors (Gandhi, 2020). In the present study, Teacher effectiveness is considered in terms of personal qualities, classroom management skills, instructional planning and implementation, interpersonal relations (students, colleagues, and parents), professional skills, and digital skills.

***Personal Qualities:*** It refers to a teacher who is empathetic, creative, energetic, emotionally intelligent, and has healthy relationships with students (Gandhi, 2020).

***Instructional Planning and Implementation:*** Teachers' ability to plan instruction, stimulate students' higher teaching skills, and apply various assessment strategies to engage students in the classroom (Gandhi, 2020).

***Classroom Organisation and Management:*** the ability of a teacher to organise and manage classroom resources and interactions to evaluate students' actions and provide positive feedback to reinforce a positive environment in the classroom, which maximises opportunities and motivation to learn (Gandhi, 2020).

***Interpersonal Relations (Students, Colleagues, and Parents):*** The ability of a teacher to maintain cordial relationships with colleagues, students, and community members (Gandhi, 2020).

***Professional Skills****:* A teacher's Micro behaviours, which set clear expectations and parameters, provide the necessary support to students who exhibit behaviours in the classroom (Gandhi, 2020).

***Digital Skills****:* Teachers' knowledge of information communication technologies, techno-pedagogy, and the ability to use and handle various innovative digital tools within the teaching-learning process (Gandhi, 2020).

## 3.4. Objectives of the Study

The present research was undertaken to meet the following objectives:

1. To measure the prevalence rate of workload among secondary-level school teachers.
2. To investigate the influence of demographic factors (age, gender, present residence, marital status, locality of school, school board, school category, and medium of instruction) on workload among secondary-level school teachers.
3. To investigate the influence of professional factors (highest educational qualification, stream of education, teaching experience, ICT orientation, and any other professional course) on workload among secondary-level school teachers.
4. To assess the prevalence rate of self-efficacy among secondary-level school teachers.
5. To examine the influence of demographic factors on self-efficacy (overall and dimensions-wise) among secondary-level school teachers.
6. To examine the influence of professional factors on self-efficacy (overall and dimensions-wise) among secondary-level school teachers.
7. To measure the prevalence rate of teacher effectiveness among secondary-level school teachers.

8. To examine the influence of demographic factors on teacher effectiveness (overall and dimensions-wise) among secondary-level school teachers.
9. To examine the influence of professional factors on teacher effectiveness (overall and dimensions-wise) among secondary-level school teachers.
10. To assess the relationship between workload, self-efficacy, and teacher effectiveness among secondary-level school teachers.
11. To determine the mediating effects of self-efficacy in the relationship between workload and teacher effectiveness among secondary-level school teachers.

    11.1. To measure the direct effect of workload on self-efficacy among secondary-level school teachers.

    11.2. To measure the direct effect of self-efficacy on teacher effectiveness among secondary-level school teachers.

    11.3. To measure the direct effect of workload on teacher effectiveness among secondary-level school teachers.

    11.4. To measure the indirect effect of workload through self-efficacy on teacher effectiveness among secondary-level school teachers.

### 3.5. Hypotheses of the Study

In keeping with the problem formulated and objectives stated, the following hypotheses were proposed to be tested:

- $H_0$1: There is no significant variation in workload among secondary-level school teachers concerning their demographic factors (age, gender, present residence, marital status, locality of school, school board, school category, and medium of instruction).
- $H_0$2: There is no significant variation in workload among secondary-level school teachers concerning their professional factors (highest educational qualification, stream of education, teaching experience, ICT orientation, and any other professional course).
- $H_0$3: There is no significant variation in self-efficacy (overall and dimensions-wise) among secondary-level school teachers concerning their demographic factors.
- $H_0$4: There is no significant variation in self-efficacy (overall and dimensions-wise) among secondary-level school teachers concerning their professional factors.
- $H_0$5: There is no significant variation in teacher effectiveness (overall and dimensions-wise) among secondary-level school teachers concerning their demographic factors.

- $H_0$6: There is no significant variation in teacher effectiveness (overall and dimensions wise) among secondary-level school teachers concerning their professional factors.
- $H_0$7: There is no significant relationship between workload, self-efficacy, and teacher effectiveness among secondary-level school teachers.
- $H_0$8: Self-efficacy of secondary-level school teachers does not significantly mediate the relationship between their workload and teacher effectiveness.
- $H_0$9: There is no significant direct effect of workload on self-efficacy among secondary-level school teachers.
- $H_0$10: There is no significant direct effect of self-efficacy on teacher effectiveness among secondary-level school teachers.
- $H_0$11: There is no significant direct effect of workload on teacher effectiveness among secondary-level school teachers.
- $H_0$12: Workload among secondary-level school teachers does not indirectly affect their teacher effectiveness through self-efficacy.

### 3.6. Delimitations of the Study

Keeping in mind the specific study objectives, time and resource constraints, and various other factors, the present study was delimited to the following areas-

1. The study was delimited to five districts of West Bengal: Kolkata, Howrah, Hooghly, North 24 Parganas, and South 24 Parganas.
2. The study only includes full-time secondary-level school teachers.
3. A total of 644 secondary-level school teachers were included in the present study.
4. A total number of 25 schools were included, 15 schools from the West Bengal Board of Secondary Education (W.B.B.S.E.), the West Bengal Council of Higher Secondary Education (W.B.C.H.S.E.), and 10 schools from the Central Board of Secondary Education (CBSE).
5. The study was delimited to the following demographic variables, viz. age, gender, present residence, marital status, locality of the school, board of the school, category of the school, medium of instruction and professional variables, viz. highest educational qualification, stream of education, teaching experience, ICT orientation, and completion of any other professional course apart from D.El.Ed., B.Ed. or M.Ed.

6. In the present study, the workload was considered both a dependent and independent variable, and self-efficacy was considered a dependent, independent and mediating variable.
7. In the present study, teacher effectiveness was considered a dependent variable.
8. The self-efficacy scale of Singh and Narain (2014) was used to measure the self-efficacy of secondary-level school teachers.
9. The teacher effectiveness scale of Gandhi (2020) was used to measure the teacher effectiveness of secondary-level school teachers.
10. Only the English version of the questionnaires was administered to collect data from the representatives.

### 3.7. Significance of the Study

This study is crucial in education and related fields because it examines how workload, self-efficacy, and teacher effectiveness relate to secondary-level school teachers. The researcher fills in a significant research gap in the field. Focusing on a specific educational context seeks to understand teacher effectiveness influenced by workload and self-efficacy. The study's results can contribute to the field of education in many ways. The research provides perceptions of the workload, self-efficacy, and teacher effectiveness among secondary-level school teachers and investigates how various demographic and professional factors influence them. By investigating the factors contributing to teachers' workloads, this study can deliver evidence-based references for designing policies that decrease needless administrative loads and help teachers pay more attention to teaching and student engagement. The findings help understand how workload and self-efficacy influence teacher effectiveness and provide insights into improving teaching practices and developing a more creative learning environment. The study profoundly examines how demographic and professional factors like age, gender, experience, and educational background affect workload and self-efficacy. It does this by looking at these factors in different ways. The study's results on the relationship between workload, self-efficacy, and teacher effectiveness show ways to help secondary school teachers improve their self-efficacy and effectiveness as teachers. By analysing the mediation effects of self-efficacy, the study sheds light on how these variables can influence the relationship between workload and teacher effectiveness among secondary school teachers, providing a holistic view of the teaching process. The insights gained can inform educational policymakers about the importance of handling teacher workload in a way that promotes high self-

efficacy. Ultimately, this study seeks to create a deeper understanding of how workload and self-efficacy influence teacher effectiveness.

### 3.8. Conceptual Framework of the Study

Based on the theoretical and conceptual viewpoints previously mentioned in Chapter I, the researcher created a conceptual framework that graphically shows the interaction between workload, SE, TE, and demographic and professional characteristics among secondary-level school teachers. The conceptual framework for this research is as follows:

**A. Variables:**

1. **Independent Variables:** Demographic and Professional Factors.
2. **Both Independent and Dependent Variable:** Workload.
3. **Independent, Dependent and Mediating Variable:** Self-Efficacy.
4. **Dependent Variable:** Teacher Effectiveness.

**B. Theoretical Links:**

***HAY McBer Model of Teacher Effectiveness (2000)*:** Hay McBer's model offers a valuable perspective for understanding teacher effectiveness, emphasising that it arises from a combination of demographic and professional characteristics.

***Model of Teacher Effectiveness by Nitsaisook and Postleth (1986)*:** Examining teacher effectiveness through the PCP model deepens our understanding of how various factors relate to shaping teaching outcomes, providing valuable visions that can inform the development of professional training programs, guide educational policy decisions, and enhance classroom practices, all to improve teacher performance and promote student success.

***Differentiated Teacher Effectiveness Model by Campbell et al. (2004)*:** Considering the various contexts, student needs, achievement of learning goals, and the guiding principles of teaching provide a comprehensive lens for understanding the factors that influence teacher effectiveness across different educational settings.

***Medley's (1982)*** teacher effectiveness model explains how teacher characteristics, instructional methods, student outcomes, and external factors are interrelated.

***Cheng and Tsui's Model of Levels of Teacher Effectiveness (1996)*:** To understand the multifaceted nature of teacher effectiveness, as they connect teacher performance and growth to broader institutional goals and individual teacher improvement.

***Robert Marzano's model (2007)*:** Marzano's model provides a structured approach to enhancing teacher effectiveness by focusing on clear goals, student engagement, effective practice, and responsive assessments.

***The Self-Efficacy Theory (SET) by Bandura (1986)*:** Emphasizes the central role of self-efficacy in shaping human motivation and behaviour, mainly how individuals' perceptions of their capabilities influence their activities and results.

**C. Hypothesised Relationships:**

***Demographic and Professional Factors → Workload, SE and TE:*** Demographic and Professional factors may influence Workload, SE and TE.

***Workload ⟷ SE ⟷ TE***

***Workload → SE:*** Workload is hypothesised to influence SE.

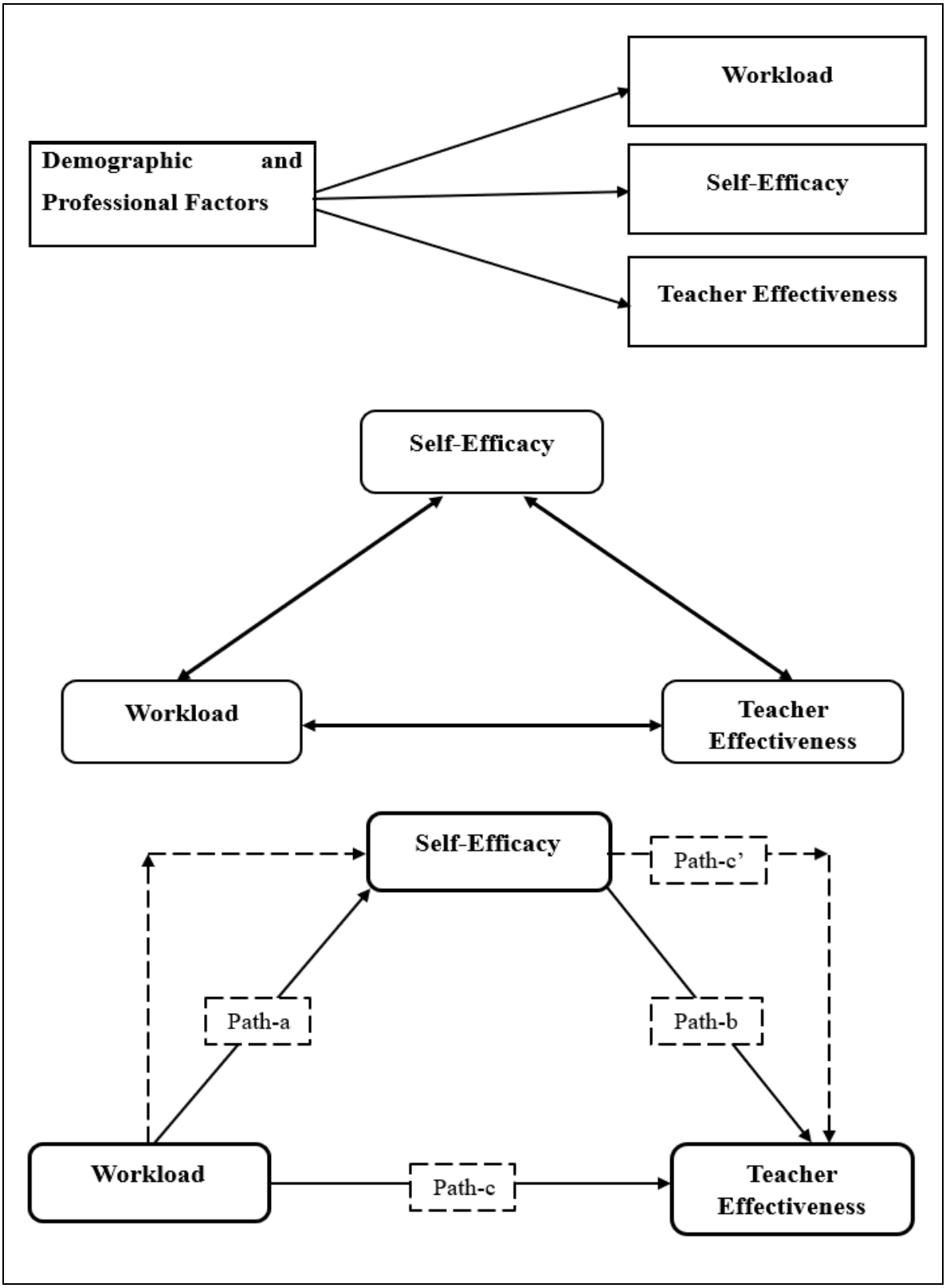
***SE → TE:*** SE is hypothesised to influence TE.

***Workload → TE:*** Workload is hypothesised to influence TE.

This conceptual framework provided a valuable understanding of the factors influencing workload, SE, and TE among secondary-level school teachers. Also, this conceptual framework carried an understanding of the correlation between workload, SE, and TE among secondary-level school teachers. The researcher aimed to thoroughly examine this study's complex interactions between significant variables and theoretical constructs. The framework directed the data collection, analysis, and interpretation processes, facilitating a comprehensive understanding of the phenomenon under study.

Based on the previous studies, it was conceptualised that workload directly and indirectly impacts teacher effectiveness. Therefore, it was hypothesised that workload directly impacts self-efficacy **[Path-a (model-1)]**. Self-efficacy directly impacts teacher effectiveness **[Path-b (model-2)]**. Workload directly impacts teacher effectiveness **[Path-c (model-3)]**, and finally, workload indirectly impacts teacher effectiveness through self-efficacy **[Path-c'(model-4)]**. The conceptual framework has been demonstrated below:

**D. Visual Representation:**

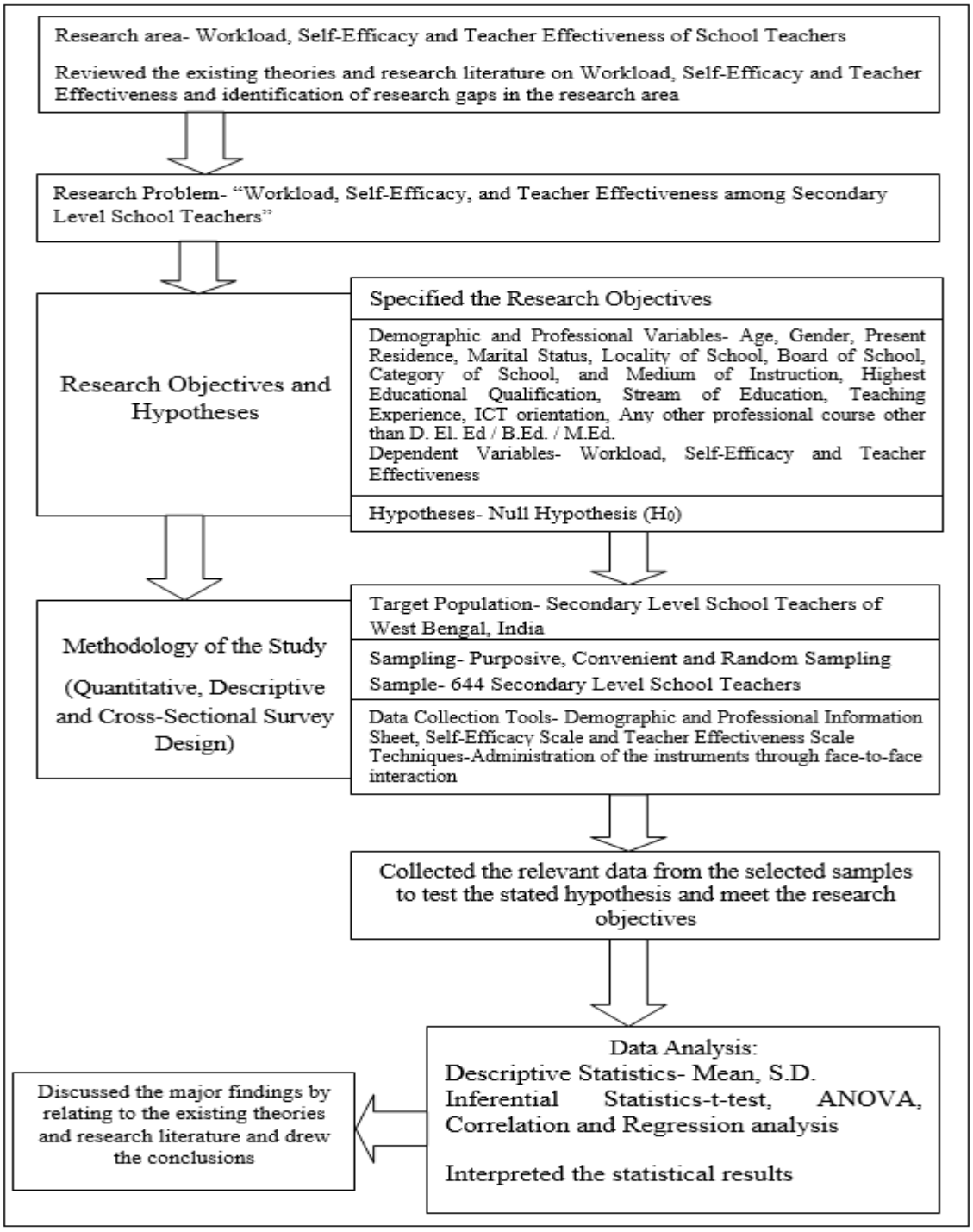


# 4.0. Chapter-IV: Methodology of The Study

The research progress and quality depend on the methods used to do it (Sahu, 2013). A correctly chosen and used method could make the study results more reliable and consistent (Blackford, 2017). The main aim of this chapter is to describe the research design, locale of the study, participants of the study, description of the variables, method and procedure, tools and techniques of data collection and analysis, ethical considerations and analysis designs.

## 4.1. Research Design

The researcher followed a quantitative, descriptive approach with a cross-sectional design in this study. For this study, the researcher collected numerical data regarding the participant's workload and measured its relationship with self-efficacy and teacher effectiveness using statistical techniques. Quantitative research gathers and analyses numerical data and tries to establish relationships between variables through statistical techniques (Gay et al., 2019; Creswell, 2012). This study also delivers a description of participants' performance with the support of descriptive and inferential statistics without manipulating any variable. Descriptive research methodically explains current occurrences without changing variables (Atmowardoyo, 2018). This study successfully covers current trends, attitudes, and research methods while offering an accurate and thorough overview of the subjects (Kumar, 2018). Additionally, the present study compared groups within a population or the same group across different demographics and professional variables of interest using a cross-sectional survey design to measure and analyse the correlations across variables (Eltorai et al., 2023). By gathering information from a wide range of participants, cross-sectional research enables researchers to understand the whole population rather than just a particular group (Zheng, 2015). Cross-sectional research is frequently rapid and inexpensive to do (Wang & Cheng, 2020). After accounting for all these pertinent factors, the researcher believes the above-mentioned designs would best suit the current study. The research design is given below.




### 4.2. Locale of the Study

The present study was conducted in five districts of West Bengal, India, namely: North 24 Parganas, South 24 Parganas, Kolkata, Howrah, and Hooghly. The researcher chose schools from Kolkata and the neighbourhoods districts (North 24 Parganas, South 24 Parganas, Howrah, and Hooghly) because these districts constitute rural as well as urban areas and are located near Kolkata metropolitan city. As per the census of 2011, the North

24 Parganas districts cover an area of 4,094 km². The district had a total population of 10,009,781. Most people work in information technology sectors, agriculture, fishing, different corporate offices, teaching, and other professions (Saradar & Hazra, 2015). As per the census of 2011, the South 24 Parganas districts covers an area of 9,960 km². The district had a total population of 81,61,961. It also has thriving industries, pisciculture, agriculture, teaching, and other professions (Bandyopadhyay & Basu, 2017). Similarly, as per the census of 2011, the Kolkata district covers an area of 185 km². The district had a total population of 4,486,679. Due to its historical significance and diverse population, it is a central financial, economic, and cultural hub in eastern India (Paul et al., 2014). The Howrah district covers an area of 1467 km². The district had a total population of 4,850,029 (Census of India, 2011). Most people work in information technology sectors, agriculture, as well as in different corporate offices, teaching and other professions (Maji & Halder, 2015). As per the census of 2011, the Howrah district covers an area of 3149 km². The district had a total population of 5.519,145. A district with a strong economy, Hooghly is known for its extensive agriculture, jute farming, manufacturing and teaching (Soumyabrata & Prasad, 2021). The researcher considered five schools from each district.

### 4.3. Participants of the Study

#### 4.3.1. Population

The present study focuses on secondary-level school teachers as the target population, encompassing five districts in West Bengal: North 24 Parganas, South 24 Parganas, Kolkata, Howrah, and Hooghly. The study includes data collected from government and private secondary school teachers. According to the Unified District Information System for Education (UDISE), there are approximately 420,000 teachers employed across government schools (WBBSE and WBCHSE), and private schools (CBSE and ICSE) in these districts. This total comprises an estimated 210,000 teachers in government schools, 80,000 in government-aided institutions, and 130,000 in private schools affiliated with CBSE and ICSE boards. For this research, 644 secondary-level school teachers were carefully selected to ensure a diverse cross-section of the population. The selection process was inclusive, with 164 teachers from North 24 Parganas, 140 from South 24 Parganas, 133 from Kolkata, 100 from Howrah, and 105 from Hooghly. This approach confirmed that the study's findings would be representative of the secondary-level school teacher population across the selected districts, enabling a comprehensive examination of the study's objectives.

### 4.3.2. Determination of Sample Size

In survey research, selecting an accurate sample representing the entire population is crucial for the study's success. Determining a proper sample size is a critical challenge for researchers to represent the population under investigation accurately. In this study, the researcher began by determining the required sample size and then selected individuals representative of the population. Calculating the sample size is essential for both known and unknown populations in survey research. The researcher initially applied Krejcie and Morgan's (1970) formula to determine the sample size, a widely recognised method. Based on established principles, this approach was adopted to ensure representativeness and minimise bias (Ezugu & Akimbo, 2014). For a finite population of 420,000, the formula indicated an approximate sample size of 384. Krejcie and Morgan's formula for determing sample size is given below. The researcher also employed the Raosoft sample size calculator to validate this calculation further. Using parameters such as a 5% margin of error, a 95% confidance interval, and a 50% assumed response rate (Aliyu et al., 2019; Ahmat et al., 2018), the calculator confirmed a sample size of 384 for the given population. The Raosoft tool was selected for its user-friendly interface and ability to provide reliable and accurate results, ensuring robust sample size determination for the study.

$$S = X^2 NP (1 - P) / d^2 (N - 1) + X^2 P (1-P)$$

Where: S = sample size required

X = confidence level value of 1.96

N = population size of 420000

P = proportion of population size (assumed to be 0.50)

d = the degree of accuracy stated as a proportion (0.05)

$$S = (1.96)^2\ 420000*0.50\ (1 - 0.50) / 0.05^2\ (420000 - 1) + (1.96)^2\ 0.50\ (1- 0.50)$$

$$S= 3.8416 * 210000 * 0.5 / 0.0025 *419999 + 3.8416 * 0.25$$

$$S= 403368 / 1049.9975 + 0.9604$$

$$S= 403368/ 1050.9579$$

$$S= 383.809856 \text{ or } 384 \text{ (Approximation)}$$

### 4.3.3. Sampling Procedure and Sample of the Study

The researcher used purposive, convenient and random sampling techniques to select a sample for the present study. A purposive sample is one in which the characteristics of the participants are specifically defined to serve the purpose of the study (Andrade, 2021). Convenient sampling, or convenience sampling, is a non-probability sampling method in which participants are nominated based on their availability, accessibility, and willingness to participate (Etikan et al., 2016). On the other hand, the random sampling method ensures that each population unit has an equal probability of being selected, making it more representative (Jawale, 2021). As the present study was delimited to secondary-level school teachers, the researcher purposively selected the districts near Kolkata metropolitan city. The researcher conveniently selected 25 secondary-level schools across five districts in West Bengal. Furthermore, the participants were selected randomly from secondary-level school teachers. The researcher visited each selected school to gather data from secondary-level school teachers. The final sample for this study comprises 644 secondary-level school teachers.

## 4.4. Description of the Variables Under Consideration

A variable is any characteristic or feature that can change in value. It refers to an observable attribute that can assume multiple values or be classified into distinct categories (Lewis-Beck et al., 2003). Variables can be independent, dependent, mediating, or moderating, depending on their role in a research study (Bhattacherjee, 2012). Based on the hypothesis, variables are considered as independent variables (age, gender, present residence, marital status, locality of school, board of school, category of school, medium of instruction, highest educational qualification, stream of education, teaching experience, ICT orientation, and any other professional course other than D.El.Ed / B.Ed. / M.Ed.), truly dependent variable (Teacher Effectiveness), both dependent and independent variable (Workload), and dependent, independent, and mediating variable (Self-Efficacy).

### 4.4.1. Demographic and Professional Factors (Independent Variables)

The current study acknowledges that the demographic and professional variables are independent, influential factors that can impact the dependent variables. The researcher manipulates, measures, or selects these variables to understand their effect on dependent variables (Subramanian, 2022). The study specifically focuses on the following independent (demographic and professional) variables:

***Demographics Variables:*** Age, Gender, Present Residence, Marital Status, Locality of School, Board of School, Category of School, and Medium of Instruction. These independent (Demographic) variables have been identified as part of the current study:

1. **Age:** This particular variable was continuous and measured in years.
2. **Gender:** This variable was characterised by categories and measured two labels: male and female.
3. **Present Residence:** This variable represents the participants' present place of residence, indicating where they live. The responses were classified into two categories: rural and urban areas.
4. **Marital Status:** This variable was categorical and had two labels: married and unmarried.
5. **Locality of Schools:** This variable provides information on whether the school is located in a rural or urban area.
6. **Board of Schools:** This variable identifies and provides details about the governing body or board responsible for the administration of the school's operations, namely W.B.B.S.E. or W.B.C.H.S.E. and CBSE.
7. **Category of Schools:** This variable represents the category of school; for example, the schools may be boys, girls, and co-ed schools.
8. **Medium of Instruction:** This variable specifies the language or medium of instruction delivered at the schools; three types of schools were included, viz. Bengali, English and Bengali or English.

***Professional Variables:*** The professional factors like- highest educational qualification, stream of education, teaching experience, ICT orientation, any other professional course other than D. El. Ed / B.Ed. / M.Ed. were considered as professional variables. These are also considered as independent (Professional) variables.

1. **Highest Educational Qualification:** It is a categorical variable which includes different levels of education, viz. undergraduate (B.A., B.Sc., or B.Com.), postgraduate (M.A., M.Sc., or M.Com.), and postmasters (M.Phil. or PhD).
2. **Stream of Education:** This variable is categorical in nature and measured up to three labels, viz. arts, science, and commerce.
3. **Teaching Experience:** This variable represents the participant's total year of service experience in the present job, which was continuous in nature.
4. **ICT orientation:** This variable represents whether teachers had to do training or orientation in information and communication technology (ICT), with responses

as Yes or No.

5. **Professional Courses:** These refer to any additional professional course's teachers pursue, for example, B.Ed. or B.P.Ed. and M.Ed. or M.P.Ed. in this study, those courses were categorised as bachelor's degree levels (Ed. or B.P.Ed.) and master's degree levels (M.Ed. and M.P.Ed.).

### 4.4.2. Dependent Variables

In the present study, the researcher considered workload, self-efficacy and teacher effectiveness including their respective dimensions as the primary variable. Further, based on the role in this study, these variables were considered as well as dependent variables, both dependent and independent variable, and mediating variable.

1. **Workload:** It is a continuous variable and in the present study, it is considered as both dependent and independent variable.
2. **Self-Efficacy:** It is also a continuous variable, which comprise four (4) dimensions or subscales: self-confidence, efficacy expectation, positive attitude, and outcome expectation. In the present study, self-efficacy is treated as a dependent, independent and mediating variable.
3. **Teacher Effectiveness:** This variable is a continuous variable comprising six (6) distinct dimensions: personal qualities, classroom management skills, instructional planning and implementation, interpersonal relations (with students, colleagues, and parents), professional skills, and digital skills. The present study treated teacher effectiveness as the main dependent variable.

## 4.5. Methods of Data Collection

### 4.5.1. Tools Used for Data Collection

Success in any study depends on the quality of the data collected, which is influenced by the choice of appropriate research tools, which are reliable, valid, and suitable for the study's objectives. Choosing appropriate research tools is a crucial part of educational research, which may involve developing new tools or using pre-existing ones (Subramanian, 2022). The researcher employed three instruments in this study: a demographic and professional profile sheet, a self-efficacy scale, and a teacher effectiveness scale.

#### 4.5.1.1. Demographic and Professional Profile Sheet of the Participants

A self-developed demographic and professional profile sheet was utilised to collect and document participants' demographic and professional information. This included details

such as age, gender, present residence, marital status, locality of schools, board of schools, category of schools, medium of instruction, highest educational qualification, stream of education, teaching experience, ICT orientation, completion of any professional courses other than D.El.Ed./B.Ed./M.Ed., the number of subjects taught, weekly teaching load, and additional responsibilities beyond regular school duties.

#### 4.5.1.2. The Measure of Workload

The variable 'workload' is the composition of three measures, viz. class load per week, additional responsibilities and number of subjects taught. This information was collected through the demographic and professional profile sheet. Class load per week refers to the number of classes a teacher takes in six working days (Monday to Saturday) in a week. This number varied from five to thirty-six classes per week. Additional responsibilities refer to the duties or responsibilities other than teaching a teacher has to take. For example, the head of the institution, supervisor of a mid-day meal scheme or other government schemes. It was measured as whether they have additional responsibilities or do not have. A score of one (1) was assigned to those with additional responsibilities, and a score of zero (0) was assigned to those who did not have additional responsibilities.

The number of subjects taught refers to how many subjects a teacher taught in the school. For example, a teacher may teach two social science subjects, history and geography. It was found that a secondary school teacher usually taught one to three or four subjects. As there was a massive variation in class-load measure, this measure was converted into a normalised measure using the formula= class-load minus maximum class-load divided by maximum class-load minus minimum class-load.

As the three measures have different importance, each measure was given weightage according to their importance. As the class load is the most important workload for school teachers, 60% weightage was given to this measure. Accordingly, 30% weightage was given to additional responsibilities, and 10% weightage was given to a number of the subjects taught. Finally, their weighted scores were summed up to get the workload score. There was no such possible score range. However, a higher score indicates a higher workload and vice versa.

**Table 4.1. Description of Norms for the Level of Workload**

| | **Range** | **Level of Workload** |
|---|---|---|
| Workload | Up to 41.45 | Low |
| | 41.46 to 81.82 | Average |
| | 81.83 and above | High |

#### 4.5.1.3. The Self-Efficacy Scale

The Self-Efficacy Scale was developed by Singh and Narain (2014). This scale had 20 items, organised into four dimensions: self-confidence, efficacy expectation, positive attitude, and outcome expectation. The scale consists mainly of positive items but four negative items. This scale follows a five-point Likert-type format, and the response options are strongly disagree, disagree, undecide, agree, and strongly agree. Naturally, completing the entire scale takes approximately 10 to 15 minutes. The scoring process of the tool was straightforward. A response of strongly agree is given a score of 5, agree is given a 4 score, undecide is given a 3 score, disagree is given a 2 score, and strongly disagree is given a 1 score. For the four negative items, the scoring procedure is reversed. The possible score may range from 20 to 100, where higher scores on the scale indicate higher self-efficacy, while lower scores indicate lower self-efficacy levels. The dimensions, their respective items, and the scoring procedure are below.

**Table 4.2. The Dimensions and their Respective Items and the Scoring Procedure for the Self-Efficacy Scale**

| SL.No. | Dimension of the Scale | Item No. | No. of Items |
|---|---|---|---|
| I | Self-Confidence | 1, 2, 3, 4, 5 | 5 |
| II | Efficacy Expectation | 6, 7, 8, 9, 10 | 5 |
| III | Positive Attitude | 11, 12, 13, 14, 15 | 5 |
| IV | Outcome Expectation | 16, 17, 18, 19, 20 | 5 |
| Self-Efficacy | | Total | 20 |

| **Scoring procedure for five responses** | | | | | |
|---|---|---|---|---|---|
| | Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |
| Positive items | 5 | 4 | 3 | 2 | 1 |
| Negative items (4,10,12 and 18) | 1 | 2 | 3 | 4 | 5 |

**Table 4.3. Description of Norms for the Level of Self-Efficacy**

| Scale | Range | Level of Self-Efficacy |
|---|---|---|
| Self-Efficacy | Up to 84 | Low |
| | 85 to 95 | Average |
| | 96 and above | High |

#### 4.5.1.4. Technical Information about the Self-Efficacy Scale

***Reliability:*** The original scale's reliability coefficient was 0.92. Previous researchers also applied this Self-Efficacy Scale and reported similar or higher reliability coefficients than the original study. In the present study researcher also conducted a pilot study on 552 representatives to ensure its reliability and usability. The researcher found the tool's split-half reliability of.549) and Chronbach's Alpha reliability of .748.

***Validity:*** A test's validity is determined by how well it measures the characteristics for which it is designed. The concurrent validity of the original scale was 0.74. The researcher considers the same. The details are given in Table 4.4.

**Table 4.4. Reliability and Validity Coefficients for the Self-Efficacy Scale**

| Scale Version | Reliability | Concurrent Validity |
|---|---|---|
| Singh and Narain (2014) | 0.92 | 0.74 |
| Falki (2019) and Ahuja (2016) | 0.82 (Test-retest),<br>0.74 (split-half) | 0.92 |
| Talluri (2019) | 0.82 (Test-retest) | X |
| Alam (2023) | 0.768 (Test-retest),<br>0.672 (split-half) | X |
| Pilot Study by the Researcher (N=552) | 0.748 (Cronbach's α)<br>0.549 (split-half) | X |

#### 4.5.1.5. The Teacher Effectiveness Scale

The Teacher Effectiveness scale was developed by Gandhi (2020). The tool comprises 48 items, organized into six dimensions: personal qualities, classroom management skills, instructional planning and implementation, interpersonal relations (students, colleagues, and parents), professional skills, and digital skills. the scale consists of positive statements. this scale follows a five-point likert-type format and the response options are strongly disagree, disagree, undecided, agree, and strongly agree. Completing the entire scale takes approximately 15 to 20 minutes. The scoring procedure of the tool was very easy. A response of strongly agree is given a score of 5, agree is given a 4 score, undecided is given a 3 score, disagree is given a 2 score, and strongly disagree is given a 1 score. The possible score may range from 48 to 240. A higher score indicates a higher level of teacher effectiveness, while lower scores show a lower level of teacher effectiveness. The dimensions, their respective items, and the scoring procedure are given below.

**Table 4.5. The Dimensions and their Respective Items and the Scoring Procedure for the Teacher Effectiveness Scale**

| Sl. No. | Dimension of the Scale | Serial-wise item No. | No. of Items |
|---|---|---|---|
| I | Personal Qualities | 1, 2, 3, 4, 5, 6, 7, 8 | 8 |
| II | Classroom Management Skills | 9, 10, 11, 12, 13, 14, 15 | 7 |
| III | Instructional Planning and Implementation | 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 | 10 |
| IV | Interpersonal Relation | 26, 27, 28, 29, 30, 31, 32, 33 | 8 |
| V | Professional Skills | 34, 35, 36, 37, 38, 39, 40, 41 | 8 |
| VI | Digital Skills | 42, 43, 44, 45, 46, 47, 48 | 7 |
| Teacher Effectiveness | | Total | 48 |

| **Scoring procedure for five responses** | | | | |
|---|---|---|---|---|
| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |
| 5 | 4 | 3 | 2 | 1 |

**Table 4.6. Description of Norms for the Level of Teacher Effectiveness**

| Scale | Range | Level of Teacher Effectiveness |
|---|---|---|
| Teacher Effectiveness | Up to 212 | Low |
| | 213 to 228 | Average |
| | 229 and above | High |

### 4.5.1.6. Technical Information about the Teacher Effectiveness Scale

***Reliability:*** The original scale's Cronbach's Alpha coefficient was 0.863, and the split-half reliability coefficient was 0.82. Based on the pilot study on 552 representatives, the researcher found a split-half reliability of.865 and Chronbach's Alpha of .87.

***Validity:*** Gandhi (2020) ensured that the original scale's validity was 0.905. The considered this value for the present study. The details are given in table 4.7.

**Table 4.7. Reliability and Validity Coefficients for the Teacher Effectiveness Scale**

| Scale version | Reliability | Concurrent Validity |
|---|---|---|
| The original version by Gandhi (2020) | 0.863 (Cronbach's α)<br>0.827 (split-half) | 0.905 |
| Pilot Study by the Researcher (N=552) | 0.87 (Cronbach's α)<br>0.865 (split-half) | X |

### 4.6. Procedure of Data Collection

To collect the data, the researcher first meet with all the school head teachers and informed them about his research topic. Then, the head teacher took the researcher to the

staff room and introduced him to all the teachers. Following this, the researcher informed the teachers about his research topic and requested their assistance in providing accurate information required for the study. Upon obtaining their voluntary consent, participants were given a detailed consent letter, which they were asked to read thoroughly and sign. Subsequently, participants received questionnaires, including the consent form, a demographic and professional information sheet, a self-efficacy scale, and a teacher effectiveness scale, with specific instructions to read and respond to each item carefully. The next day, the researcher returned to the school to collect the questionnaires from the teachers. Data collection commenced following approval from the Research Advisory Committee (RAC) and the issuance of a bona fide letter from the research supervisor. Of the 800 participants approached, 692 returned questionnaires, yielding a high response rate. Data collection spanned from August 1, 2023, to January 30, 2024, adhering strictly to ethical guidelines and ensuring high-quality data collection.

### 4.7. Storage and Protection of Data

#### 4.7.1. Data Screening

After completing the survey, participant responses were sensibly reviewed to confirm that they completed the questionnaire. The screening process involved collecting responses, including completed consent and survey questions, while removing missing demographic or professional information. At this stage, 28 responses were excluded from mistakes and incomplete data.

#### 4.7.2. Tabulation of Data

A methodical and orderly arrangement of data was completed to back further analysis and interpretation to make significant conclusions related to the study's objectives. The raw data from 644 secondary-level school teachers was carefully organised in an MS Excel datasheet. This systematised method of data tabulation is crucial for thoroughly examining the study's objectives and serves as a vital foundation for the following stages of analysis.

### 4.8. Data Analysis Techniques

The researcher securely accessed the MS Excel datasheet stored on his computer during the statistical analysis phase. To analyse the data effectively, he applied SPSS-20 software. First, the MS Excel datasheet was transferred to an SPSS data sheet. Then, various statistical analyses were made using the software, with guidance and support from the research supervisor. This collaborative effort confirmed a thorough and accurate

examination of the data for research purposes.

### 4.8.1. Data Normality

The researcher first checks the data's normality using Skewness and Kurtosis statistics, Kolmogorov-Smirnov and Shapiro-Wilk test. Next, outliers are also checked at this stage, and based on the result, 20 responses were removed.

### 4.8.2. Descriptive Data Analyses

The demographic and professional variables of the study are described using primary descriptive statistical techniques such as mean and standard deviation. Specific descriptive analyses included demographic variables such as age, gender, present residence, marital status, locality of schools, board of schools, category of schools, medium of instruction, highest educational qualification, stream of education, teaching experience, ICT orientation, any other professional course other than D. El. Ed / B.Ed. / M.Ed. Additionally, the prevalence rate of workload distribution, self-efficacy and teacher effectiveness are provided in Chapter V.

### 4.8.3. Parametric Analyses

Parametric statistics, a branch of inferential statistics, is utilised for hypothesis testing and drawing meaningful conclusions. It encompasses both descriptive and inferential statistical techniques. This study used parametric statistical methods to test hypotheses, including Pearson correlation, t-tests, and One-Way Analysis of Variance (ANOVA). Specifically, Pearson correlation analysis examined the relationships between workload, self-efficacy and teacher effectiveness among secondary school teachers. Additionally, t-tests and ANOVA were conducted to determine whether significant differences occurred in the means of dependent variables across various demographic and professional factors. These analyses enabled the researcher to identify variations in independent variables, such as age, gender, and other demographic or professional characteristics, among secondary school teachers.

### 4.8.4. Parametric Assumptions

The normality assumptions for parametric data were evaluated using Skewness and Kurtosis statistics, adhering to acceptable ranges of ±2 and ±7, respectively, as suggested by Byrne et al. (2010) and Curran et al. (1996). Kline (2005) also proposed acceptable variations for Skewness and Kurtosis as ±3 and ±10. The Shapiro-Wilk test was applied to measure data normality, with the expectation of non-significant results indicating normal distribution.

### 4.9. Assumptions, Limitations and Ethical Considerations

The assumptions, limitations, and ethical considerations to ensure the reliability of the study. It includes factors like input errors, information accuracy, and other obstacles that could impact the research's reliability. Additionally, relevant details are documented to aid future studies. Statistical assumptions related to correlation analysis and normal distribution are addressed in other sections, where correlation and statistical methods are explained.

#### 4.9.1. Assumptions

One of the assumptions of this study was that participants would answer the survey questions truthfully, accurately, and cooperatively, correctly identifying themselves as secondary-level school teachers. It was also assumed that honesty and accuracy would help protect their personal information.

#### 4.9.2. Limitations

The research was dependent on information provided by participants themselves. The researcher assumed that the participants' information was truthful and impartial. Furthermore, participants were only contacted during the study while it was ongoing.

#### 4.9.3. Ethical Considerations

In conducting survey research, following the highest ethical standards is authoritative. The study's main objective was to enhance comprehension of the relationship between variables without asserting causation. Prior to engaging in the research, all communications with potential participants included transparently providing them with essential details, such as the study's purpose and topic of the study. This approach aimed to prevent any coercion or undue pressure on the participants. Also, before the research started, informed consent forms were distributed to participants for their signatures, ensuring compliance with the standards set by the Jadavpur University Research Advisory Committee (RAC) and the general scientific community. Throughout the study, the privacy and secrecy of participants were thoroughly maintained. No identifiable information was collected to protect participants' privacy. Additionally, careful attention was paid to ensuring accurate data input, minimising input errors and enhancing the study's reliability and applicability for making claims.

## 5.0. Chapter-V: Analysis and Interpretation of Data

This chapter provides an analysis and interpretation of the data collected from the participants. The main objective was to thoroughly understand the relationships among the

variables. To accomplish this, both descriptive and inferential statistical methods were utilised. Descriptive statistics were used to summarise the participants' data, while inferential statistics helped estimate parameters based on the collected data (Cooksey & Cooksey, 2020; Nick, 2007). The chapter initially presents descriptive statistics and inferential techniques to examine significant relationships and patterns among the variables.

### 5.1. Analysis and Interpretations

Before starting the hypothesis testing, data normality was checked using the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) tests. The researcher also used Skewness and Kurtosis to verify the data normality among secondary-level school teachers for workload, self-efficacy (overall and dimension-wise) and teacher effectiveness (overall and dimension-wise). The basic assumption of these tests is data is normally distributed among the sample units. A significant result in these tests rejects the assumptions of normality and indicates the non-normality of data distribution. The test statistics show that the present study data were non-normal, as the *p*-value (Sig.) is less than 0.05 for workload, self-efficacy (overall and dimensions-wise) and teacher effectiveness (overall and dimensions-wise). That is why the researcher further calculated the Skewness and Kurtosis statistics. In the Skewness and Kurtosis tests, data is considered normal when the Skewness statistic is zero (0) and the Kurtosis statistic is .263. The deviation in these values indicates the non-normality of data. But, in social sciences, some empirical evidence is also present where a deviation of 1 to 7 in the statistic is considered normal or near normal. Curran et al. (1996) considered up to a variation of 2 for Skewness and 7 for Kurtosis. Similarly, Kline (2005) considered the variation up to 3 and 10 for Sk and Ku. In this study, the researcher followed Curran et al. (1996) and Kline (2005) and considered the distribution normal among the representatives as the Skewness and Kurtosis statistics workload, self-efficacy (overall and dimensions-wise) and teacher effectiveness (overall and dimensions-wise) were within the variation range considered.

## 6.0. Chapter-VI: Major Findings and Conclusion

The 'major findings and conclusion' section is essential in any research report. The primary purpose of this chapter is to synthesise the entire thesis and provide a comprehensive summary of the research (Murray, 2017). This chapter compares the research findings with existing theory, facilitating the drawing of meaningful conclusions (Evans, Gruba, & Zobel, 2011). The researcher has now reached this pivotal stage, following the progression established in the previous chapters. This chapter comprises five sub-sections: the major

findings, discussion of the major findings, educational implications, limitations, and suggestions for future research.

### 6.1. Major Findings of the Study

Based on the analysis and interpretations discussed in the previous chapter, the following major findings were drawn:

#### 6.1.1. Prevalence Rate of Workload among Secondary-Level School Teachers

1. Most of the secondary-level school teachers have average workload.

#### 6.1.2. Variations in Workload among Secondary-Level School Teachers Concerning the Demographic Factors

1. There is a low positive but significant correlation between in workload and age among secondary-level school teachers.
2. There is a significant variation in workload among secondary-level school teachers concerning their gender.
3. There is no significant variation in workload among secondary-level school teachers concerning their present residence.
4. There is a significant variation in workload among secondary-level school teachers concerning their marital status.
5. There is no significant variation in workload among secondary-level school teachers concerning the locality of schools.
6. There is a significant variation in workload among secondary-level school teachers concerning the board of schools.
7. There is no significant variation in workload among secondary-level school teachers concerning the category of schools.
8. There is a significant variation in workload among secondary-level school teachers concerning the medium of instruction.

#### 6.1.3. Variations in Workload among Secondary-Level School Teachers Concerning the Professional Factors

1. There is no significant variation in workload among secondary-level school teachers concerning their highest educational qualification.
2. There is a significant variation in workload among secondary-level school teachers concerning the stream of education.
3. A positive but insignificant correlation is present between teaching experience and the workload of secondary-level school teachers.

4. There is no significant variation in workload among secondary-level school teachers concerning their ICT orientation.
5. There is no significant variation in workload among secondary-level school teachers concerning their professional courses.

### 6.1.4. Prevalence Rate of Self-Efficacy among Secondary-Level School Teachers

1. Most of the secondary-level school teachers have average self-efficacy.

### 6.1.5. Differences in Self-Efficacy (Overall and Dimensions Wise) among Secondary-Level School Teachers Concerning the Demographic Factors

1. There is a low negative and insignificant correlation between age and overall self-efficacy, and efficacy expectation and outcome expectation dimensions of self-efficacy among secondary-level school teachers.
2. There is a low positive and insignificant correlation between age and self-confidence and positive attitude dimensions of self-efficacy among secondary-level school teachers.
3. There is no significant difference in overall self-efficacy and self-confidence, efficacy expectation, positive attitude, and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning their gender.
4. There is a significant difference in overall self-efficacy and self-confidence, efficacy expectation, positive attitude, and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning their present residence.
5. There is a significant difference in overall self-efficacy and self-confidence, efficacy expectation, and positive attitude dimensions of self-efficacy among secondary-level school teachers concerning their marital status.
6. There is no significant difference in outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning their marital status.
7. There is a significant difference in overall self-efficacy and self-confidence, efficacy expectation, positive attitude, and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning the locality of schools.
8. There is a significant difference in overall self-efficacy and self-confidence, efficacy expectation, and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning the board of schools.
9. There is no significant difference in the positive attitude dimension of self-efficacy among secondary-level school teachers concerning the board of schools.

10. There is a significant difference in self-confidence and positive attitude dimensions of self-efficacy among secondary-level school teachers concerning the category of schools.
11. There is no significant difference in overall self-efficacy and efficacy expectation and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning the category of schools.
12. There is a significant difference in overall self-efficacy and self-confidence, efficacy expectation, positive attitude, and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning the medium of instruction.

### 6.1.6. Differences in Self-Efficacy (Overall and Dimensions Wise) among Secondary-Level School Teachers Concerning the Professional Factors

1. There is a significant difference in overall self-efficacy and self-confidence, efficacy expectation, positive attitude, and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning their highest educational qualifications.
2. There is a significant difference in overall self-efficacy and efficacy expectation dimensions of self-efficacy among secondary-level school teachers concerning the stream of education.
3. There is no significant difference in self-confidence, positive attitude and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning the stream of education.
4. There is a low negative and insignificant relationship between teaching experience and overall self-efficacy and efficacy expectation and outcome expectation dimensions of self-efficacy among secondary-level school teachers.
5. There is a low positive and insignificant relationship between teaching experience, self-confidence, and positive attitude dimensions of self-efficacy among secondary-level school teachers.
6. There is a significant difference in overall self-efficacy and self-confidence, efficacy expectation, positive attitude, and outcome expectation dimensions of self-efficacy among secondary-level school teachers concerning their ICT orientation.
7. There is no significant difference in overall self-efficacy and self-confidence, efficacy expectation, positive attitude, and outcome expectation dimensions of self-

efficacy among secondary-level school teachers concerning their professional course.

### 6.1.7. Prevalence Rate of Teacher Effectiveness among Secondary-Level School Teachers

1. Most of the secondary-level school teachers have average teacher effectiveness.

### 6.1.8. Variations in Teacher Effectiveness (Overall and Dimensions Wise) among Secondary-Level School Teachers Concerning the Demographic Factors

1. There is a low negative and insignificant relationship between age and overall teacher effectiveness among secondary-level school teachers.
2. There is a low positive and insignificant relationship between age and personal qualities, classroom management skills, instructional planning and implementation, and interpersonal relation (Students, Colleagues, Parents) dimensions of teacher effectiveness among secondary-level school teachers.
3. There is a low negative but significant relationship between age and professional skills, digital skills dimensions of teacher effectiveness among secondary-level school teachers.
4. There are no significant variations in overall teacher effectiveness and personal qualities, classroom management skills, instructional planning, implementation, interpersonal relations (Students, Colleagues, Parents), professional skills, and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning their gender.
5. There is a significant variation in overall teacher effectiveness and personal qualities, interpersonal relations (Students, Colleagues, Parents), and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning their present residence.
6. There are no significant variations in classroom management skills, instructional planning and implementation, and professional skills dimensions of teacher effectiveness among secondary-level school teachers concerning their present residence.
7. There is a significant variation in overall teacher effectiveness and personal qualities, interpersonal relation (Students, Colleagues, Parents), and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning their marital status.

8. There are no significant variations in classroom management skills, professional skills, and instructional planning and implementation dimensions of teacher effectiveness among secondary-level school teachers concerning their marital status.
9. There is a significant variation in overall teacher effectiveness and personal qualities, classroom management skills, instructional planning and implementation, interpersonal relation (Students, Colleagues, Parents), professional skills, and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning the locality of schools.
10. There is a significant variation in overall teacher effectiveness and instructional planning and implementation, professional skills, and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning the board of schools.
11. There are no significant variations in personal qualities, classroom management skills, and interpersonal relation (Students, Colleagues, Parents) dimensions of teacher effectiveness among secondary-level school teachers concerning the board of schools.
12. There is a significant variation in overall teacher effectiveness and its personal qualities dimension of teacher effectiveness among secondary-level school teachers concerning the category of schools.
13. There are no significant variations in classroom management skills, instructional planning and implementation, interpersonal relations (Students, Colleagues, Parents), professional skills, and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning the category of schools.
14. There is a significant variation in overall teacher effectiveness and personal qualities, classroom management skills, instructional planning and implementation, interpersonal relation (Students, Colleagues, Parents), professional skills, and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning the medium of instruction.

### 6.1.9. Variations in Teacher Effectiveness (Overall and Dimensions Wise) among Secondary-Level School Teachers Concerning the Professional Factors

1. There are no significant variations in overall teacher effectiveness and classroom management skills, instructional planning and implementation, interpersonal relation (Students, Colleagues, Parents), professional skills, and digital skills

dimensions of teacher effectiveness among secondary-level school teachers concerning their highest educational qualification.

2. There is a significant variation in the personal qualities dimension of teacher effectiveness among secondary-level school teachers concerning their highest educational qualification.
3. There is a significant variation in interpersonal relations (Students, Colleagues, Parents) and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning the stream of education.
4. There are no significant variations in overall teacher effectiveness and personal qualities, classroom management skills, instructional planning and implementation, and professional skills dimensions of teacher effectiveness among secondary-level school teachers concerning the stream of education.
5. There are low negative and insignificant relationship between teaching experience and overall teacher effectiveness and instructional planning and implementation, interpersonal relation (Students, Colleagues, Parents) and professional skills dimensions of teacher effectiveness among secondary-level school teachers.
6. There are low positive and insignificant relationship between teaching experience, personal qualities, and classroom management skill dimensions of teacher effectiveness among secondary-level school teachers.
7. There is a low negative but significant relationship between teaching experience and digital skills dimension of teacher effectiveness among secondary-level school teachers.
8. There is a significant variation in overall teacher effectiveness and its personal qualities, classroom management skills, instructional planning and implementation, interpersonal relations (Students, Colleagues, Parents), professional skills, and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning their ICT orientation.
9. There are no significant variations in overall teacher effectiveness and personal qualities, classroom management skills, instructional planning and implementation, interpersonal relations (Students, Colleagues, Parents), professional skills, and digital skills dimensions of teacher effectiveness among secondary-level school teachers concerning their professional course.

### 6.1.10. Relationship between Workload, Self-Efficacy, and Teacher Effectiveness

1. There is a low negative and insignificant relationship between workload and self-efficacy among secondary-level school teachers.
2. There is a low negative and insignificant relationship between workload and teacher effectiveness among secondary-level school teachers.
3. There is a low positive and significant relationship between self-efficacy and teacher effectiveness among secondary-level school teachers.

### 6.1.11. Direct, Indirect, and Total Effect of Workload and Self-Efficacy on Teacher Effectiveness among Secondary-Level School Teachers

1. Workload has no significant effect on self-efficacy among secondary school teachers.
2. Self-efficacy significantly affects teacher effectiveness among secondary-level school teachers.
3. Workload has no significant effect on teacher effectiveness among secondary-level school teachers.
4. In the presence of self-efficacy, workload directly influences teacher effectiveness among secondary-level school teachers.
5. The total effect of workload on teacher effectiveness was insignificant.
6. Workload has no indirect effect on teacher effectiveness, which was found to be insignificant.
7. Secondary-level school teacher's self-efficacy does not significantly mediate the relationship between workload and teacher effectiveness.

## 6.2. Discussion of the Major Findings

This section is the most crucial part of the study. In this section, the major findings that emerged from the analysis and interpretations are compared with the existing theories and previous research findings, and the conclusions are drawn, as in the preceding paragraphs.

### Workload

While the prevalence rate of workload was the concern, the result revealed that most secondary-level school teachers have average workload. This finding was supported by Saudi and Rahman (1998) and Romine (1958). On the other hand, Estrada-Araoz et al. (2023) and Gull and Akhtar (2014) reported that teachers perceived a high workload. This study indicated that an average workload naturally implies that teachers have a reasonable

number of teaching hours, administrative duties, and preparation time, which can be conducive to maintaining sustainable work.

The present study revealed a low positive but significant relationship between workload and age among secondary-level school teachers. This finding was corroborated by Maruyama et al. (2009) and Gull and Akhtar (2014). On the other hand, no such study was found which could contradict this finding.

The study found a significant variation in workload among secondary-level school teachers concerning their gender. Gull and Akhtar (2014) corroborated this finding. Female teachers habitually experience a higher workload due to the dual burden of professional responsibilities and domestic responsibilities formed by traditional gender roles. In contrast, male teachers face fewer domestic limitations, allowing them to focus more on professional tasks.

Again, the study found no significant variation in workload among secondary-level school teachers concerning their present residence. This finding is remarkable as it imitates a positive consistency in workload distribution among secondary-level school teachers across urban, semi-urban, and rural settings in West Bengal.

Also, the study showed a significant variation in workload among secondary-level school teachers concerning their marital status. Married teachers, particularly those with children, often experience a higher degree of workload both at school and at home. Conversely, unmarried teachers, particularly those without dependents, may face fewer domestic responsibilities, enabling them to allocate more time and energy toward their professional duties.

The present study's findings revealed no significant variation in workload among secondary-level school teachers concerning their highest educational qualifications. No study supported this finding. On the contrary, Gull and Akhtar (2014) reported a significant difference among secondary school teachers concerning their qualifications. Whether they hold a graduate degree, postgraduate degree, or higher qualification, teachers experience similar workload levels in their professional responsibilities.

This study also found a significant variation in workload among secondary-level school teachers concerning the stream of education. No study stayed this finding. This finding was contrasted by Gull and Akhtar (2014), who reported no significant difference among secondary school teachers concerning their subjects (arts and science). Teachers from different streams, such as science, humanities, and commerce, may experience varying degrees of workload.

The present study showed a positive but insignificant relationship between teaching experience and workload of secondary-level school teachers. No study corroborated this finding. This finding was contrasted by Gull and Akhtar (2014) reported a significant difference among secondary school teachers concerning their teaching experience. More experienced teachers are inclined to describe higher levels of workload.

The study findings revealed no significant variation in workload among secondary-level school teachers concerning their ICT orientation. Information and Communication Technology (ICT) did not look to affect their overall workload noticeably.

Further, results revealed no significant variation in workload among secondary-level school teachers concerning their professional courses. Professional courses did not significantly affect teachers' overall workload.

**Self-efficacy**

While the prevalence rate of self-efficacy was the concern, the result revealed that most secondary-level school teachers have average self-efficacy. This finding was supported by Mogias et al. (2021), Seema and Sobha (2017), and Srisopha and Saengsri (2015). Conversely, Ahmad et al. (2023), Fenyvesiova and Kollarova (2013), Woo et al. (2018), and Fenyvesiova and Kollarova (2013) found high self-efficacy among teachers of secondary education. Also, Olayiwola (2011) reported that teachers were rated with low self-efficacy. This finding indicates that while teachers possess reasonable confidence in their abilities, there is an area for improvement.

The study revealed a low negative and insignificant correlation between age and self-efficacy among secondary-level school teachers. This finding was corroborated by Misirli and Oztuzcu (2023), Mbongo (2024), Gonzaga (2024) and Salami (2007). On the contrary, Selinger and Grostenberger (2024) indicated that age significantly affects self-efficacy. This finding suggests that age should not be considered a primary factor in evaluating or predicting teacher self-efficacy.

Again, the study showed no significant difference in self-efficacy among secondary-level school teachers concerning their gender. This finding was supported by Shukla (2024), Odanga et al. (2015), Mellyzar et al. (2022), Habib (2019), and Salami (2007). On the other hand, Ezer and Ulukaya (2018) and Saloviita and Almulla (2024) reported a significant difference in self-efficacy levels concerning gender among secondary-level school teachers. This finding indicates that male and female teachers, regardless of gender, report similar levels of self-efficacy in their professional roles.

Also, the study revealed a significant difference in self-efficacy among secondary-level school teachers concerning their marital status. No study was found to support these findings. On the contrary, Mbongo (2024) and Kashif (2021) found no significant association between teachers' self-efficacy and marital status among teachers in rural high schools. This finding indicated that marital status may play a role in shaping teachers' self-efficacy in their abilities.

The present study found a significant difference in self-efficacy among secondary-level school teachers concerning their school locality. This finding aligns with Srisopha and Saengsri (2015) and Shazadi et al. (2011). No such study was found which could contradict this finding. This finding indicated that the geographical setting of a school—whether urban or rural—may impact teachers' self-efficacy.

The study's finding revealed a significant difference in self-efficacy among secondary-level school teachers concerning the board of schools. This result was corroborated by Kaur and Kaur (2022). No such study was found which could contradict this finding. The study underscores that the school board type can influence teacher self-efficacy.

Other results revealed no significant difference in self-efficacy among secondary-level school teachers concerning their school category. This result was substantiated by Bala and Bakshi (2017). On the contrary, Odanga and Aloka (2022) revealed a significant influence of school category on teachers' self-efficacy.

Also, the current study showed a significant difference in self-efficacy among secondary-level school teachers concerning their highest educational qualifications. This result was supported by Shazadi et al. (2011). On the other hand, Kumar (2017) showed no significant difference among teachers concerning their educational qualification. This finding suggested that teachers with higher academic qualifications tend to report higher levels of self-efficacy.

The result of this study revealed a low negative and insignificant association between teaching experience and self-efficacy among secondary-level school teachers. This finding aligns with Abidin et al. (2019). On the contrary, Mishal (2024) indicated a strong positive correlation between overall self-efficacy and teaching experience. Also, Odanga et al. (2022) showed that the effects of experience on teachers' self-efficacy were significant. This finding indicated that the number of years a teacher has spent in the profession does not strongly or directly influence their self-efficacy.

Furthermore, this study's result revealed a significant difference in self-efficacy among secondary-level school teachers concerning their ICT orientation. This finding was supported by Singh and Singh (2023) and Kumar and Sharma (2024). No such study was

found which could contradict this finding. The study indicated that teachers more oriented toward ICT will likely feel more competent in integrating technology into their classrooms, which could positively impact their teaching methods and student interactions.

**Teacher Effectiveness**

The present study revealed that most secondary-level school teachers have average teacher effectiveness. This finding was supported by Naik (2024), Suvarna and Varun (2023), Kumar (2019), and Chowdhury (2014). On the contrary, these findings were contrasted by the studies of Suvarna and Varun (2023), which reported that secondary school science teachers showed high teacher effectiveness. Bruno et al. (2013) found that the teaching effectiveness of secondary school teachers in the Emohua local government area was below average. This finding indicated that teacher effectiveness is pivotal for student learning and holistic development, yet its moderate prevalence highlights potential constraints in the teaching environment.

The present study findings revealed low negative and insignificant association between age and overall teacher effectiveness among secondary-level school teachers. This finding aligns with Chowdhury (2014) and Bruno et al. (2013). On the contrary, Dien et al. (2022) indicated that teachers' age significantly influences teaching effectiveness.

The study also revealed low negative but significant relationship between age and professional skills, digital skills dimensions of teacher effectiveness among secondary-level school teachers. This finding was corroborated by Radhamani and Kalaivani (2023) and Estrada-Araoz et al. (2023). No such study was found which could contradict this finding. The result indicated that age may not substantially influence teacher effectiveness as an isolated demographic variable.

The present study revealed no significant variations in overall teacher effectiveness among secondary-level school teachers concerning their gender. This finding was supported by Sehjal (2021), Toor (2021), Biswas (2017), Pachaiyappan and Raj (2014), Chowdhury (2014), Ritu and Singh (2012), Ozgenel an Mert (2019), Ritu and Singh (2012), Yavuz and Guzel (2020), Kumar and Kumar (2015) and Islahi and Nasreen (2013). On the contrary, Sagar and Parveen (2017) and Venkatesh (2015) indicated that significant difference in teaching effectiveness between male and female teachers. Diwa (2023) also indicated that gender significantly influences teaching effectiveness in mathematics. This result underscores that individual professional attributes more influence teacher effectiveness than gender. The study indicated no significant variations in overall teacher effectiveness among secondary-level school teachers regarding their residence. Chaliha (2013) and

Pachaiyappan and Raj (2014) corroborated this finding. However, such study was found that could contradict this finding.

The result reported a significant variation in overall teacher effectiveness among secondary-level school teachers concerning their marital status. This finding aligns with Slater et al. (2012) and Raju and Vardhini (2022). On the other hand, Tyagi (2013). Kumar and Kumar (2015) reported no significant difference in teaching effectiveness based on marital status. This finding indicated that married teachers might experience different stressors or support systems than their unmarried counterparts, potentially impacting their teacher effectiveness.

The study revealed no significant variations in overall teacher effectiveness among secondary-level school teachers concerning their school locality. This finding was supported by Saka and Onanuga (2019), Sehgal (2021), Pachaiyappan and Raj (2014), and Singh (2012). Kumar and Kumar (2015). On the other hand, Biswas (2017) and Dash (2016) indicated a significant difference in teacher effectiveness concerning locality among secondary school teachers. The result indicated that locality may not be a primary determinant of teacher effectiveness in the context of secondary-level education in West Bengal. The study showed no significant variations in overall teacher effectiveness among secondary-level school teachers regarding the board of schools. Sagar and Parveen (2017) corroborated this finding.

However, the result also revealed a significant variation in overall teacher effectiveness among secondary-level school teachers concerning their school category. Sehjal (2021) corroborated this finding. On the contrary, Kumar and Kumar (2015) reported that the school category does not significantly affect it. This finding emphasises the essential for targeted involvements to address teachers' exact challenges in different school categories, thereby improving teacher effectiveness.

The current study demonstrated no significant variations in overall teacher effectiveness among secondary-level school teachers concerning their highest educational qualification. This finding aligns with the findings of Tyagi (2013). On the contrary, Slater et al. (2012) and Anitha and Raju (2023) indicate significant variations in overall teacher effectiveness beyond just educational qualifications. The results showed that effective teaching is more influenced by practical experience, workload management, and the teacher's ability to adapt to student needs rather than academic qualifications alone.

Results revealed no significant variations in overall teacher effectiveness among secondary-level school teachers concerning the stream of education. No study was found to support this. On the other hand, Biswa (2017) indicated variations in overall teacher

effectiveness based on the stream of education. This finding suggested that teacher effectiveness may not be strongly influenced by the subject area taught at the secondary level.

The present study revealed negative and insignificant relationship between teaching experience and overall teacher effectiveness among secondary-level school teachers. This finding was corroborated by Podolsky et al. (2019) and Chowdhury (2014). On the contrary, Dien et al. (2022), Pachaiyappan and Raj (2014), and Onyekuru and Ibegbunam (2013), who reported that teacher experience significantly influences teacher effectiveness among secondary school teachers. This finding indicated that teaching experience may not directly influence teacher effectiveness at the secondary level.

Also, the study showed no significant variations in overall teacher effectiveness among secondary-level school teachers concerning their professional courses. No study was found to support and contrary. This result indicated that the type of professional training or courses teachers undertake may not directly influence their perceived effectiveness in the classroom.

**Relationship between Workload, Self-Efficacy and Teacher Effectiveness**

The present study measured the relationship between workload and self-efficacy among secondary-level school teachers, and the results showed a low negative and insignificant relationship between workload and self-efficacy among secondary-level school teachers. Pantao (2024) supported this finding. In contrast, Tschannen-Moran & Hoy (2001) found that perceived workload leads to burnout, negatively impacting teacher efficacy.

The study revealed a low negative and insignificant relationship between workload and teacher effectiveness among secondary-level school teachers. This result was supported by Klassen and Chiu (2010) and Hargreaves (2000), who reported how excessive workload can lead to burnout, stress, and a decline in teachers' ability to perform effectively in the classroom. On the other hand, Nuwaha et al. (2023) reported a weak but significant positive correlation between teachers' workload and their effectiveness in secondary schools.

The present study also revealed a low positive and significant relationship between self-efficacy and teacher effectiveness among secondary-level school teachers. This finding was corroborated by Meiyanti et al. (2022), Jaafar et al. (2019) and Sehgal et al. (2016). However, no study was found that could contradict this finding.

**Direct, Indirect, and Total Effect of Workload and Self-Efficacy on Teacher Effectiveness among Secondary-Level School Teachers**

Finding of this study revealed that workload does not significantly affect teacher effectiveness among secondary-level school teachers. This result was supported by Nuwaha et al. (2023) showed a weak positive correlation between teachers' workload and their effectiveness. On the contrary, Amalu (2018) found that workload stress does not significantly influence key effectiveness dimensions such as lesson presentation and classroom management.

Results of this study also revealed that self-efficacy significantly affects teacher effectiveness among secondary-level school teachers. This finding was corroborated by Akhter et al. (2022) and Garg (2024), who reported that self-efficacy is a crucial factor influencing teacher effectiveness. Sehgal (2017) also reported a positive association between teacher self-efficacy and different dimensions of teacher effectiveness.

Again, the present study found that in the presence of self-efficacy, workload directly influences teacher effectiveness among secondary-level school teachers. This result was stayed by Zeb et al. (2024) reported that high self-efficacy is positively correlated with effective classroom management and teaching practices. Also, Garg (2024) reported that teachers with strong self-efficacy are more committed and motivated, leading to improved student outcomes.

The current study revealed that the total effect of workload on teacher effectiveness was insignificant. Amalu (2018) showed that stress from workload did not significantly influence various dimensions of professional effectiveness. However, this finding is contradicted by Nuwaha et al. (2023) who stated a weak but significant positive correlation between workload and teacher effectiveness. Teaching methods and student communications may be more critical in perceived effectiveness than workload alone.

The study found that secondary-level school teacher's self-efficacy does not significantly mediate the relationship between workload and teacher effectiveness. Istiqomah et al. (2024) supported this result, which revealed that Self-efficacy does not mediate the influence of work commitment and Total Quality Management. On the contrary, Feng (2023) found that Teachers' Intrinsic Orientation for Profession positively predicted self-efficacy, mediating effective. Yu et al. (2015) found that Self-efficacy partially mediates the relationship between work stress and job burnout. Therefore, further investigation is suggested to explore the exact scenario.

### 6.3. Educational Implications of the Study

The present study has significant implications in education and other related fields.

1. This study will help the secondary-level school teachers to know their level of workload, SE and TE.
2. This study will help the school education authorities maintain a proper guideline for equal workload distribution among secondary-level school teachers.
3. The study revealed some influential demographic and professional factors of SE among secondary-level school teachers. Therefore, secondary-level school teachers can enhance their SE by identifying and manipulating those influential factors. Further, this enhanced SE will increase their teacher effectiveness.
4. This study will help in school policy-making, professional development programs, and teacher training initiatives, improving teacher effectiveness and educational outcomes for students in secondary-level schools.
5. This study can help improve teacher preparation and development programs, fostering a more well-rounded approach to teacher effectiveness that considers both personal qualities and professional skills in the classroom.
6. The study will help school teachers develop time management and organisational skills to manage their workload while maintaining teaching quality.

### 6.4. Limitations of the Study

The researcher thoroughly examined every subject in this study to maintain a high quality. The major limitations of the study lie in the following:

1. A significant limitation of this study lies in the coverage of districts and boards and the small number of participants, which limits the scope of generalizability of the findings.
2. Another limitation of this study is that the sample distribution is unequal among the elected districts.
3. There were fluctuations in the number of participants in the demographic and professional factors, which were not in the researcher's control. These fluctuations may cause variations in the results.
4. At the time of data collection, the researcher felt that the English version of the self-efficacy and teacher effectiveness scales were challenging to understand for some Bengali-medium school teachers, which could influence their response.

### 6.5. Suggestions for Further Study

Several areas warrant attention to build on this research's findings and improve the robustness of future studies.

1. Future studies should consider using locally adapted versions of the research tools, translated into Bengali or other regional languages, to ensure that all participants can fully understand and engage with the survey.
2. Future studies could include qualitative methods, such as interviews or focus groups, to better understand teachers' personal experiences and challenges in their professional lives.
3. Future studies should aim to include a more extensive and diverse sample from a broader range of districts and educational boards to enhance the generalizability of the findings. A more representative sample would provide a clearer picture of teacher workload, self-efficacy, and effectiveness across different contexts.
4. Future research should ensure a more balanced distribution of participants across districts to avoid sampling bias and obtain more equitable data. This would help make more accurate comparisons and inferences about the influence of different regional contexts on teacher workload and effectiveness.

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