



**SELF-REGULATED LEARNING STRATEGIES AND ACADEMIC
BUOYANCY AS MEDIATORS ON THE RELATIONSHIP BETWEEN
SOCIAL SUPPORT AND TEST ANXIETY IN CHINA**

By

LI DANWEI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

January 2025

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment
of the requirement for the degree of Doctor of Philosophy

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January 2025

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Test anxiety is widely recognized as a significant challenge for students worldwide, with its prevalence continuing to rise. This issue is particularly pronounced in China, where academic performance is deeply embedded as a crucial family and societal expectation, especially for final-year high-school students preparing for college entrance examinations. Social support is commonly regarded as a key protective factor against test anxiety, while self-regulated learning strategies and academic buoyancy have demonstrated a correlation with test anxiety. However, limited studies have explored the potential relationships among social support, self-regulated learning strategies, academic buoyancy and test anxiety. Thus, this study aims to investigate the association between social support, self-regulated learning strategies, academic buoyancy and test anxiety, particularly examining whether self-regulated learning strategies and academic buoyancy mediate the relationship between social support and test anxiety among Chinese final-year high-school students. This study employed a descriptive, correlational research design. A total of 565 final-year students were

selected as respondents from 41 high schools in Heilongjiang Province, China. The results of SEM analysis indicated that self-regulated learning strategies could not mediate the relationship between social support and test anxiety, whereas academic buoyancy mediated the relationship between social support and test anxiety; self-regulated learning strategies and academic buoyancy acted as chain mediators in this relationship. From the theoretical perspective, this study proposes a new and comprehensive framework encompassing social support, self-regulated learning strategies, academic buoyancy and test anxiety, providing valuable insights into the complex interrelationships between these variables. Additionally, this study enriches the research on self-regulated learning strategies and academic buoyancy as chain mediating variables between social support and test anxiety. From the practical perspective, this research has significant implications for various stakeholders in the educational ecosystem, who can obtain a deeper understanding of the factors and strategies that effectively address issues contributing to test anxiety.

Keywords: Social support; Self-regulated learning strategies; Academic buoyancy; Test anxiety; China.

SDG: GOAL 4: Quality Education.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**STRATEGI PEMBELAJARAN PENGATURAN KENDIRI DAN
KEAPUNGAN AKADEMIK SEBAGAI PENGANTARA HUBUNGAN
ANTARA SOKONGAN SOSIAL DAN KERESAHAN UJIAN DI CHINA**

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Kebimbangan ujian diiktiraf secara meluas sebagai satu cabaran penting yang dihadapi oleh pelajar di seluruh dunia, dengan kadar kelazimannya yang terus meningkat. Isu ini amat ketara di China, di mana pencapaian akademik merupakan satu jangkaan utama daripada keluarga dan masyarakat, terutamanya bagi pelajar sekolah menengah tahun akhir yang sedang membuat persediaan untuk menghadapi peperiksaan kemasukan ke kolej. Antara pelbagai faktor yang terlibat, sokongan sosial lazimnya dianggap sebagai faktor pelindung utama terhadap kebimbangan ujian. Di samping itu, strategi pembelajaran yang dikawal selia sendiri dan keapungan akademik turut menunjukkan hubungan dengan kebimbangan ujian. Walau bagaimanapun, kajian terdahulu masih terhad dalam meneroka hubungan berpotensi antara sokongan sosial, strategi pembelajaran yang dikawal selia sendiri, keapungan akademik, dan kebimbangan ujian. Sehubungan itu, kajian ini bertujuan untuk menyiasat hubungan antara sokongan sosial, strategi pembelajaran yang dikawal selia sendiri, keapungan akademik, dan kebimbangan ujian. Kajian ini secara khusus meneliti sama ada strategi

pembelajaran yang dikawal selia sendiri dan keapungan akademik bertindak sebagai pemboleh ubah pengantara dalam hubungan antara sokongan sosial dan kebimbangan ujian dalam kalangan pelajar sekolah menengah tahun akhir di China. Kajian ini menggunakan reka bentuk penyelidikan korelasi deskriptif. Seramai 565 pelajar tahun akhir telah dipilih sebagai responden daripada 41 buah sekolah menengah di Wilayah Heilongjiang, China. Hasil analisis Model Persamaan Berstruktur (SEM) menunjukkan bahawa strategi pembelajaran yang dikawal selia sendiri tidak berfungsi sebagai pemboleh ubah pengantara dalam hubungan antara sokongan sosial dan kebimbangan ujian. Sebaliknya, keapungan akademik didapati memainkan peranan sebagai pemboleh ubah pengantara dalam hubungan tersebut. Tambahan pula, strategi pembelajaran yang dikawal selia sendiri dan keapungan akademik bersama-sama membentuk rantai pengantara dalam hubungan ini. Dari perspektif teori, kajian ini mencadangkan satu rangka kerja baharu dan komprehensif yang merangkumi sokongan sosial, strategi pembelajaran yang dikawal selia sendiri, keapungan akademik, dan kebimbangan ujian. Rangka kerja ini memberikan pandangan yang berharga terhadap hubungan antara pemboleh ubah tersebut. Sementara itu, dari segi sumbangan kepada literatur sedia ada, kajian ini memperkayakan pemahaman tentang peranan strategi pembelajaran yang dikawal selia sendiri dan keapungan akademik sebagai pemboleh ubah pengantara rantai antara sokongan sosial dan kebimbangan ujian. Dari perspektif praktikal, dapatan kajian ini memberikan implikasi yang signifikan kepada pelbagai pihak berkepentingan dalam ekosistem pendidikan, yang boleh memanfaatkannya untuk memperoleh pemahaman yang lebih mendalam mengenai faktor serta strategi yang berkesan dalam menangani kebimbangan ujian dalam kalangan pelajar.

Kata Kunci: Sokongan sosial; Strategi pembelajaran yang dikawal sendiri; Keapungan akademik; Keresahan ujian; China.

SDG: MATLAMAT 4: Pendidikan Berkualiti



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LIST OF ABBREVIATIONS

AB	Academic Buoyancy
ABS	Academic Buoyancy Scale
AGFI	Adjusted Goodness of fit Index
AVE	Average Variance Extracted
Beta	Standardized Regression Weight
B-FTA	Brief-FRIEDBEN Test Anxiety Scale
C.R.	Critical Ratio
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CL	Cooperative Learning
CO	Cognitive Obstruction
CS	Cognitive Strategies
EGO	Extrinsic Goal Orientation
FES	Friend Emotional Support
FIS	Friend Instrumental Support
GFI	Goodness-of-Fit Index
IFI	Incremental Fit Index
IGO	Intrinsic Goal Orientation
MLSQ	Motivated Strategies for Learning Questionnaire
MS	Metacognitive Strategies
NFI	Normed Fit Index
NFI	Normed Fit Index
PES	Parental Emotional Support
PIS	Parental Instrumental Support
PSSS	Perceived Social Support Scale
RFI	Relative Fit Index
RMR	Root Mean Residual
RMSEA	Root Mean Square Error of Approximation

S.D.	Standard Deviation
S.E.	Standard Error
SCT	Social Cognitive Theory
SD	Social Derogation
SE	Self-efficacy
SEM	Structural Equation Modelling
SRL Strategies	Self-Regulated Learning Strategies
SRLSQ	Self-Regulated Learning Strategies Questionnaire
SS	Social Support
TA	Test Anxiety
TEN	Tenseness
TES	Teacher Emotional Support
TIS	Teacher Instrumental Support
TLI	Tucker Lewis Index

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter provides an overview of the research background, articulates the problem statement, outlines the research objectives and hypotheses, discusses the significance of the study, delineates its scope and limitations, and defines key terms used throughout.

1.2 Research Background

Throughout the world, test anxiety has emerged as a significant challenge for students (Khosravi, 2008). This widespread issue transcends geographical and cultural boundaries, affecting students worldwide (Demyttenaere et al., 2004). Moreover, there is a growing consensus among researchers that the prevalence of test anxiety is on the rise (DordiNejad et al., 2011). The impact of test anxiety on academic performance is substantial and varies across different countries. For Israel, research indicates that 15% to 20% of students suffer from diminished academic performance as a result of test anxiety (Agbaria & Bdier, 2020). For the United Kingdom, research by Putwain and Daly (2014) revealed that 16.4% of English secondary school pupils suffer from test anxiety. For the United States, estimates suggest that between 25% and 40% of the population grapples with test anxiety (Cassady, 2010). For India, a recent study indicated that approximately 18% of students experience high levels of test anxiety

(Lohiya et al., 2021). These statistics underscore the global nature of test anxiety and highlight its significant impact on student populations across diverse cultural and educational contexts.

Test anxiety is a particularly salient issue in China, where the educational system places immense emphasis on high-stakes examinations. Recent studies have revealed that over 30% of Chinese high school students suffer from significant test anxiety, a trend that has remained consistent in recent years (Huang & Zhou, 2019), and this figure has reached 50% for final-year high school students (Yuan et al., 2018). The prevalence of test anxiety in China can be largely attributed to the critical role of the college entrance exam, known as the "Gaokao." This exam holds unparalleled significance in the Chinese educational system for several reasons. A student's performance on the Gaokao heavily influences their future job opportunities. The exam results determine acceptance into prestigious institutions, which are highly valued in Chinese society. At the same time, success in the Gaokao is often viewed as a pathway to improved social and economic status (Wang et al., 2012). Given the immense pressure associated with this examination, it is unsurprising that a substantial proportion of Chinese high school students suffer from test anxiety (Sun & Chen, 2012). The cultural and societal expectations surrounding academic achievement in China further exacerbate this issue, creating an environment where test anxiety has become a widespread concern among students, educators, and parents alike.

Test anxiety is a widespread and pervasive phenomenon that significantly impacts students' academic performance and well-being (Eum & Rice, 2011). The condition manifests through various cognitive symptoms, including performance comparisons

with peers, preoccupation about test failure consequences, and diminished confidence in performance capabilities (In'nami, 2006). The effects of test anxiety extend far and can prove detrimental to students' academic careers and personal lives. Test anxiety can lead to poor academic performance, lower grade point averages, and higher dropout rates among affected student groups (Gerwing et al., 2015). Chronic academic stress and anxiety can affect students' immune systems, causing increased physical discomfort and various somatic symptoms (Li et al., 2010). Furthermore, in severe cases, test anxiety may contribute to developing serious psychological disorders and even suicidal behavior (Dong et al., 2014). Given these substantial impacts of test anxiety, investigating its factors is crucial, particularly for final-year high school students in China.

Social support has frequently been characterized as a buffer that protects individuals from high stress levels. This protective effect arises because social support offers emotional reassurance, practical assistance, and a sense of belonging, which collectively enhance individuals' ability to manage stressful situations more effectively. Social Cognitive Theory (Bandura, 1991) suggests that individuals' cognitions, beliefs, and social environments interact to shape their behaviors and emotional responses. In the context of stress, social support can influence how individuals perceive and appraise stressful events, thereby moderating the intensity of their stress reactions. In a testing situation, highly test-anxious individuals experience more stress than those with low test anxiety (Sarason & Sarason, 1985). The presence of supportive relationships, such as encouragement from peers, guidance from teachers, or reassurance from family members, can alleviate the pressure these individuals experience. Social support not only reduces the negative appraisal of stress

but also enhances intrinsic motivation, enabling individuals to approach tests with greater confidence and a more positive mindset.

However, research has found that the mitigating effect of social support on test anxiety is not always significant. In some cases, it may even exacerbate students' test anxiety. For instance, Putwain et al. (2010) observed no significant correlation between social support and test anxiety, suggesting that the assumed protective effect of social support might not apply uniformly across all contexts or individuals. Moreover, Pengelly (2021) and Raufelder et al. (2018) reported that in certain situations, social support can increase test anxiety, possibly by heightening expectations or adding pressure to perform well. These findings highlight the complexity of the relationship between social support and test anxiety. While social support is generally considered beneficial, its effects can vary depending on several factors, such as the nature of the support, the source from which it is received, and the individual characteristics of the student. For example, well-meaning encouragement from parents or teachers may be perceived as pressure to succeed, leading to increased anxiety rather than alleviating it. Additionally, peer support might create a sense of competition or comparison, which could intensify feelings of inadequacy and stress. The current understanding of the precise function of perceived social support in the context of test anxiety remains limited. The relationship between these two variables is influenced by a complex interplay of psychological, social, and contextual factors. For instance, the quality and type of social support, the student's personality traits, and the specific demands of the testing situation all play crucial roles in determining whether social support will have a buffering or exacerbating effect on anxiety. Further research is needed to elucidate the mechanisms underlying this relationship.

Self-regulated learning strategies (SRL strategies) refer to the learning approaches and methods that students consciously adopt to manage and enhance their learning processes (Kong & Lu, 2012). According to Self-Regulated Learning Models (1989), social support plays a crucial role in influencing an individual's self-cognition, which subsequently influences their emotional state. Specifically, the support that students receive from their social environment—whether from peers, teachers, or family—can significantly affect their perception of their learning abilities and how they regulate their learning activities. Research has demonstrated that students can potentially reduce their test anxiety by effectively adjusting their SRL strategies through interactions within their social environment (Agbaria & Bdier, 2020). For instance, a student who receives positive feedback and encouragement is more likely to develop and implement effective SRL strategies, leading to better control over their learning outcomes. This sense of control can diminish the uncertainty and fear often associated with test-taking, thereby decreasing test anxiety. Adolescents who demonstrate high levels of SRL strategies tend to experience lower levels of test anxiety compared to those who struggle with or lack effective SRL strategies (Korhan et al., 2021). This occurs because successful SRL strategies equip students with tools to manage both their cognitive processes and emotional responses to academic challenges. By establishing clear goals, monitoring their progress, and making necessary adjustments, students can approach tests with greater confidence and less apprehension. Given these insights, this study hypothesizes that SRL strategies mediate the relationship between social support and test anxiety. Specifically, social support indirectly influences test anxiety through enhancing students' use of SRL strategies.

Academic buoyancy is the capacity to overcome academic challenges that are typical of "daily" school life, such as managing workloads, meeting deadlines, and handling occasional setbacks (Martin & Marsh, 2008a). It represents a student's resilience in facing routine academic pressures, enabling them to recover from everyday difficulties rather than becoming overwhelmed by them. According to research grounded in positive psychology theory, a socially supportive environment significantly enhances one's positive coping skills, including academic buoyancy. Social support provides students with emotional encouragement, practical assistance, and a sense of belonging, all of which contribute to their ability to remain resilient in academic settings. When students feel supported by teachers, peers, and family members, they are more likely to develop confidence in their ability to handle academic demands, which consequently reduces their susceptibility to stress and anxiety, particularly in testing situations (Martin & Marsh, 2008a). Given the strong connection between social support, academic buoyancy, and test anxiety, this study hypothesizes that academic buoyancy mediates the relationship between social support and test anxiety.

Therefore, this study focuses on final-year high school students from Heilongjiang province in China as the research subjects and employs a descriptive correlational research design to determine the mediating effect of SRL strategies and academic buoyancy on the relationship between social support and test anxiety. The main purpose of this study is to investigate how these psychological constructs interact and influence students' experiences of test anxiety, particularly in academically demanding environments.

This research contributes to the literature on educational psychology and stress management by providing empirical evidence about the mechanisms through which social support influences academic outcomes. Specifically, it sheds light upon the roles of SRL strategies and academic buoyancy as mediators, offering insights into how students can better be supported in managing test anxiety. The anticipated outcomes of this research will inform educators, counselors, and policymakers about the critical factors that help mitigate test anxiety in Chinese final-year high-school students. By understanding the mediating roles of SRL strategies and academic buoyancy, this study will guide the development of more-effective support systems and educational practices that promote students' well-being and academic success.

1.3 Problem Statement

The main objective of this study is to ascertain the chain-mediating effect of SRL strategies and academic buoyancy on the relationship between social support and test anxiety.

First, regarding the literature gap, significant theoretical divergence and empirical inconsistency exist in the literature concerning the impact of social support on test anxiety. Traditional perspectives generally posit that social support alleviates students' test anxiety. However, recent empirical studies have produced contradictory findings. For instance, Putwain et al. (2010) found no significant correlation between social support and test anxiety. More notably, some recent studies have suggested that social support may have unintended negative effects—Pengelly (2021) and Raufelder et al. (2018) reported that certain forms of social support might exacerbate students' test anxiety. This inconsistency in research findings underscores the importance of

exploring potential mediating mechanisms. However, existing studies on potential mediators remain insufficient, particularly concerning two key variables: SRL strategies and academic buoyancy. As highlighted by Abbasi and Javanmard (2022) and Lei et al. (2021), these variables, which may play a crucial mediating role, have not been adequately investigated. This research gap significantly constrains our understanding of the mechanisms through which social support influences test anxiety and limits the development of effective intervention strategies.

Second, regarding the theoretical gap, this study proposes a comprehensive framework by examining the potential mediating variables of SRL strategies and academic buoyancy in the association between social support and test anxiety. The precise mechanism by which social support influences test anxiety remains unclear. Prior research has established a link between test anxiety and compromised cognitive processes, resulting in lower academic achievement (Owens et al., 2008). According to social cognition theory, social support can affect an individual's self-cognition and subsequently influence their emotions. Therefore, this study chose SRL strategies as the mediator variable to explore its impact on test anxiety. According to positive psychology theory, good social support may lead to positive emotions and effective coping. Thus, the researcher considered another promising psychological coping attribute: academic buoyancy. This study explored how social support can address test anxiety through SRL strategies and academic buoyancy.

Third, regarding the practice gap, despite the pervasive and far-reaching impact of test anxiety within the Chinese educational system, stakeholders (including educational administrators, teachers, and parents) consistently lack a systematic cognitive

framework to identify and address this issue. Specifically, there remains an absence of comprehensive understanding regarding the key factors contributing to students' test anxiety and a lack of established effective intervention strategies. This deficiency in both cognitive and practical dimensions has impeded the formulation and implementation of relevant support measures and constrained the overall efficacy of the Chinese educational system in addressing test anxiety issues. This study aims to bridge this practical gap through systematic investigation of the causal mechanisms underlying test anxiety, thereby providing educational practitioners with actionable solutions.

In conclusion, this study examined the relationship between social support, SRL strategies, and academic buoyancy on test anxiety among Chinese final-year high school students. Specifically, this study tested the hypothesis that social support can be achieved through SRL strategies and academic buoyancy to predict test anxiety. Figure 1.1 below summarizes the problem statement based on the previous studies.

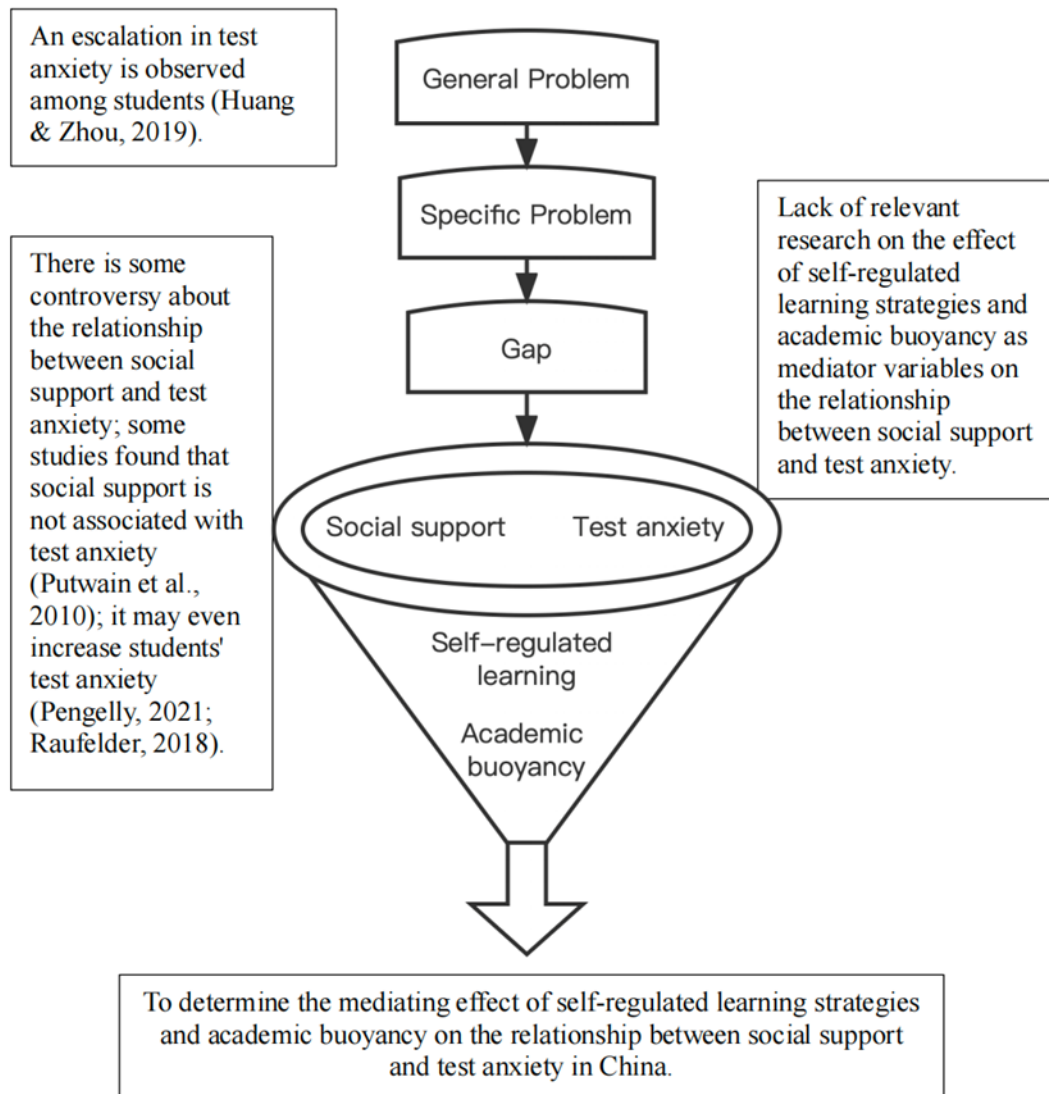


Figure 1.1 : Present a Problem Statement

1.4 The Objective of the Study

1.4.1 General Objective

The general objective of the study aims to determine the mediating effect of SRL strategies and academic buoyancy on the relationship between social support and test anxiety among Chinese final-year high school students.

1.4.2 Specific Objectives

This study aims to achieve the following specific objectives:

1. To assess the levels of SRL strategies, academic buoyancy, social support, and test anxiety among Chinese final-year high-school students.
2. To examine the relationships among social support, SRL strategies, academic buoyancy, and test anxiety among Chinese final-year high-school students.
3. To investigate the mediating effect of SRL strategies between social support and test anxiety among Chinese final-year high-school students.
4. To analyze the mediating effect of academic buoyancy between social support and test anxiety among Chinese final-year high-school students.
5. To evaluate the chain-mediation effect of SRL strategies and academic buoyancy on the relationship between social support and test anxiety among Chinese final-year high-school students.

1.5 Research Questions

The research questions for this study are as follows:

1. What are the levels of social support, SRL strategies, academic buoyancy, and test anxiety among Chinese final-year high school students?
2. What is the relationship between social support, SRL strategies, academic buoyancy, and test anxiety among Chinese final-year high school students?
3. Do SRL strategies mediate the relationship between social support and test anxiety among Chinese final-year high school students?
4. Does academic buoyancy mediate the relationship between social support and test anxiety among Chinese final-year high school students?
5. Do SRL strategies and academic buoyancy play a chain-mediation role between social support and test anxiety among Chinese final-year high school students?

1.6 Research Hypotheses

To achieve the objectives of this study, the hypotheses in Table 1.1 were formulated.

Table 1.1 : Research Hypotheses

Research Objectives	Research Hypotheses
RO1: To determine the level of social support, SRL strategies, academic buoyancy, and test anxiety among Chinese final-year high school students.	/
RO2: To determine the relationship between social support, SRL strategies, academic buoyancy, and test anxiety among Chinese final-year high school students.	H1: Social support has a significant effect on SRL strategies. H2: Social support has a significant effect on academic buoyancy. H3: Social support has a significant effect on test anxiety. H4: SRL strategies has a significant effect on academic buoyancy. H5: SRL strategies has a significant effect on test anxiety. H6: Academic buoyancy has a significant effect on test anxiety.
RO3: To determine the mediating effect of SRL strategies between social support and test anxiety among Chinese final-year high school students.	H7: SRL strategies mediates the relationship between social support and test anxiety.
RO4: To determine the mediating effect of academic buoyancy between social support and test anxiety among Chinese final-year high school students.	H8: Academic buoyancy mediates the relationship between social support and test anxiety.
RO5: To determine the chain mediating effect of SRL strategies and academic buoyancy between social support and test anxiety among Chinese final-year high school students.	H9: SRL strategies and academic buoyancy play a chain mediating role between social support and test anxiety.

1.7 Significance of the Study

1.7.1 Theoretical Significance

Firstly, this study synthesizes perspectives from Social Cognitive Theory, Self-Regulated Learning Models, and Positive Psychology Theory to propose a new,

comprehensive framework encompassing social support, SRL strategies, academic buoyancy, and test anxiety. This framework introduces novel perspectives for academic research while providing practical tools for educational practice, enabling educators and parents to better understand and support students' learning processes.

Secondly, this study expands upon existing knowledge. Foremost, this research addresses a gap by providing valid insights into research controversies regarding social support and test anxiety. Furthermore, this study enriches research on SRL strategies and academic buoyancy as chain-mediating variables between social support and test anxiety. The study's results yield a pathway model that delineates how various factors influence students' test anxiety.

1.7.2 Practical Significance

Firstly, for educators and school administrators, this research emphasizes the importance of creating a supportive and stress-reducing classroom environment. This can be achieved through various measures, such as implementing stress-relief activities, offering flexible assessment methods, and providing timely feedback. By fostering an atmosphere that encourages open communication and reduces competitive pressures, educators can help mitigate students' anxiety and enhance their academic performance.

Secondly, for guidance counselors, this study provides effective guidance for them. Counselors can use the research findings to develop targeted interventions and workshops that address test anxiety. These might include training students in stress-management techniques and providing individual or group counseling sessions

focused on building academic buoyancy and self-regulation.

Thirdly, for parents, this research highlights the importance of parental involvement in managing test anxiety. Parents can be educated about effective strategies for supporting their children, such as creating a calm and supportive home environment. By actively participating in their children's academic lives and providing emotional support, parents can play a pivotal role in reducing anxiety and enhancing overall student well-being.

Lastly, one of the key significances of this study is to help students recognize the negative impacts of test anxiety and the factors associated with it. This awareness aids students in understanding how test anxiety can affect their academic performance, emotional health, and overall quality of life. By revealing the specific negative consequences of test anxiety, such as reduced learning efficiency, increased psychological stress and health problems, the research enables students to grasp the severity of these issues and motivates them to take action to manage and alleviate their anxiety. Furthermore, the study identifies key factors influencing test anxiety, including SRL strategies, social support systems, and individual and familial environments. Recognizing these factors helps students understand which aspects might exacerbate their anxiety and provides them with targeted coping strategies. The study's findings can guide students in adopting effective coping techniques and strategies, such as seeking social support, thereby better controlling and reducing anxiety. Through these strategies, students can enhance their self-regulation abilities, improve their study habits and approach exam pressures with greater composure.

1.8 Scope and Limitation

1.8.1 Scope of the Study

Study scope refers to the parameters within which a study will be conducted. These parameters define how you attempt to resolve the research problem. Consider the scope of research as the domain of your research - what lies within that domain (Simon & Goes, 2013).

This study was conducted in Heilongjiang Province, China, with several carefully defined boundaries to ensure research focus and methodological rigor. The study population specifically comprised final-year students in public senior high schools, as these students faced the imminent College Entrance Examination, a critical academic milestone that typically generates significant psychological pressure.

Regarding social support sources, this study deliberately focused on three primary relationship circles in students' academic lives: parents, teachers, and peers. While acknowledging that students might receive support from various community members (such as neighbors, community workers, or other social connections), these external sources were excluded to maintain research specificity and manageability. This selective approach allowed for a more focused examination of the most immediate and influential support networks in students' academic lives.

Furthermore, among various types of social support (including emotional, instrumental, informational, and appraisal support), this study specifically examined emotional support and informational support. This focused approach was adopted to enable a deeper understanding of how emotional and informational support influence

students' test anxiety levels.

1.8.2 Limitations of the Study

Limitations encompass various factors and situations that lie beyond the researcher's control, impeding the scope and potential outcomes of a study and influencing its conclusions (Simon & Goes, 2013).

Firstly, this study was collected at a single point in time; this approach lacks the ability to track changes and developments over extended periods. However, this research design is often more cost-effective and quicker to conduct than longitudinal studies, making it a practical option for preliminary investigations or when resources are limited, and it can still provide value.

Second, another limitation arises from relying on self-report measures as the primary method for data collection. In self-reported measures, there is the possibility that respondents interpret the meanings of questions differently, despite careful efforts to ensure that ambiguous words and their meanings have been made explicit to each respondent (Creswell, 2012). A key methodological concern is the potential for response bias, which can undermine the validity of collected data. To mitigate this issue, the researchers utilized well-established, validated measurement instruments from prior research (Podsakoff et al., 2003). The use of these pre-tested scales helped minimize ambiguity and misinterpretation of survey items. Additionally, participants were explicitly informed that their responses would remain anonymous. This assurance encouraged respondents to provide candid, truthful answers rather than feeling compelled to give socially desirable responses (Podsakoff et al., 2003). By

emphasizing confidentiality, the researchers aimed to create an environment where participants felt comfortable disclosing their genuine perceptions and experiences.

Lastly, although students remained unidentified when completing the questionnaire, the survey took place in a school environment. Several variables, particularly those connected to school-related factors, could have been considered sensitive. For instance, students might have hesitated to respond to questions about their teachers. This attitude might have distorted the study's results. However, this limitation was addressed through the use of anonymous responses.

1.9 Definition of Terms

1.9.1 Social Support

Social support can be conceptualized as the perception or experience of being loved, cared for, esteemed, valued and integrated within a network of mutual assistance and obligations (Wills, 1991). In research contexts, it is crucial to differentiate the sources of support by categorizing social ties, such as family members, friends and neighbours. Additionally, the types of support provided - emotional, instrumental, companionship, informational and esteem support - should be identified and examined according to the study's objectives (Barrera, 1986). Parents, teachers and peers are the three most influential sources of social support in teenagers' development and learning (Wentzel, 1998). Two dimensions of support are associated with students' academic development: emotional support and instrumental support (Semmer et al., 2008). In this study, social support refers to emotional support (emotional encouragement) and instrumental support (direct support with academic tasks and the provision of educational resources) offered by parents, teachers and friends in the context of

students' academic learning.

1.9.2 Self-regulated Learning (SRL) Strategies

SRL strategies refer to the learning strategies adopted by students during the learning process (Kong & Lu, 2012). In this study, SRL strategies consist of six strategies: (i) self-efficacy, (ii) cognitive strategies, (iii) metacognitive strategies, (iv) extrinsic goal orientation, (v) intrinsic goal orientation, and (vi) cooperative learning.

Self-Efficacy

Self-efficacy refers to individuals' beliefs in their capabilities to achieve specific levels of performance, which, in turn, influence the events and outcomes that impact their lives (Bandura, 1994). In this study, self-efficacy refers to judgments about students' ability to accomplish study tasks and their confidence in their skills to perform study tasks.

Cognitive Strategies

Cognition is a process that involves the intake of information as input and the generation of information as output (Winne, 2017). In this study, cognitive strategies refer to students' rehearsal, elaboration, and organization of their own study behaviour.

Metacognitive Strategies

Metacognition refers to the awareness, knowledge, and regulation of one's own cognitive processes (Pintrich, 1991). In this study, metacognitive strategies refer to students' planning, monitoring, and regulating of their own study behaviour.

Extrinsic Goal Orientation

Extrinsic goal orientation is generally referred to as the motive that keeps individuals at a task by the application of external rewards (Ryan & Deci, 2000). In this study, extrinsic goal orientation refers to the extent to which a student engages in a task for external reasons, such as obtaining grades, rewards, recognition, evaluation by others, and competition.

Intrinsic Goal Orientation

Intrinsic goal orientation is generally referred to as the motive that keeps individuals at a task through its own inherent qualities (Ryan & Deci, 2000). In this study, intrinsic goal orientation refers to the extent to which a student engages in a task driven by internal motivations, such as the desire for challenge, curiosity, and mastery.

Cooperative Learning

Cooperative learning is defined as the interaction among students characterized by an egalitarian partnership in the learning process, as opposed to traditional hierarchical roles of teacher/learner or tutor/tutee (Dansereau, 1988). In this study, it primarily describes the collaborative learning processes between students and their peers.

1.9.3 Academic Buoyancy

Academic buoyancy is the capacity to overcome the academic challenges that are typical of "daily" school life (Martin & Marsh, 2008a). In this study, it refers to the student's ability to overcome the academic challenges of the school.

1.9.4 Test Anxiety

Test anxiety refers to a situation-specific variant of the characteristic anxiety known as the tendency to view performance-evaluative circumstances, such as taking a test, as dangerous (Spielberger & Vagg, 1995). In this study, it refers to a state of worry about a diminished self-image, accompanied by cognitive deficits and marked physical or psychological tension.

Tenseness

Tenseness refers to the physiological awakening and physical distress caused by the test (Friedman & Bendas-Jacob, 1997). In this study, tenseness refers to the physiological symptoms associated with test anxiety, describing the student's sense of nervousness before or during a test.

Social Derogation

Social derogation refers to students anticipating negative social feedback and the fear of derogation in one's self-image and sense of self-efficacy (Friedman & Bendas-Jacob, 1997). In this study, social derogation refers specifically to a student's fear of being devalued or disrespected by friends, teachers, or others within their social environment.

Cognitive Obstruction

Cognitive obstruction refers to an impediment to cognitive functioning, characterized by difficulties in thinking clearly and experiencing a sense of mental blankness or an "empty head" (Friedman & Bendas-Jacob, 1997). In this study, cognitive obstruction refers to any cognitive barriers that impede an individual's ability to process

information, think clearly, or solve problems efficiently.

1.10 Summary

This chapter outlines the background and problem statement pertinent to the present study, detailing its objectives and significance, and describes the research questions and hypotheses. Additionally, it addresses the scope and limitations of the research. The chapter concludes with a definition and exploration of key terms relevant to the study.



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