東海大學教育研究所

碩士論文

台中國小學童知覺父母心理支持、自我效能與自我調整學習之相互關係

The Relations among Perceived Parental Psychological Support, Self-Efficacy, and Self-Regulated Learning for Elementary School Students in Taichung

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摘　要

本研究旨在討論台中市國小學童知覺父母心理支持、自我效能與自我調整學習之相互關係，希望能瞭解受試者知覺父母教養方式、自我效能與自我調整學習之現況，以及其不同性別與年級受試者的差異情形，進而知曉知覺父母心理支持、自我效能與自我調整學習的相關與預測。

本研究採用問卷調查方式蒐集台中市公立國民小學五年級及六年級共 679 位學生的填答結果，使用 SPSS 17.0 版進行描述性統計、Hotelling's T^2 考驗、皮爾森基差相關以及階層迴歸分析，本研究主要結果如下：

一、台中市國小學童知覺較正向的父母心理支持，具有中等自我效能及自我調整學習能力。

二、整體來說，性別與年級都無太大差異。

三、國小學童知覺父母心理支持、自我效能與自我調整學習的各個層面之間具有不同程度的正相關。

四、僅知覺父母自主支持層面無法預測學業成就的自我效能與自我調整學習的認知層面，其餘各層面都能預測自我效能與自我調整學習的各層面。僅學業成就的自我效能無法預測自我調整學習中的行為與背景層面，其餘自我效能層面皆能預測自我調整學習各層面。

依據研究結果發現提出建議，以供父母與教育機構及後續研究參考。

關鍵詞：父母心理支持、自我效能、自我調整學習

The Relations among Perceived Parental Psychological Support, Self-Efficacy, and Self-Regulated Learning for Elementary School Students in Taichung

ABSTRACT

While the effects of parenting style, self-efficacy, and self-regulated learning on learning has been extensively investigated, the interrelationships among those three are relatively unexplored. This study presents an overview of self-determination-based parenting and its relations with self-efficacy and self-regulated learning. Evidence suggests that parents' support of students' basic psychological needs for autonomy, competence, and relatedness facilitate students' self-efficacy and self-regulated learning. Study involving 679 children of grade 5 and 6 in elementary school in Taichung. SDT-based parenting style was able to satisfy basic psychological needs and raise self-efficacy in academic and enhance the ability of self-regulated learning. No much difference in gender and grade. There were positive correlations between each scale and subscales. As the expectation, perceived psychological support was able to positively predict self-efficacy and self-regulated learning; and self-efficacy to positively predict self-regulated learning. As an mediator, student's self-efficacy for self-regulated learning completely or partially mediated the effect of perceived parental psychological support on self-regulated learning, except autonomy on context and involvement on motivation. Collectively, the outcome will enhance our understanding of how to facilitate children's learning with adequate parenting styles, increasing self-efficacy and improving self-regulated learning.

Keywords: parental psychological support, self-efficacy, self-regulated learning

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CHAPTER I

INTRODUCTION

Traditionally, children's school years should be viewed as a relatively relaxed and simple phase in life. Over the last few decades however, school work and examinations in Taiwan have become increasingly competitive and stressful (Woodman, 2011). Since education is viewed as an important and necessary tool to success, academic success has also viewed as a precursor to life success in Taiwan. In this plural society with a multiplicity of options, students should be motivated to learn and able to make appropriate choices in respect to their education.

The family is the basic unit of society and a bastion where children live and grow. Parents are the guardians and leaders of children. The influence of parenting is considerable in regards to several aspects of developmental outcomes, such as academic performance, development, behaviors, and social functioning (Bornstein & Bornstein, 2007; Darling, 1999; Grolnick, 2009; Grolnick & Ryan, 1989; Martínez & García, 2007). Although Taiwanese refers to people who live in Taiwan, Taiwanese are considered to be the same as Chinese ethnically. From a Chinese perspective, good students are characterized as having excellent academic performance. Chinese parents put emphasis on academic success and often feel the need to make decisions for their children; and children are expected to follow the path which their parents have laid down for them without question. Amy Chua, the author of *Battle Hymn of the Tiger Mother*, is a recently well-known typical Chinese parent. She conveys her opinions about how Chinese parents are better at raising kids than Western ones (Chua, 2011), but her opinions are strongly questioned by

lots people from various fields. The influx of international media has brought concepts of personal choice and independence to the youth of Taiwan; and the growth in the academic and industrial sectors has brought new career opportunities, new educational fields and new lifestyle options (Woodman, 2011). Parents are often at a loss when it comes to these new opportunities, and are unable to assist their own children make choices that would affect not only their education, but also future career opportunities. Thus, it is even more imperative that students be able to make decisions and choices that add value to their academic and professional lives.

"Academic self-regulation refers to self-generated thoughts, feelings, and actions, that are planned and systematically adapted as needed to affect one's learning and motivation" (Schunk & Ertmer, 2000, p. 631). For a student this would involve choices and decisions about subjects and personal goals, and actions that would lead to the fulfillment of these goals. Students who are able to regulate their learning experiences are internally motivated and ready to take the effort required to reach the goals they have set (Rosen, Glennie, Dalton, Lennon, & Bozick, 2010). Self-regulated learning is

> "*an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment.*" (Pintrich, 2000, p. 453).

The value of self-regulation in academic success has been verified by a number of studies (Camahalan, 2006; Smith, 2001; Zimmerman, 1990). Children do not become self-regulated learners on their own. Over time they internalize the motivation provided by parents and teachers in respect to their academic goals.

Parents play a particularly important role in providing the children with reasons to apply themselves to their studies and achieve success in their academic goals (Deci & Ryan, 1987; Elias & Yee, 2009). The opinions, values and goals provided by the parents all contribute to how the child comes to view their studies, and the extent to which they internalize the motivation to succeed. Children who are exposed to attitudes that value education and reward success are more likely to exhibit internal motivation to learn (Desforges & Abouchaar, 2003). On the other hand, children who experience dominating behavior, inconsistent attitudes and weak incentives are less likely to report that they value education (Desforges & Abouchaar, 2003). Thus, parenting styles and parental behaviors have been found to be valuable in predicting the child's academic success (Desforges & Abouchaar, 2003). Parental autonomy support, parental provision of structure, and parental involvement are considered to be related to child's self-regulation and academic success (Grolnick, 2009; Grolnick & Ryan, 1989; Soenens & Vansteenkiste, 2005; Wong, 2008).

Even though the child has the appropriate resources and has the motivation to show active involvement in his/her academic decision-making; they are unlikely to voice their opinions and take action if they do not trust their own ability to succeed at the chosen task. Bandura (1977, 1997a) has described this belief in one's own ability to make decisions and successfully achieve goals as self-efficacy. A person's self-efficacy is a task specific confidence in their own ability to complete the task at hand with success (Bandura, 1977). An individual who believe that he / she is able to successfully complete a task is more likely to take the effort to do so then one who does not (Pajares, 2008). Self-efficacy is one of the more important self-beliefs described by Bandura (1977) and has been implicated in increased levels of performance (Rosen et al., 2010) as well as higher participation from students.

Rosen, et al. (2010) believes that it plays a particularly important role in the process decision-making that leads to success.

Thus, it is possible that the extent of self-regulated learning a child exhibits may be influenced by various factors, including parental support available to the child and the child's own belief in his/her abilities to succeed at academics (Duckworth, Akerman, MacGregor, Salter, & Vorhaus, 2009). Children who practice self-regulated behaviors are also more likely to believe themselves as more effective at meeting challenges as compared to children who show little self-regulated learning. Parent psychological supports are also likely to be associated with the extent to which a child believes that they are able to succeed at academic challenges.

Given this value of self-regulated learning for current students; it is necessary that we try to understand the factors that are associated with its development in detail. Information about what factors help predict the use of self-regulating learning by students can be used to develop experiences that encourage these abilities in a child (Deci & Ryan, 1987). It would then become possible to train both educators and parents and equip them to create an atmosphere that is conducive to the development of self-regulated behaviors.

Significance of the Study

The current research will provide an understanding of the relationships shared by parental behaviors (parental autonomy support, parental structure, and parental involvement), the children's self-efficacy, and their ability to self-regulate in context to education among Taiwanese elementary school students. It will also define the role of self-efficacy as a mediator between parenting styles and self-regulated

learning. This understanding can help in equipping parents to support their children in their academic success.

Purpose of Study

This study is proposed as an attempt to examine the relationships among perceived parental psychological support, self-efficacy, and self-regulated learning in elementary school students in Taichung. The researcher believes that understanding the relationships indicated by these variables will help in understanding the way these and other factors encourage or discourage the development of self-regulated behaviors in elementary school students in Taiwan. This understanding may then be applied to providing parents and educators with the ability to help children gain the appropriate experiences necessary to develop strong self-regulation skills.

Major Research Questions

This study attempts to answer the following questions and sub-questions. Each of these sub-questions is on the basis of the three components of parental psychological support.

1. What are the current status of perceived parental psychological support, children's self-efficacy, and self-regulated learning?
2. Are there significant differences among elementary students of different gender and grades on perceived parental psychological support, children's self-efficacy, and self-regulated learning?
3. Are there significant correlations among perceived parental psychological support, children's self-efficacy, and self-regulated learning?
    3-1 Are there significant correlations among perceived parental autonomy support, children's self-efficacy, and self-regulated learning?

3-2 Are there significant correlations among perceived parental structure, children's self-efficacy, and self-regulated learning?

3-3 Are there significant correlations among perceived parental involvement, children's self-efficacy, and self-regulated learning?

4. Are there predictions among perceived parental psychological support, children's self-efficacy, and self-regulated learning?

4-1 Can perceived parental psychological support predicts children's self-efficacy?

4-2 Can perceived parental psychological support predicts self-regulated learning?

4-3 Can perceived children's self-efficacy predicts self-regulated learning?

5. Can children's self-efficacy play as a mediator between perceived parental psychological support and self-regulated learning?

5-1 Can children's self-efficacy play as a mediator between perceived parental autonomy support and self-regulated learning?

5-2 Can children's self-efficacy play as a mediator between perceived parental structure and self-regulated learning?

5-3 Can children's self-efficacy play as a mediator between perceived parental involvement and self-regulated learning?

Definition of the Terms

Parental Psychological Support

According to self-determination theory, basic psychological needs include the needs for competence, relatedness, and autonomy (or self-determination) (Deci, Vallerand, Pelletier, & Ryan, 1991). Researches shows when human basic psychological needs for competence, autonomy and relatedness are satisfied within

social context will enhance well-being, maximize performance, promote self-regulation, maintain intrinsic motivation, and internalize extrinsic motivation (Deci, Ryan, & Williams, 1996; Deci et al., 1991; Frederic Guay, Senecal, Gauthier, & Fernet, 2003; Reeve, Jang, Carrell, Jeon, & Barch, 2004; Ryan & Deci, 2000b).

Parental Autonomy Support

"Autonomy support was defined as the degree to which parents value and use techniques which encourage independent problem solving, choice, and participation in decisions versus externally dictating outcomes, and motivating achievement through punitive disciplinary techniques, pressure, or controlling rewards" (Grolnick & Ryan, 1989, p. 144). Three dimensions were developed to measure parental autonomy support: values autonomy, autonomy-oriented techniques (such as encouragement and reasoning), and nondirectiveness (such as encourage children to solve the problems by themselves).

Parental Structure

"Structure refers to the extent to which socializing agents provide consistent guidelines, expectations, and rules for behavior, without respect to the style in which they are promoted" (Koestner & Losier, 2002, p. 115). "Environments that provide structure in the forms of clear rules, expectations, and guidelines help to facilitate the experience of competence" (Grolnick, 2009, p. 165). Two components were developed to keep within the SDT definition of parental structure: information and consistency (Grolnick & Ryan, 1989). Both are related to the rule and expectation of the behavior that parents set for their children.

Parental Involvement

"Parental involvement has been defined as the extent to which parents are interested in, knowledgeable about, and willing to take an active role in the day-to-day activities of their children" (Wong, 2008, p. 497). Parental involvement facilitates the need for relatedness which is one of the three essential psychological resources for motivation in school (Grolnick, Friendly, & Bellas, 2009). There are two dimensions in the scale: time spent and enjoyment; to measure how much time the parents spent with their children and the extent which the parents enjoy involved in their children's activities.

Self-Efficacy

"Self-efficacy refers to personal judgments of how well one can perform actions in specific situations that may contain ambiguous, unpredictable, and stressful features" (Schunk, 1984, p. 29). Bandura (1994) defined self-efficacy as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Two dimensions were included in the scale: self-efficacy for academic achievement and self-efficacy for self-regulated learning. Those are trying to know what kinds of things that is difficult for students.

Self-Regulated Learning

"A general working definition of self-regulated learning is that it is 'an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulated, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment"(Wolters,

Pintrich, & Karabenick, 2003, p. 5). According to Pintrich (2000), there are four dimensions in this study: cognition, motivation, behavior, and context.

CHAPTER II

LITERATURE REVIEW

Academic success of students is an increasingly high priority, and it is often difficult for parents to provide their child with constant incentives for success (Woodman, 2011). Children who like to study and have a personal investment in their own success are more likely than others to study without much supervision and to value their academic achievements. These children take pride in their successes, and are driven by internal goals rather than external encouragement. They are able to make decisions that will help them achieve their goals and turn to adults when they need input.

Children are not born with internalized educational goals, and it is necessary to provide them with the appropriate environment that will help them to internalize the desire to succeed and the ability to set personal goals (Deci & Ryan, 2000). Such an environment may be provided by parents, teachers, and the school, though parents play the most important role (Soenens & Vansteenkiste, 2005). Children learn to respond to rules and targets set down by parents early in their lives. Parents are a primary source of information, discipline and appreciation for young children, and they quickly learn to internalize the goals and attitudes that gain them appreciation and affection from the parents. This makes it important that parents present the child with experiences that help to develop the qualities that they require in order to succeed. One such set of behaviors and attitudes have been addressed by Self-Determination Theory, a macro-theory that attempts to explain human decisions, choices and behaviors in terms of the source of motivation.

Self-Determination Theory

The term self – determination was initially coined to describe political and philosophical perspectives on the nature of the state and it's governance and the attributes of the person and was used to some extent in psychology to describe the way humans viewed themselves (Price, Wolensky, & Mulligan, 2002; Wehmeyer, 1999). The psychological perspective was developed through the late 20th century by Deci and Ryan (1985), who have defined Self-Determination as

"*A quality of human functioning that involves the experience of choice, in other words, the experience of an internal perceived locus of causality; it is the capacity as well to choose and to have those choices, rather than reinforcement contingencies, drives, or any other forces or pressures, be the determinants of one's actions*."(p.38).

Self-determination theory has been studied by a number of researchers, and has been developed as an explanation of human motivation, behavior and personality (Deci & Ryan, 2000; Niemiec & Ryan, 2009). It assumes that a human being is by nature active, curious, interested in events, self-motivated and desirous of success since the experience of success is a satisfying and rewarding experience that reinforces itself (Deci & Ryan, 2008a). Initial work on self-determination theory started in the 1970's and was refined by Deci and Ryan in the 1980's (1985, 2008b). The last few decades have seen tremendous work in self-determination theory, and various researchers have applied its principles to various areas of human functioning like health (Deci & Ryan, 2008b), parenting (Joussemet, Landry, & Koestner, 2008), work (Frederic Guay et al., 2003), sport (Standage, Duda, & Ntoumanis, 2005), education (Deci et al., 1991), psychotherapy (Ryan & Deci, 2008).

Although self-determination is neither absolute control, nor to be confused with success (Wehmeyer, 1999); it does involve the person's ability to make choices that is autonomous of the influence of others. It is important not to confuse self-determination with either self-sufficiency or self-reliance as self-determination is an attribute of an action or event or choice, and not of the life conditions of the person. Ohtake and Wehmeyer (2004) have described four essential characteristics of behavior that are self-determined:

1. The individual's actions are autonomous (i.e. – taken by them without pressure or direct instruction from others).
2. The individual's behaviors are self-regulated (i.e. – chosen by the individual themselves).
3. The individual initiates the event or behavior, and responds to the events that follow in a psychologically empowered manner
4. The individual acts in a self-realizing manner (i.e. – their actions add towards the development of their personality).

Sub-theories of Self-Determination Theory

Research has identified five sub-theories that constitute the experience of self-determination. These sub-theories attempt to explain different aspects of the individual's growth, the drawing of connections and integration of the self with a social world while maintaining an individual existence. The sub-theories are the Cognitive Evaluation Theory, Organismic Integration Theory, Causality Orientations Theory, Basic Psychological Needs Theory and Goal Contents Theory. The five sub-theories when taken together provide an extensive definition and description of

the self-determination theory.

The Cognitive Evaluation Theory has been used to describe the differences and variations in human motivation and behavior, specifically in context to intrinsic motivation. Pelletier, Fortier, Vallerand, and Brière (2001) describe how individuals are likely to have different levels of self-determined motivation in different situations, and the experiences that lead to these differences. According to the cognitive evaluation theory, a number of social and environmental factors play a role in the extent to which the individual believes that they are competent of taking decisions and have the autonomy to do so (Frederic Guay et al., 2003). Individuals who are encouraged and rewarded for taking decisions on their own are likely to keep doing so, while those who experience negative experiences for doing the same are less likely to do so in the future. The rewards of punishments may come from significant others (ex. parents, teachers, caregiver), or from other environmental experiences in regards to health, grades in school, or feedback at work.

The Organismic Integration Theory attempts to describe the different types of external motivators that may be initially presented to the individual as well as the factors that influence the extent to which the motivation for the behavior in question is internalized and integrated into the individual's functioning (Deci & Ryan, 2000). This sub-theory describes the factors that are implicated in both the promotion and the inhibition of internalization of motivation; and helps in understanding the reasons why this happens.

The Causality Orientations Theory on the other hand focuses on the differences in the personalities of different persons and the interaction of the same with the extent to which the individual prefers self-determination or external control in different life

domains (Wilson, Mack, & Grattan, 2008). The theory underlines the fact that various personality variables affect the choices and preferences of individuals, and that these personality variables affect the extent to which an individual would want to exercise self-determination or would prefer to function in a more controlled manner in a given domain of their lives. This theory also provides an explanation for why some people may show self-determination in some aspects of life while not showing it in others.

The Basic Psychological Needs Theory explains self-determination within the context of a triad of basic needs of an individual – the need for autonomy, the need for competence and the need for relatedness. According to this theory, self-determination is a function of the relationship shared by these psychological needs and the individual's wellbeing (Ryan & Deci, 2002). A description of similar needs has been given by various theorists like Maslow, Papalia and others among others. The need for autonomy is the individual's need to exist and take action that is free from external involvement, while the need for competence is the individual's need to achieve success and accomplishment in a chosen activity. The need of the individual to form relationships with and have interaction with others is the need for relatedness (Deci & Ryan, 2000). It is important that these needs of an individual be fulfilled to ensure the development of a healthy personality (Deci & Ryan, 2000).

The fifth and last of the sub-theories is the Goal Contents Theory which describes the importance of goals in the process of satisfying needs (Ryan, 2009). Goals like the development of relationships, success at work personal growth and social contribution are valuable to the individual, and different goals afford different levels of need satisfaction to the individual (Ryan & Deci, 2000b). Each individual ascribes

a goal with different value and importance, and this is associated with the extent of need satisfaction.

The Role of Motivation

According to the self-determination theory, humans are internally motivated to find out things that are unknown, to learn about things. This includes people, customs and phenomena that they are surrounded by. According to Deci and Ryan (1985), when significant adults provide children with experiences that stimulate and challenge them while allowing them to function autonomously; a child is more likely to grow and learn. In their other paper (Deci & Ryan, 2000), they have discussed the roles of internalization and intrinsic motivation in the process of learning, development and adaptation. According to them, an individual's environment needs to provide them with the psychological support and experiences that enhance the already present intrinsic motivation as well as the process of internalization of desired goals and motivations.

"The concept of intrinsic motivation represented a starting point for the empirical exploration of the more natural view of learning --- the view that the impetus for learning and development is innate, needing only to be facilitated and nurtured rather than directed and controlled" (Rigby, Deci, Patrick, & Ryan, 1992, p. 166). The self-determination theory discusses intrinsic motivation as a response to the innate need of the individual for competence and self-determination (Deci & Ryan, 1985). Ryan and Connell (1989) also believed that intrinsic motivation is innate rather than internalized. According to Pintrich and Schunk (2002), intrinsic motivation also refers to the desire of the individual to pursue an action or activity for its own sake and not for the sake of some external reward. When an individual

takes autonomous action and self-determined decisions, they experience a sense of control and power. Such experiences help sustain and develop this intrinsic motivation to continue this action by providing the individual with a positive emotional feedback when they are able to take control of their choices and actions (Rosen et al., 2010). Some theorists like Vansteenkiste et al. (2009) believe that intrinsic motivation is the best source of motivation in any given situation, since it is self-regulated and does not require the existence of any external factors to encourage its use. Due to this, actions that are performed due to the individual's intrinsic motivation do not require significant external reinforcement. The performance of these actions itself provides the individual with a positive experience; and thus, the individual is likely to continue to keep performing the action regardless of external reinforcement (Deci et al., 1996).

Although all individuals are born with certain innate motivation; it does not easily translate into daily situations where survival is not at stake. A number of behaviors that are learned as a part of social life are the result of external motivation – i.e. – the motivation to perform this action comes from external factors like social expectations and the fear of punishment. Such behaviors are not performed due to an internal need to perform them, but because they are linked to what Deci et al (1991) have called a Separable Consequence. It was believed that intrinsic and extrinsic motivation were mutually exclusive categories, and often antagonistic (Deci & Ryan, 2000). Only intrinsic motivation was considered as self-determined and extrinsic motivation was believed to be a passive state where the organism was affected by environmental forces with no involvement of human agency. Research since then has verified that the two types of motivations are more complementary and interdependent (Koestner, Ryan, Bernieri, & Holt, 1984), and external motivation is

often found to help in the development of intrinsic motivation (Vansteenkiste, Lens, & Deci, 2006). Often, it is possible to see a shift in the type of motivation that drives a behavior; such that behaviors that were previously extrinsically motivated over time become intrinsically motivated (Pintrich & Schunk, 2002) as the individual begins to see personal importance for these behaviors. This research provides valuable information that may be applied to the field of education and student motivation, since it shows that it is possible to help a student internalize the goals that they perceive as contingent on external factors.

Internalization is a process of the individual accepting social norms, regulations and concepts so that these events now hold personal value for the individual regardless of the external feedback (Joussemet et al., 2008). The socialization process is essentially an attempt to help an individual internalize the goals, values and regulating processes such that the individual learns to self-regulate the associated behaviors and thoughts and will continue to do so even if the social feedback is not available. The aim of successful internalization of social norms is to promote responsible and conscientious behavior (Koestner & Losier, 2002), and helps in the maintenance and development of the social fabric. In an educational setting this may be translated into student behavior that is self-regulated such that the student pursues academic goals and desires success for reasons of personal feelings of accomplishment and regard rather than for external factors like incentives and fear of punishment. Thus, goals that would be previously established for the student using extrinsic motivation now become a part of the student's own needs and desires, and thus, intrinsic. This internalization of educational goals can promote better learning and higher success in examinations (Rigby et al., 1992). According to the self-determination theory, internalization of important goals is viewed as a

valuable experience and optimal internalization is viewed as a situation where the student has fully integrated the goals without associating value judgments to these goals (Deci et al., 1991).

It is worthwhile to expand these comparative studies on educational outcomes achieved by other researchers in the fields of academic performance and student motivation. While it is not uncommon in Asian cultures for parents to exert control over the educational progress of their children, some Asian states implement a voluntary policy whereby students have the capability of choosing educational tracks. These alternative systems can provide further insights into factors which allow students to motivate themselves for greater achievement.

Among the factors which can influence academic achievements are environmental causation, in addition to various levels of individual student aptitude (Fraser, Walberg, Welch, & Hattie, 1987). This analysis will primarily focus upon internal causes for achievement, but these factors may include the immediate social/family environment of the student, as well as the consequences of past achievements – or lack thereof.

Among the various factors that might be influential in terms of motivation and achievement would be the age of the student population. It may be presumed that students in the same curriculum but who find themselves studying the same subject matter (which sometimes occurs during foreign language classes in some countries) will exhibit different performances based upon age. Younger students may prove more mentally flexible in regards to the acquisition of new concepts and behaviors due to their formative state, yet older students are more experienced. But there are many cases where age is rarely a relevant factor in terms of either motivation or

achievement. In many high school classrooms, any disparity in ages is unlikely to be greater than one year. Other researchers (Archer, Cantwell, & Bourke, 1999) have investigated differences in performance level based upon age, and have found negligible differences (Hayes, King, & Richardson, 1997).

While younger students are more psychologically flexible and potentially more adaptable, where a great age disparity exists older students are more likely to develop organized academic skills that allow them to perform more efficiently in a school environment than young children. The very young are flexible learners, but their older peers are more efficient learners. Studies where an age disparity significantly greater than one year often find difficulty in proving significant advantages in either age group (Hayes et al., 1997). More research could be conducted to determine whether older learners less experienced in public school could learn a new skill as fast as those educated throughout the entirety of their childhoods.

Achievement and motivation with respect to gender is an important variable, and the focus of considerable research. Motivation is a factor in regards to gender specific studies partially due to observations that the majority of students enrolled in most public universities are female, and this trend transcends nationalities (Ismail & Othman, 2006). Research attributes much of this disparity to attitude and organizational habits. The Ismail study portrays female students as attaining a greater sense of personal responsibility and a serious approach to their studies as compared to male classmates. And with older students, these effects may grow more pronounced to the extent that prior academic achievement influences future success in higher education (Nagaraj & Lee, 1992).

Regardless of the exact discipline, there is potential for future research in regards to the gender component of self-regulated learning. But considerable variation still exists. Other influences that can control academic performance in grade school and later on in life must include environmental considerations. It is especially in regards to grade school, it is essential to examine the influence of parents and the home environment systematically, both in regards to statistical analysis in a quantitative sense, but also it is helpful to review literature sources that impart qualitative insights concerning the roles of parental influence in future success.

Psychological Needs in Self-Determination Theory

Basic needs of an individual are drives that are importance for the physical and psychological development of the person (Ryan & Deci, 2000a). When basic needs are met, the individual develops as a healthy and well-functioning person who is able to take on challenges, and has positive strategies for coping with stressful situations (Ryan & Deci, 2000a). On the other hand, if these needs are not met, then the individual experiences stunted growth, and is not equipped adequately to cope with stressful situations (Ryan & Deci, 2000b). A psychological need has been defines as a state that requires emotional and cognitive nutriments that enable the development of a healthy and well functioning individual (Deci et al., 1996; Ryan, 1995). According to the self-determination theory, there are three such basic psychological needs that each person has, and it is essential that they be adequately met in order for the individual to able to use self-determination effectively. These needs are (Deci et al., 1991):

The Need for Autonomy

This need represents the individual's need for self-determination and the ability to control significant aspects of their environment such that they are able to meet the goals they set in order to promote behavioral engagement (Niemiec et al., 2006). An individual who is unable to control salient aspects of their experiences can experience frustration that stymies their ability to respond to challenges.

The Need for Competence

Each individual has the need to be able to execute tasks effectively so that they reach the goals they set. This is a basic need, since an individual who is unable to achieve competence in valuable activities is likely to procure inadequate resources and thus, may experience difficulty in effectively coping with the stress in the given environment. This need shares close links with the concept of self-efficacy (Friendly & Grolnick, 2009).

The Need for Relatedness

The need to relate to other human beings comes from the human need to survive in difficult circumstances by gaining support of others. An individual who is able to relate to others in a healthy manner is able to trust them and receive help when required (Deci et al., 1991).

When all three needs are satisfied, it becomes possible for the individual to produce a number of outcomes that are conducive to their growth and development. Sierens, et al. (2009) found that when these needs were met in a satisfactory manner;

students' learning was optimal. Self-determination theory emphasizes the importance of the meeting of all three needs; and also underlines the role of the interaction of the individual and the environment in the meeting of these needs (Deci & Ryan, 1987; Vallerand, Koestner, & Pelletier, 2008). When all three needs are adequately satisfied; the individual becomes capable of optimal psychological functioning and has increased intrinsic motivation (Standage et al., 2005). They are better able to internalize significant goals, and to learn from prevalent social norms and regulations (Deci & Ryan, 2008b). This function of the satisfaction of the basic psychological needs is seen across cultural contexts. As the prevalent culture is a major source of values, attitudes and rules for any child (Chirkov & Ryan, 2001), and self-determination theory postulates the interaction of the healthy individual with environment for effective internalization; it may be possible to appreciate the value of the meeting of these innate needs of the individual.

The needs have been researched for their interaction with parenting as well as motivation, education and self-efficacy; and have found valuable inter-connections. Deci, et al. (1996) have found evidence for the contribution of the meeting of psychological needs in the process of internalization; and Çankaya (2009) has found a relationship between aspects of self beliefs and the meeting of the three needs. The need for Competence is best satisfied by the promotion of structure in the individual's experiences, such that they are guided into optimal experiences that help in improving ability and achieving competence. The need for autonomy is met by providing regular opportunities to assert autonomous choice. Such situations are defined by the lack of control. The need for relatedness is best met by interpersonal involvement that reassures the individual about the presence of others, and provides that with opportunities for interaction about important events (Friendly & Grolnick,

2009). While a number of relationships are implicated as valuable for the development of human personality; particular importance has been given to that of the parent and child. Parenting plays a crucial role in the development of the child's motivations and the meeting of their needs; and thus, it becomes necessary to understand parenting that would allow the child to develop as a self-determining individual.

Self-Determination Theory – Based Parenting

Self-determination theory underlines the value of meeting the three basic psychological needs of an individual in the development of personality and the pursuit of self-determination. Parents play what is the most important role in the development and learning of young children; and their role continues to remain important through a considerable period of the child's life. The parenting style chosen by a parent is comprised of the behaviors, attitudes and values that a parent uses when interacting with their child (Mussen, 1983; in Cripps & Zyromski, 2009). In context to the self-determination theory perspective; parenting styles are defined based on the extent to which they allow for the development of the child's autonomy, the extent to which structure is provided without being controlling, and the amount of involvement and warmth that parents show towards the child (Deci & Ryan, 1985). Parenting that supports autonomous development, provides structure and involvement and is non-controlling should meet of the child's needs, and should facilitate healthy growth and development (Deci & Ryan, 1985; Farkas & Grolnick, 2010; Grolnick & Ryan, 1989).

Parental Autonomy Support

Autonomy is the ability of an individual to function of their own volition in a manner consistent with the demands of the situation; while heteronomy refers to a situation where the individual feels that their actions are regulated by other people and forces (Chirkov & Ryan, 2001). Parents can play a fundamental role in the extent to which a child experiences either autonomy or heteronomy. Parents who provide autonomy support are those who exhibit behaviors that encourage independent problem solving, choice, and participation in children (Ryan & Deci, 2000b). They do not dictate behaviors or control rewards excessively (Grolnick & Ryan, 1989); and motivate achievement by enhancing the child's internalization. Intrinsic motivation and internalization are both encouraged when parents provide autonomy support (Soenens & Vansteenkiste, 2005) since the child is able to evaluate the value of a particular goal for him / herself and is able to take pride in their choices as well as achievements (Deci & Ryan, 2000). Grolnick and Ryan (1989) have found evidence for the role of autonomy support on the development of competence as well as self-regulation.

Parental Structural Support

The extent to which parents provide rules, limits, guidelines and expectations for the child's behaviors. This is regardless of the way in which these structural elements are enforced (Grolnick & Ryan, 1989). Although previously structure was seen as an element of control asserted by parents and thus given little attention (Ryan & Deci, 2008); It has become evident that structure plays an essential role in helping the child develop strategies that enhance success and reduce failure (Grolnick, 2009). Structure provides a child with consistency and predictability;

which help in internalization (Deci & Ryan, 2008b) of rules and improve efficiency in self-regulation (Frédéric Guay, Ratelle, & Channal, 2008). Skinner, Johnson, and Snyder (2005) have given evidence for the link between perceived competency and structural support in children and have also found that structure can play a complementary role with maternal warmth. It is necessary to note that while structural support does help fulfill the need for competency; it is as important for self-determinism that this occurs in a positive and accepting environment.

Parental Involvement Support

Parental interaction with the child that includes spending time, showing interest and attention and providing emotional resources classifies as providing Involvement Support (Ratelle, Larose, Guay, & Sene´cal, 2005). Involvement support has been found to fulfill the need for relatedness in the child; and it has been also to predict both wellbeing in the child and self-regulation and academic success in elementary school (Grolnick & Ryan, 1989). This has been verified by various studies like those of Wong (2008) and Stevenson and Baker (1987); particularly with respect to younger children. It has been found to enhance internalization of academic goals as well as experiences of autonomy and competence (Grolnick & Slowiaczek, 1994). This effect was also seen with older students and college students and research by Ratelle et al. (2005) and Conger et al.(1992) among others have established that parental involvement support is associated with higher autonomy, relatedness, achievement, self-regulation, and success.

Parental support has been found to be valuable in the process of internalization of valuable goals, and has also been found to be more important with younger children. As the child grows, it requires less parental support, and becomes more

self-determining (Grolnick, 2009). This evidence underlines the significant role played by parents in the development of self-determining individuals who are capable of viewing themselves as able to learn and succeed at goals as well as make education related choices and follow through effectively on these choices.

Self-Efficacy

Self-efficacy has been defined by Bandura as "personal judgments of one's capabilities to organize and execute courses of action to attain designated goals" (Bandura, 1977). Self-efficacy was proposed as inherent to a set of self beliefs by Bandura in 1977 as the missing component in the explanation of human agency by the then prevalent learning theories. Miller and Dollard proposed Social Learning theory in 1941 that explained human learning as governed by the interaction between environmental factors and the individual's ability to learn (Pajares, 2002b). In 1963, Bandura and Walters proposed an explanation of the development of personality based on the social learning theory and their own research in it (Pajares, 2002b). Like the Self-Determination Theory, the theory of social learning proposes that human beings are agentic, and are actively involved in acquiring their own learning experiences and their development of personality. The theory also believes that while environment plays an undeniably important role in the development of the individual; it is the ability of the person to make choices about experiences, and thus are able to influence and change their environment (Pajares, 2002a). Bandura's 1977 publication about Self-Efficacy added the understanding of the contribution of the way an individual views themselves to the development of the personality. Bandura believed that the individual who believed that he/she could complete a task would be the person who was most likely to do so (Pajares, 2008, p. 111).

In understanding the attributes of self-efficacy, it is important to distinguish it from other similar concepts like esteem and expectations. Self-concept is viewed as a composite of the experiences and views of others, which efficacy is particular to a specific behavior or ability (Bandura, 1997b, p. 10). Self-concept is a global evaluation, while self-efficacy is particular (Pastorelli et al., 2001). Self-efficacy also provides a better predictive tool for performance than self-concept (Zimmerman, 2000b). Outcome expectations are the consequences that are expected from actions; and involve the influence of other factors besides ability. Self-efficacy on the other hand, is only concerned with the result in context of ability and action (Schunk & Pajares, 2002). Bandura suggests that self-efficacy plays a more important role in affecting motivation as compared to outcome expectations (in Zimmerman, 2000b). Those not acquainted with the concept of self-efficacy often confuse it with perceived control, which is closer to an individual's locus of control than to efficacy. Perceived control is the extent to which the individual believes that they are able to control outcomes and environmental factors around them (Zimmerman, 2000b); while self-efficacy extends beyond this (Schunk & Pajares, 2002) and is the extent to which the individual believes that he / she is capable of initiating and completing a task successfully. A student with high perceived control would feel able to choose their learning strategies, the amount of attention paid and the amount of time they can spend on their goals (Rosen et al., 2010). Finally, self-esteem and self-efficacy are often used interchangeably, but are quite distinct. While efficacy is task specific and related to capability, esteem is a generalized estimation of self-worth (Bandura, 1997b). An individual is capable of having high efficacy in one task and low in another without any change in esteem (Pastorelli et al., 2001).

Social Cognitive Theory

Through his work, Bandura has described the working of human agency as being of many types (Bandura, 1999). The most easily conceived one is direct personal agency, in which the individual is personally involved in the choice as well as the performance of these actions. It is also possible to show responsibility for an action or a set of actions through proxy if one is to involve the efforts of intermediaries in carrying out that action. The responsibility of the act still remains with the individual who conceptualized and referred it to the other(s). A third possibility is that human agency may be collective with that of others, and may exist in the form of collective beliefs, group incentive systems, or decisions taken collectively by the group. It is difficult for an individual to be shaped by just one or the other of these forms of human agency, and a combination of these forms help develop the ability to adapt (Bandura, 2006b). On multiple occasions, Bandura (1997b, 2001) has stressed the importance of the power to carry out actions for particular purposes. Thus, the beliefs of individual about their own selves and their ability to fulfill the stated purpose through their action become crucial to the choice of carrying out the action. Pajares (2008) has studied and commented on this importance of self-beliefs in the exercise of both control and agency.

It is important to note that human action occurs in the framework of a social structure where rules and norms of behavior play an important role, as does the differential power that people have in different social situations (Bandura, 1997b). Thus, humans are both the producers and the product of these social systems, and are required to choose different forms of agency as determined by the circumstances that they find themselves in. Bandura (1999) has described the way individuals

choose to use agency by proxy when they do not have direct control over situations; as well as the situations when an individual will choose to become part of a collective that has more power than the individual in order to try and produce a commonly desired end goal (Bandura, 1999, 2001, 2006a). Thus, there exists a significant link between the way individuals view themselves and the form of agency they use to reach a particular goal. A number of examples of such use of human agency can be seen in the conduct of politics and administration of both organizations and states.

With the development of the theory, Bandura also stressed the importance of the interdependence of events and that of reciprocal causation (Bandura, 1997b, p. 5). This concept of reciprocal determinism forms the keystone of the Social Cognitive Theory as it was developed by Bandura. According to his work (Bandura, 1997a), there are three factors that are interdependent and affect the development of human learning and personality. These three factors – interpersonal factors, behaviors and environmental factors – are reciprocal and affect the valance and contribution of each other. These factors are constantly interacting and asserting influence on each other in a bi-directional fashion – i.e. – each factor influences each other factor, and is influenced by them in return (Bandura, 1999, 2001). This belief complements the postulate that human beings are proactive and self – regulating individuals by tying in the influence of external or environmental and inter-personal factors to intra-personal factors and the consequent choices in the use of human agency. Thus, humans are neither driven singularly by internal forces without regard of the environment, nor are they governed solely by external factors with no agency of their own. Instead, a combination of these factors forms a dynamic and fluid experience in which the individual uses personal power in determining their actions

(Pajares, 2008). This process of learning from the consequences of past actions, and social factors as well as the awareness of present circumstances and needs is continual; leading to the development of the individual's personality in the process.

The role of Self-Efficacy in Human Behavior

As suggested by Rosen et al. (2010), self-efficacy, or the belief in one's ability to commence and successfully execute the behavior in question becomes one of the necessary factors in the process of making the choice to execute that behavior and achieve success. Bandura (1997a) has also stressed the role of self-efficacy, and has devoted a significant portion of this work to the understanding of the role that efficacy plays in the use of human agency. Research and thought by Bandura (1986, 1999, 2001) and Pastorelli et al.(2001), Pajares(2008) have established self-efficacy at the foundation of human ability to make and follow up on decisions, as well as of human motivation, accomplishment, and overall well being. Their ideas propose that an individual will take the effort required to change a situation that is viewed as flawed or difficult only if that individual believes that he / she has the ability to generate the desired end result. This belief may be at an individual, or at a group level; and the behaviors chosen will be dependent of the extent to which the individual believes that they can cause a change in the desired direction. Bandura believed that efficacy played a stronger role than outcome expectations in influencing motivation, since outcome expectations themselves would be affected by the self-efficacy the individual felt in context to the requirements and the situation (Zimmerman, 2000b).

The definition of self-efficacy attempts to explain some important aspects of the construct. Efficacy is a perception of the individual's personal ability and is set within the situational variables as they are observed (Bandura, 1977). It influences human cognition, emotion as well as action; and affects each through the others (Bandura, 1989). Self-efficacy is relative to a situation and subject specific, such that an individual may feel high self-efficacy for one activity while experiencing low self-efficacy for another and a middling self-efficacy for a third. Such a variation of self-efficacy is normal for every person (Rosen et al., 2010), and should not be seen as a cause of concern, but as an indicator of the need for training. The self-efficacy that an individual feels for a particular subject or activity affects his/her motivation to take part in the activity in question, and is reflected in the effort and involvement they will show in the activity (Bandura, 1989). Typically, higher self-efficacy is associated with greater interest, more frequent and more challenging goals that are set as well as achieved and more positive affect for the activity. On the other hand, low self-efficacy is usually associated with avoidance of the task, and reduced interest (Bandura, 2001; Schunk, 1991).

There have been a number of studies that have attempted to understand the role of self-efficacy in various human experiential domains including education, inter-personal relationships, work-place behavior, and response to stressful situations. There has been an emphasis on understanding the role of self-efficacy in educational settings, as attitudes and skills learned in this period in an individual's life form a foundation for future experiences. Pajares and Viliante (1997) have studied writing self-efficacy, and it's affect on motivation and behavior. Chen (2003) has studied in the context of Mathematics, and has found that self-efficacy is a predictor of performance, self-evaluation and self-judgment in school children; while O'Brien,

Martinez-Pons, and Kopala (1999) have found that there is a strong positive relationship of self-efficacy with the strength of ethnic identity in school aged children. The bulk of the research in the effect of self-efficacy on educational development of children that has been carried out over the last few decades has shown that it affects achievement regardless of knowledge, skill or any other factors that affect motivation (Pajares, 2008). Although it cannot replace knowledge or skill in the ability to predict performance; it is evident for the conclusions of these and other studies that the extent to which a student believes him / herself as able to complete an academic goal dictates the chances of that student achieving some measure of success in the desired goal.

Academic Self-Efficacy

Academic self-efficacy refers to a student's beliefs that he/she can perform given academic tasks successfully at designated levels (Schunk, 1991). A student's belief about the extent to which he / she is able to perform in a particular subject has been seen to be related to the actual performance in the subject in question (Pintrich, 1999). This would imply that a change in the belief of self-efficacy should be associated with a change in the performance as well. This has been documented in a number of studies including one by Joo, Bong, and Choi in 2000. Their research has verified that as self-efficacy of students increased, so did their performance. Pintrich and De Groot (1990) have found that academic self-efficacy is positively related to the extent to which a student would values him / herself and to the extent of use of self-regulatory strategy. They also found that there was a negative relationship shared by academic self-efficacy and test anxiety in school children. The relationship of self-efficacy with performance has been demonstrated by Pajares and

Viliante (1997) in writing and Chen (2003) in Mathematics. These and other studies have verified the value of academic self-esteem in children and the value of developing self-efficacy in students that lack it (Bandura, 1993; Rosen et al., 2010).

Bandura has discussed the characteristics of students with high academic self-efficacy (1993, 2001). These students have a number of characteristics that correspond to characteristics of students with high self-regulation. Significant among these characteristics are:

1. They are not afraid of challenges, but view them as opportunities to gain mastery and are able to form goals in order to do so.
2. They set their own academic goals, and are committed to them.
3. They are task-oriented and not self-oriented when assessing failure; and thus are able to use both positive and negative feedback to improve performance without developing negative and low self value.
4. They believe failure as a sign that more effort and knowledge is required, and do not doubt aptitude. Thus, they respond to failure with increased efforts and re-assessed goals.

Sources of Self-Efficacy

An individual is able to use a number of cues to judge their ability to do something. Bandura (1997b) has identified four most common sources used by individuals to construct their notions of efficacy for any particular task. The information coming from these sources interacts and combines to form a unitary idea of self-efficacy (Ö zyürek, 2005).

Mastery Experiences.

When an individual is able to experiences regular instances of success and becomes aware of them, these experiences contribute towards forming a belief about ability; and this belief then influences their confidence and attitudes towards future challenges in the same subject (Brand & Wilkins, 2007). Since mastery experiences provide direct evidence of self-efficacy, they are the most powerful source (Pajares, 2003). Examples of mastery experiences can include previous academic achievements (Pajares & Graham, 1999) and proof of learning in terms of scores, or ranks. Research has verified the value in direct mastery experiences in gaining self-efficacy (Usher & Pajares, 2006).

Vicarious Experiences.

The experiences of similar individual's can also affect the extent of efficacy an individual feels for a task. Particularly, the experiences of similar others can help enhance or reduce the extent of self-efficacy an individual feels by making them believe that given the similarities, if the other person has an experience of success or failure; the same is likely for oneself (Bandura, 1994; Pajares, 2003). Vicarious experiences are less powerful as compared to mastery experiences; but provide valuable information for situations where direct experience is difficult or impossible.

Social Persuasion.

Social persuasion works strongest as a means of strengthening beliefs that people hold (Bandura, 1997b). Typical mediums of verbal persuasion are affirmations and motivator statements made by significant others (Brand & Wilkins, 2007). Persuasion is short-lived if not combined with information about efficacy from other

sources, and the strength of persuasion is strongly related to the extent to which its source is considered credible (Siegle & McCoach, 2007; Zimmerman, 2000b). Parents are a important source of persuasion for young children, and can frequently have some influence on the extent to which the child believe itself as able to succeed at an academic goal.

Physiological And Affective States.

The way an individual feels about something can affect the extent to which they feel able to carry out their assigned tasks. People interpret emotional reactions to activities and experiences of stress of fatigue as an indicator of inability (Zimmerman, 2000b). Positive moods and high levels of physical energy and feeling of vitality are associated with a perception of high efficacy, while low mood and tiredness is associated with low estimations of efficacy. It is important to note that the physical or emotional state itself is not as important as the individual's interpretation of it (Pajares, 2008).

Self-Regulated Learning

Currently, self-regulated learning has been a topic received much attention in the field of educational psychology (Boekaerts, 1997; Boekaerts & Niemivirta, 2000; Pintrich & Groot, 1990; Zimmerman, 1989, 1990), many educators and policy makers even list self-regulated learning as one of the main objectives of formal education and hoping that students can continue to guide themselves to learn through this skill after leaving school. Self-Regulated Learning is a concept that has received a lot of attention on education since the 1980's; and stands for a student's act of evaluating a task, choosing strategies to complete it, and revising these

strategies based on how well they work (Rosen et al., 2010). Self-regulated learning carries the potential to influence the extent to which a student takes pride in their work, and the extent of involvement he / she shows, and consequently the success he / she achieves (Dinsmore, Alexander, & Loughlin, 2008). Self-regulated learning skills are viewed as essential to guide individual's learning during and after leaving formal school (Boekaerts, 1997).

Pintrich (2000, p. 453) defined self-regulated learning as "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environments". Zimmerman (1989, p. 329) believed that "students can be described as self-regulated to the degree that they are metacognitively, motivationally, and behaviorally active participants in their own learning process". The definition and conceptualizations of self-regulated learning is slightly different depending on the theory to which it is applied (Boekaerts & Niemivirta, 2000; Pintrich & Groot, 1990; Winne, 1995); but each definition highlights three components – the evaluation of the task at hand by the student, the choice of learning strategy, the evaluation of results and the possible modification of strategy as required.

Research is bringing out more techniques and more relationships that help define self-regulated learning; and thus, the understanding of the concept is still developing, as is its application (Boekaerts, 1999; Kuiper, 2005; Neville & Bennett, 2004). It has been applied to control of behaviors as well as cognitive states and emotions as well as higher level strategies that help in managing comprehension and effort taken (Rosen et al., 2010). It has also been applied to the reduction of behaviors that

inhibit learning like inadequate impulse control and mood management alongside being applied to effort building strategies like improving persistence and diligence (Rosen et al., 2010).

The qualities of the self-regulated learner have been discussed in detail by Winne (1995). According to him, they have four primary characteristics:

1. The ability to seek and retrieve information related to the dominant question.
2. The ability to monitor their involvement and engagement with the goal; as well as identifying possible distracters.
3. The ability to assess strategies and plans and to change the same to ensure better success at both the sub goal and the overall goal levels.
4. The ability to assess personal ability and knowledge and find ways to enhance the same.

A particularly well accepted model of self-regulated behavior has been proposed by Pintrich (2000); which attempts to explain the experience of self-regulated learning as having four phases that are based on a social-cognitive perspective which was been discussed before. These phases are:

1. *Forethought and Planning*: Goals, prior knowledge, and metacognitive knowledge are included in this phrase. The individual takes into account the different units of information about the task and makes plans for the executing of the task accordingly. Time is scheduled and effort is planned. This is a pre-execution phase.

2.*Self-Observation*: The individual pays attention to whether they are able to cope effectively with the task at hand; on the other hand, it is awareness of one's self-efficacy. They are observant of their responses to both the task and the social circumstances in which it is being conducted. Time and effort are adjusted based on the assessments. This phase happens during the attempt at self-regulated learning.

3.*Control*: Another phase that occurs in task execution is the exertion of control over one's impulses. There are bound to be distractions; and a student who is self-regulated attempts to reduce their effect by making choices that cause the least distractions and try to ensure that they give optimal effort to the task at hand. In this phase, learning strategies are used and replaced when needed.

4.*Evaluation*: This is a post task phase, and implies the attempt to analyze the extent of success achieved. Individuals assess their performance and judge what important elements of the achievement are. This information is referred to the next task of a similar nature, and successful strategies are reused, while unsuccessful ones are replaced.

The model proposes that during each of these four phases, four separate areas of functioning are constantly regulated (Arias & Dúaz, 2010; Pintrich, 2000). These include:

1.*Affective*: Attention to emotional state helps gauge the extent to which the individual is able to take effort, and the possible helping and hindering factors are evaluated for influence.

Table 2.1

Phases and Areas for Self-Regulated Learning

Areas for regulation				
Phases	Cognition	Motivation/Affect	Behavior	Context
Forethought, planning, and activation	Target goal setting	Goal orientation adoption	(Time and effort planning)	(Perceptions of task)
	Prior content knowledge activation	Efficacy judgments	(Planning for self-observations of behavior)	(Perceptions of context)
	Metacognitive knowledge activation	Ease of learning judgments (EOLs); perceptions of task difficulty		
		Task value activation		
		Interest activation		
Monitoring	Metacognitive awareness and monitoring of cognition	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help	Monitoring changing task and context conditions
			Self-observation of behavior	
Control	Selection and adaptation of cognitive strategies for learning, thinking	Selection and adaptation of strategies for managing motivation and affect	Increase/decrease effort	Change or re-negotiate task
			Persist, give up	Change or leave
			Help-seeking behavior	
Reaction and reflection	Cognitive judgments	Affective reactions	Choice behavior	Evaluation of Task
	Attributions	Attributions		Evaluation of context

Note. The table is adapted from "The role of goal orientation in self-regulated learning" by P.R. Pintrich, 2000, CA: Academic press, p.454. Copyright 2000 by Academic press.

2.*Behavioral*: The actual behaviors are assessed for efficacy so that this information may be used to evaluate the possibility of success.

3.*Contextual*: Environmental factors play an important role in the way an individual is able to learn at any given point in time. Assessing these factors helps in making choices about modifying plans.

4.*Cognitive*: The ability of the individual to learn, thoughts and attitudes all play an important role in the final success of the individual. Monitoring these helps in understanding how effective a particular strategy was, and what factors affected its effectiveness.

Determinants of Self-Regulated Learning

Bandura has defined self-regulation in 1986 from a social cognitive perspective "as an international of personal, behavioral, and environmental triadic processes" (Zimmerman, 2000a, p. 13). According to the definition, Zimmerman (2000b) has offered a description of the three factors postulated as determinants of self-regulated learning. These include personal, behavioral and environmental influences. These factors are interactive, and influence each other in a manner similar to the factors that influence self-determination. On the basis of social cognitive theory, none of the three factors is the only determinant affects self-regulated learning, it is important to take each of these factors into account when trying to understand how they affect any particular individual. For example, a student delivers a perfect speech not simply rests with personal self-efficacy but also rests with previous success and encourage from teachers or peers.

Personal Influences

Self-efficacy has been found to play a role in the extent of self-regulated learning through four areas of functioning – the students' knowledge, metacognitive processes, goals, and affect (Zimmerman, 1989). Knowledge may be either declarative or procedural; and each kind affects self-regulated learning differently. Declarative knowledge involves the set of facts known about the subject under study; and procedural and self-regulatory knowledge applies to the student's perceptions about their abilities to use the resources at their disposal. It is necessary that these two types of knowledge are interactive and affect the way each gains and lost importance in the process of self-regulation. Metacognitive processes apply to the individual's ability to structure, apply and persist among other things. Best seen in terms of task analysis and planning; metacognitive processes affect the way in which the individual views the problem and the possible solutions chosen (Zimmerman, 2000b). Goals also affect the manner in which the problem is perceived and successful use of self-regulation is higher when long-term goals are broken into smaller goals (Bandura, 1982). Along with goal proximity, goal specificity plays an important role in the development of the solution strategy (Zimmerman, 1989). Affect comprises of the emotional factors involved in the student's problem solving behavior. As discussed, emotion plays an important role in the way goals and personal abilities are perceived by the student.

Behavioral Influences

The individual's self-observation, self-judgment, and self-reaction play an important role in the choice of self-regulation strategies. Zimmerman (2000b) classifies these are behavioral determinants as they are distinctly observable, as well

as trainable, and thus a part of behavior. All students monitor their own performance, and this self-observation provides a feedback loop to the process of self-regulation. These assessments may be verbal, quantitative or a combination and are dependent on actual as well as comparative performance. This information also forms a feedback loop to self-efficacy development and maintenance. Self-judgment involves forming comparisons to goal standards or to other individual's and using this information to gauge relative standing (Terry, 2002). The process of self-judgment interacts strongly with self-efficacy again; and the two are observed to influence each other strongly. The third behavioral determinant of self-regulated learning is self-reactions. These span three areas, behavioral, environmental and personal. Self-reactions are the evaluation of personal responses to situations, and are capable of exerting both positive and negative influences on other determinants of self-regulated behavior (Zimmerman, 2000b). Each of these elements interacts to influence each other, just as seen with personal determinants.

Environmental Influences

The individual does not learn isolation from social experiences; and some factors that affect the self-regulation are modeling, verbal persuasion, and assistance and symbolic representation. Modeling involves the observing of one or more significant others who are perceived to be successful at that particular task and attempting a replication of their actions (Pintrich & Schunk, 2002). Verbal persuasion involves feedback from others, and is effective only when accompanied by other information that encourages the development of self-regulated learning. Direct Assistance may be provided by a teacher, parents or peer in the form of explanations and tips (Zimmerman & Martinez-Ponz, 1986); while symbolic representation involves the

use of aids to learning like charts, graphs and other means of representing the information to be learned so that the individual is able to use multiple faculties to learn it (Zimmerman & Martinez-Ponz, 1986).

Psychological Support and Self-Efficacy

Self-determination theory – based parenting is practicing to meet the three basic psychological needs (the need for autonomy, competence, relatedness) of an individual in the development of personality and the ability to be self-determining. Since self-efficacy is considered as equivalent to perceived competence, people must experience their behavior to be self-determined when self-efficacy is high.

Children view their parents are a valuable source of information about their own abilities; and value the opinions of their parents in respect to their abilities as well as their choices. Thus, parents are a source of information about self-efficacy (Bandura, 1977) as well as self-determining ability. Parent's aspiration provides a cue to the child about the means to achieve success, as well as the areas in which they should expect themselves to succeed (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). If a child believes that he/she is able to achieve success in a particular area of functioning, they are more likely to have confidence and show interest in that field (Bandura et al., 1996). This would also mean that, a child who is unsure about his/her ability in a particular field is less likely to do so. Thus, it becomes important to understand how perceptions of efficacy play a role in the development of self-determinism.

Psychological Support and Self-Regulated Learning

Self-determination theory postulates that individuals are innately curious and ready to learn; and that the individual gains positive experiences from asserting autonomy and control over a situation. Self-regulated learning also relies on the use of autonomous choice and a number of strategies that emphasize the role of the individual as against others in determining goals and plans of action to achieve these goals. Thus, there is a distinct link between the concepts of self-determination and self-regulated Learning. Since self-determination theory discusses the development of a personality that allows for and develops further from autonomous choice and action; it may be postulated that a student who is helped in the development of a self-determined perspective is most likely to be able to practice the strategies that are an integral part of self-regulated learning. On the other hand, the use of self-regulation in a relatively safe and structured setting such as that of education will help the individual develop their ability to assert themselves, and function independently in other walks of life as well.

Martinez-Pons (2002) has discussed the way parenting and parental attitudes influence a child's learning of academic self-regulation. Self-determination theory-based parenting styles attempt to help a child develop autonomy and self-determined thoughts and actions while providing the child with the structure that defines the limits of their optimal choices and the involvement that assures them of their worth and allows them to seek help when they need it (Martinez-Pons, 2002). We may thus postulate that the use of self -determination theory-based parenting behavior should help in the predicting of the student's ability to self-regulate in academic situations.

Self-Efficacy and Self-Regulated Learning

Self-efficacy is the individual's belief in their own ability to initiate and complete a task that is valuable to them. Self-regulated learning occurs when a child is able to make a choice about what task or goals is important to him / her and then choose the strategies that would be helpful in the helpful in successfully completing the goal in question. An individual who does not believe in his/her ability to succeed at a valuable goal is less likely to take initiative or effort towards its completion. This has been verified by Rosen, et al. (2010), who found that self-regulated learning was affected not only by motivation, but also the individual's self-efficacy. Self-efficacy also affects achievement regardless of ability or knowledge; and a child's self-efficacy for self-regulated learning was been found to be significant in the extent to which the child is motivated and the extent to which the child achieves in academic goals. Motivation plays a crucial role in the use of self-regulated learning. This makes it evident that a student's self-efficacy should be able to predict the extent to which the child feels motivated to practice self-regulated learning (Smith, 2001).

From the above information, it becomes evident that self-regulated learning shares an important relationship with both self-efficacy and parental psychological support. Given the value of behaviors like self-regulated learning in present education in Taiwan, it becomes important that this relationship be examined in detail; and be assessed for its ability to predict student behavior in Taiwan. The presence of strong relationships would indicate the possible means of development and training that could be afforded to parents and teachers as well as the students themselves. Such measures will not only enhance student achievement in

educational settings, but will also equip them cognitively and emotionally to become significant contributors to the county's development.

CHAPTER III

METHODOLOGY

This chapter presented the research methods and procedures of the research. The results of exploratory factor analysis and confirmatory factor analysis were all included.

Research Design

The purpose of the research was to explore the relationship among self-determination theory-based parenting, self-efficacy, and self-regulated learning among Taiwanese elementary students. The background of the participants such as gender and grade are considered.

When comes to causal variable and outcome in regression, self-regulated learning is considered as dependent variable and perceived parental psychological support as independent variable. Self-efficacy is considered as dependent and independent variable alternatively. The researcher examined the relations between two variables to find out if the independent variable affects dependent variable.

When comes to multiple regression analysis, self-efficacy plays as a mediator (intervening variable). The research would like to examine if the effect of perceived parental psychological support on self-regulated learning mediated by self-efficacy. Complete mediation means when independent variable no longer affects dependent variable after mediator has been controlled and partial mediation implies that the path from independent variable to dependent variable is reduced (Kenny, 2013). The hypothesized model is shown in Figure 3.1.

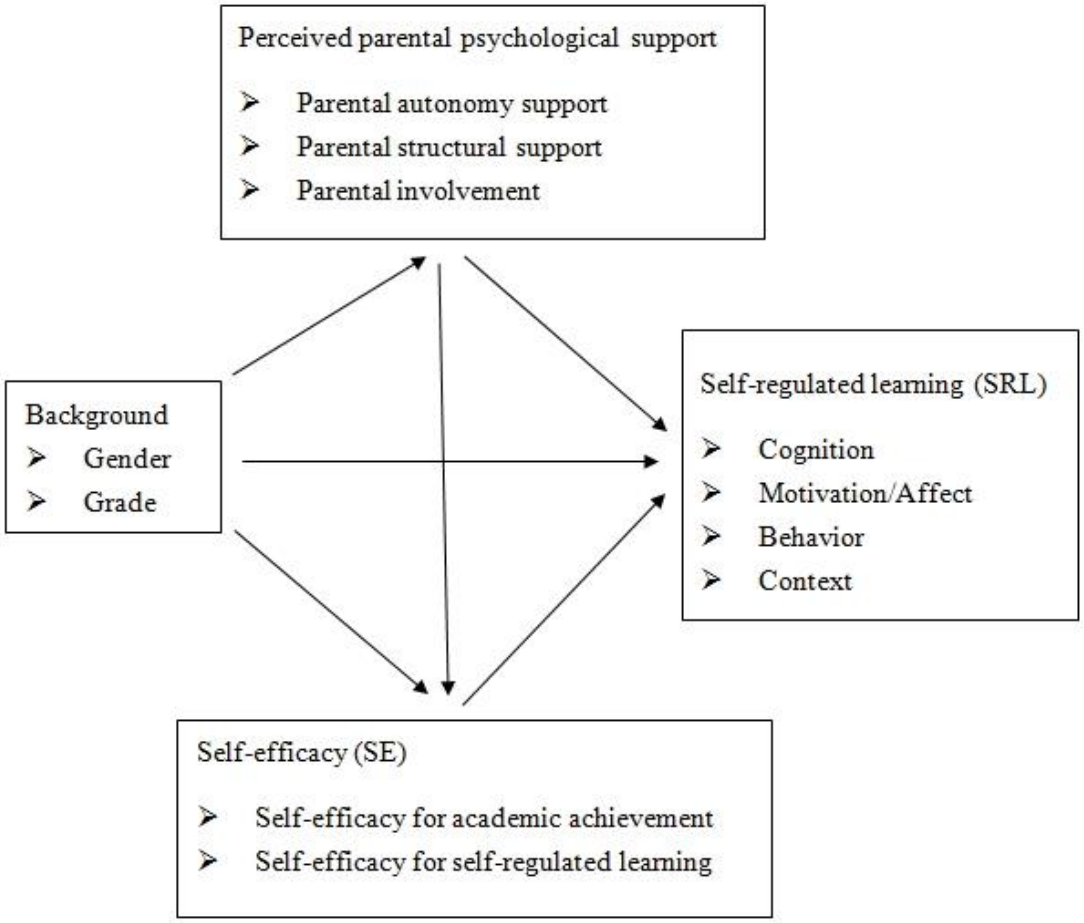

Figure 3.1. The Hypothesized Model of Relationship among Perceived Parental Psychological Support, Self-Efficacy, and Self-Regulated Learning.

Participants

Participants were all fifth and sixth grades elementary school students for they have better cognitive and able to understand the questions accurately. The pretest sample consisted of 120 students from three elementary schools of small, medium, and large-size school respectively. According to Lee and Huang (2009), small size school is classified as class numbers less than or equal to 12; medium size is class numbers from 13 to 36; and large size schools has class numbers more than 36. As

shown in Table 3.1, 126 questionnaires were distributed to the three schools and 121 were retrieved. The percentages of valid questionnaires were ranged from 85.7% to 100% with a total of 95.2%. The pretest questionnaire was amended after item analysis, factor analysis, and reliability analysis. Those unneeded items were deleted to form a new questionnaire. After the formal test questionnaire was done, the formal test was then started.

Stratified random sampling was chosen to select participants from different subgroups. The researcher expects to have about 600 to 700 samples, therefore 14 public elementary schools including one class from grade 5 and one class from grade 6 were chosen. Four small schools, six medium schools and four large schools were chosen for sample. All students are enrolled in school year 2012-2013 in Taichung city.

Table 3.1

Interpretation of Pretest

School name	No. of distributed	No. of retrieved	No of validation	% of validation
Yong-Shun (永順)	42	37	36	85.7%
Liu-Bao (六寶)	42	42	42	100.0%
Yong-An (永安)	42	42	42	100.0%
Total	126	121	120	95.2%

As shown in Table 3.2, total number of distributed questionnaires were 708 and 679 were valid questionnaires. There were 161 and 290 students from small and medium schools respectively and 228 students were from large schools. There were 338 Grade 5 students and 341 Grade 6 students; 339 males and 340 females. Table 3.3 showed the percentages of valid questionnaires were ranged from 81.8% to 100% with a total of 95.9%. The sampling size (N= 679) in formal test included the 120 students from the pretest.

Table 3.2

Distribution of Gender, Grade, and Surveyed Schools of Samples

		Grade 5		Grade 6		Subtotal	
School	School Name	Male	Female	Male	Female		
Small	San-Guang (三光)	10	7	14	6	37	161
	Ming-Zheng (明正)	16	6	12	10	44	
	An-Ding (安定)	14	8	9	13	44	
	Yong-Shun (永順)	9	7	10	10	36	
Medium	Fu-Yang (福陽)	13	12	8	17	50	290
	Zhong-Shan (中山)	12	12	11	12	47	
	Liu-Bao (六寶)	11	13	14	10	48	
	He-Zhuo (合作)	10	15	9	16	50	
	Jian-Guo (建國)	11	13	12	11	47	
	Yi-Xin (宜欣)	11	13	13	11	48	
Large	Hu-Lu-Dun(葫蘆墩)	13	16	14	14	57	228
	Yong-An (永安)	14	14	15	13	56	
	Nan-Yang (南陽)	11	17	14	15	57	
	Hui-Wen (惠文)	16	13	13	16	58	
		337		342			679

Table 3.3

Interpretation of Formal Test

School name	No. of distributed	No. of retrieved	No of validation	% of validation
San-Guang (三光)	44	37	37	84.1%
Ming-Zheng (明正)	44	44	44	100.0%
An-Ding (安定)	44	44	44	100.0%
Yong-Shun (永順)	44	37	36	81.8%
Fu-Yang (福陽)	50	50	50	100.0%
Zhong-Shan (中山)	50	47	47	94%
Liu-Bao (六寶)	50	48	48	96%
He-Zhuo (合作)	50	50	50	100.0%
Jian-Guo (建國)	50	47	47	94%
Yi-Xin (宜欣)	50	48	48	96%
Hu-Lu-Dun (葫蘆墩)	58	57	57	98.3%
Yong-An (永安)	58	56	56	96.6%
Nan-Yang (南陽)	58	57	57	98.3%
Hui-Wen (惠文)	58	58	58	100.0%
Total	708	680	679	95.9%

Procedure

The research data was collected from elementary students of Grade 5 and 6 in Taichung city. It took place in April, 2013. After gaining the teachers' permission, the questionnaires were distributed by mailing and the teachers helped to conduct the paper-and-pencil survey. All students were instructed to remain anonymous and to fill out few questions of personal data before answered a questionnaire which elicited information concerning the effect of perceived parental psychological support on self-efficacy and self-regulated learning. All the participation was voluntary and the nature of the research was told prior to participating. The teachers mailed back the questionnaires after collection.

Measures

The instruments for both pretest and formal test consist of three main parts. The following three questionnaires were all adapted and revised from other well-constructed questionnaires. Self-regulated learning scale was originally in Chinese, no translation was needed. Perceived parental psychological support instrument and self-efficacy scale were translated from English to Chinese. All scales use four - point Likert scale which ranged from 1 to 4.

In order to make sure that elementary students can understand the application of questionnaires, three elementary students were asked to answer the three questionnaires in the research. Two of them were grade 6 students and the other one was grade 5 student. Their academic performances were all above average in the class. The researcher amended the questionnaires according to the three student's reflection and suggestion.

Since those three questionnaires were all adapted and two among the three were translated, item analysis and factor analysis were conducted. KMO indicators and Barlett's test were implemented before factor analysis to examine the property of performing exploratory factor analysis.

The item analysis of this research was based on the critical ration (CR) and test of homogeneity. The critical ration (CR) divided the high and low groups from the total score of a scale. The critical ration tested the higher group (upper 27%) and the lower group (lower 27%) and also figured the significant difference of the average differences of the higher and lower groups for each item. The higher critical ration is a better judgment of each item. The researcher took the critical ration (>3.5) as a basic level.

In addition, the test of homogeneity determined that each item was related to the total score of the scale. The higher the correlative coefficient, the more identical the item was to other items in the test. The relationship between each item and the summary was more than .30. The corrected item total correlation and the item total correlation less than .30 was taken out. The purpose of the factor analysis was to figure out the construct validity and reduce the items of the scale.

Perceived Parental Psychological Support Instrument (PPPSI):

This 13-item instrument had been adapted and revised from Parental Autonomy Support Instrument (PASI) which was developed by Scappaticcio (2009) through multiple reliability and validity assessments. The revised scale, perceived parental psychological support instrument, used 4-point Likert rating (4 = sure, 3 = sometimes, 2 = not really, and 1 = not at all) and it assessed three subscales – parental autonomy support, parental structure support, and parental involvement.

Item Analysis of Perceived Parental Psychological Support Instrument.

According to the results of the study, table 3.4 showed that critical ration for item 6 less than 3.5 and item-total correlation and corrected item-total correlation were less than .30. Thus, item 6 was excluded from the questionnaire. The total Cronbach's alpha of this scale was .76 showed the internal consistency was acceptable.

Table 3.4

Data Display of Item Analysis for Perceived Parental Psychological Support Instrument (N= 120)

Items	Comparisons of extreme groups	Item-total correlation		Test of homogeneity			Remarks
	CR	Item-total correlation	Corrected item-total correlation	Cronbach Alpha if item Deleted	Communality	Factor loading	
P1	4.91	.53**	.45	.74	.49	.56	Reserved
P2	7.52	.55**	.43	.74	.42	.63	Reserved
P3	5.24	.46**	.32	.75	.67	.72	Reserved
P4	6.26	.54**	.43	.74	.53	.44	Reserved
P5	6.85	.63**	.52	.73	.45	.43	Reserved
P6	1.60	.16**	-.03	.79	.44	.78	Deleted
P7	5.23	.50**	.39	.74	.32	.35	Reserved

continued

Table 3.4

Data Display of Item Analysis for Perceived Parental Psychological Support Instrument (N= 120)

Items	Comparisons of extreme	Item-total correlation		Test of homogeneity			Remarks
	CR	Item-total correlation	Corrected item-total correlation	Cronbach Alpha if item Deleted	Communality	Factor loading	
P8	6.25	.53**	.38	.74	.46	.61	Reserved
P9	7.42	.62**	.50	.73	.45	.44	Reserved
P10	5.02	.58**	.48	.73	.43	.37	Reserved
P11	5.80	.48**	.33	.75	.69	.66	Reserved
P12	6.92	.68**	.60	.72	.55	.67	Reserved
P13	5.53	.49**	.35	.75	.43	.81	Reserved
Total Cronbach's Alpha					.76		

Factor Analysis of Perceived Parental Psychological Support Instrument.

As shown in table 3.5, KMO= .81, the degree of common variance was meritorious. Bartlett's test Chi-sq = 300.28, degree of freedom = 66, ($p < .01$) means that the factor analysis will be useful for these variables. In this analysis, method of extraction was principal components analysis and rotation type was varimax. Based on the theory, there were three factors in this scale. The researcher then extracted exactly three factors. There were some items did not belong to the extracted components, the researcher then decided to delete them.

Reliability Analysis

The cronbach's alpha was .66 for parental structure indicates questionable internal consistency. Both the value of cronbach's alpha for autonomy and involvement were .54, those were below .6. It indicated that the two sub-scales had poor internal consistency. Because the value of alpha depends on the number of items on the scale, the alpha values in table 3.6 may not be a good indication of internal consistency. Since the instrument was adapted from other thesis, the components were still accepted even the alpha values were low.

Table 3.5

Data Display of Factor Analysis for Perceived Parental Psychological Support Instrument (N= 120)

Items	Involvement	Structure	Autonomy	Communality	Eigenvalue	Variance Explained	Cumulative variance explained
	1	2	3				
P3	.75	- .24	.25	.68	2.37	19.75	19.75
P9	.65	.24	.14	.49			
P8	.63	.30	- .14	.51			
P7	.49	.08	.28	.33			
P12	.48	.47	.31	.55			
P4	.03	.71	.22	.56	2.13	17.74	37.49
P13	.03	.65	.13	.44			
P1	.48	.53	- .09	.51			
P5	.43	.52	.11	.47			
P11	-.02	.07	.80	.65	1.69	14.04	51.53
P2	.27	.16	.64	.50			
P10	.19	.43	.53	.50			
	KMO	.81		Bartlett's test of sphericity		X^2= 300.28	

Table 3.6

Cronbach's Alpha of the Three Dimensions in Perceived Parental Psychological Support Instrument

Dimensions	Question Number	Number of items	Cronbach's
Parental autonomy support	10, 11	2	.54
Parental structure	3, 8, 9, 12	4	.66
Parental involvement	4, 5, 13	3	.54
Total Cronbach's Alpha			.74

Self-Efficacy Scale

The 13 items questionnaire was adapted and revised from two sub-scales from the Children's Self-Efficacy Scale (Bandura, 2006a) – the self-efficacy for academic achievement which has 6 items and self-efficacy for self-regulated learning which has 7 items. The scales demonstrate strong internal consistency, and have been used in both diagnostic as well as research settings. Academic self-efficacy scale is measured by self-report responses from students who will be asked to use the values 1, 2, 3, and 4 to rate each statement where 1 means that the child believe he/she cannot do it at all, and 4 means that the child is highly certain about he/she can do the task.

Item Analysis:

Table 3.7 showed that no item had critical ration less than 3.5 and item-total correlation and corrected item-total correlation were less than .30. No item was excluded from the questionnaire. The total Cronbach's Alpha was .87 showed the internal consistency was good.

Table 3.7

Data Display of Item Analysis for Self-Efficacy Scale (N= 120)

Items	Comparisons of extreme groups	Item-total correlation		Test of homogeneity			Remarks
	CR	Item-total correlation	Corrected item-total correlation	Cronbach Alpha if item Deleted	Communality	Factor loading	
S1	10.40	.68**	.61	.85	.51	.64	Reserve
S2	6.60	.60**	.54	.86	.54	.70	Reserve
S3	6.43	.58**	.52	.86	.44	.61	Reserve
S4	6.78	.57**	.49	.86	.33	.43	Reserve
S5	4.91	.47**	.39	.87	.45	.67	Reserve
S6	5.15	.51**	.42	.86	.42	.63	Reserve
S7	6.77	.59**	.51	.86	.42	.59	Reserve
S8	7.47	.67**	.59	.85	.66	.81	Reserve
S9	10.56	.67**	.59	.86	.58	.74	Reserve
S10	10.59	.69**	.59	.86	.45	.56	Reserve
S11	10.23	.73**	.67	.85	.67	.79	Reserve
S12	8.35	.68**	.59	.86	.55	.72	Reserve
S13	8.90	.63**	.54	.86	.45	.60	Reserve
Total Cronbach's Alpha					**.87**		

Factor Analysis:

According to table 3.8, KMO= .86, the degree of common variance was meritorious. Bartlett's test Chi-sq = 540.05, degree of freedom = 78, (p< .01) meant that the factor analysis will be useful for these variables. Method of extraction is principal components analysis and rotation type is varimax. According to the theory, there are two factors in this scale. The researcher then extracts two principle components. Since there are some items do not belong to the extracted components, the researcher decided to delete them.

Reliability Analysis:

As shown in table 3.9, the values of cronbach's alpha for academic achievement was .69 means questionable internal consistency. The value of cronbach's alpha for self-regulated learning was .82 meant the sub-scale had good internal consistency.

Table 3.8

Data Display of Factor Analysis for Self-Efficacy Scale (N= 120)

Items	Self-efficacy for academic achievement	Self-efficacy for self-regulated learning	Communality	Eigenvalue	Variance Explained	Cumulative variance explained
	1	2				
S8	.81	.09	.61	3.56	27.41	27.41
S11	.79	.23	.62			
S9	.74	.18	.49			
S12	.72	.17	.45			
S1	.64	.31	.43			
S10	.56	.37	.38			
S4	.43	.38	.28			

continued

Table 3.8

Data Display of Factor Analysis for Self-Efficacy Scale (N= 120)

Items	Self-efficacy for academic achievement	Self-efficacy for self-regulated learning	Communality	Eigenvalue	Variance Explained	Cumulative variance explained
	1	2				
S2	.22	.70	.47	2.92	22.44	49.85
S5	.03	.67	.28			
S6	.12	.63	.28			
S3	.28	.61	.36			
S13	.30	.60	.37			
S7	.28	.59	.34			
KMO		.86	Bartlett's test of sphericity		X^2= 540.05	

Table 3.9

Cronbach's Alpha of the Two Dimensions in Self-Efficacy Scale

Dimensions	Question Number	Number of items	Cronbach's Alpha
Self-efficacy for academic achievement	2, 3, 4, 5, 6	5	.69
Self-efficacy for self-regulated learning	8, 9, 10, 11, 12	5	.82
Total Cronbach's Alpha			**.83**

Self-Regulated Learning Scale

This 24-item questionnaire was adapted and revised from the self-regulated learning strategy inventory which developed by C. H. Chen (2009) for junior high school students. In our new revised scale, there are four subscales: cognition, motivation/affect, behavior, and context. The scale will be given to the child being assessed and the values 1, 2, 3, and 4 will be used to rate each statement (1 = never, 2 = sometimes, 3 = often, and 4 = always).

Item Analysis:

As shown in table 3.10, item 13 has critical ration less than 3.5 and corrected item-total correlation was less than .30. Item 13 was excluded from the questionnaire. The total Cronbach's Alpha was .93 showed the internal consistency was excellent.

Table 3.10

Data Display of Item Analysis for Self-Regulated Learning Scale (N= 120)

Items	Comparisons of extreme groups	Item-total correlation		Test of homogeneity			Remarks
	CR	Item-total correlation	Corrected item-total correlation	Cronbach Alpha if item Deleted	Communality	Factor loading	
R1	9.82	.67**	.63	.93	.54	.65	Reserved
R2	12.47	.74**	.70	.93	.56	.54	Reserved
R3	6.63	.55**	.50	.93	.50	.66	Reserved
R4	7.73	.67**	.63	.93	.47	.45	Reserved
R5	10.64	.69**	.66	.93	.60	.52	Reserved
R6	11.26	.75**	.72	.93	.64	.51	Reserved
R7	5.49	.52**	.45	.93	.76	.80	Reserved
R8	7.28	.53**	.49	.93	.79	.83	Reserved

Continued

Table 3.10

Data Display of Item Analysis for Self-Regulated Learning Scale (N= 120)

Items	Comparisons of extreme groups	Item-total correlation		Test of homogeneity			Remarks
	CR	Item-total correlation	Corrected item-total correlation	Cronbach Alpha if item Deleted	Communality	Factor loading	
R9	9.60	.68**	.64	.93	.48	.48	Reserved
R10	13.95	.75**	.72	.93	.60	.57	Reserved
R11	4.58	.49**	.43	.93	.74	.83	Reserved
R12	6.91	.62**	.58	.93	.51	.60	Reserved
R13	2.37	.30**	.24	.94	.47	.81	Omitted
R14	8.57	.66**	.62	.93	.62	.53	Reserved
R15	8.54	.67**	.63	.93	.60	.73	Reserved
R16	9.10	.69**	.65	.93	.66	.70	Reserved
R17	9.69	.69**	.65	.93	.64	.75	Reserved
R18	11.09	.72**	.69	.93	.59	.71	Reserved
R19	6.35	.57**	.52	.93	.61	.60	Reserved
R20	9.49	.70**	.66	.93	.58	.52	Reserved
R21	7.71	.63**	.59	.93	.63	.72	Reserved
R22	7.54	.65**	.61	.93	.59	.73	Reserved
R20	9.49	.70**	.66	.93	.58	.52	Reserved
R21	7.71	.63**	.59	.93	.63	.72	Reserved
R22	7.54	.65**	.61	.93	.59	.73	Reserved
R23	8.93	.69**	.65	.93	.41	.68	Reserved
R24	6.81	.57**	.52	.93	.54	.43	Reserved
Total Cronbach's Alpha				.93			

Factor Analysis:

According to table 3.11, KMO= .89, the degree of common variance was meritorious. Bartlett's test Chi-sq = 1442.98, degree of freedom = 253, (p< .01) showed that the factor analysis will be useful for these variables. Method of extraction was Principal components and rotation type was varimax. Based on the theory, there are four factors in this scale. The researcher then extracted four principle components. Since there were some items did not belong to the extracted components, the researcher decided to delete them.

Table 3.11

Data Display of Factor Analysis for Self-Regulated Learning Scale (N= 120)

Items	Cognition	Motivation /Affect	Behavior	Context	Communality	Eigenvalue	Variance Explained	Cumulative variance explained
	1	2	3	4				
R22	.73	.29	.04	.12	.56			
R21	.72	.12	.15	.15	.50			
R23	.68	.18	.06	.30	.53			
R3	.66	-.05	.16	.17	.39			
R1	.65	.17	.11	.29	.50	4.23	18.38	18.38
R2	.54	.18	.23	.43	.55			
R14	.53	.09	.22	.36	.48			
R9	.48	.33	.19	.32	.44			
R4	.45	.06	.29	.44	.85			

continued

Table 3.11

Data Display of Factor Analysis for Self-Regulated Learning Scale (N= 120)

Items	Cognition	Motivation /Affect	Behavior	Context	Communality	Eigenvalue	Variance Explained	Cumulative variance explained
	1	2	3	4				
R17	.22	.19	.10	.75	.54	3.96	17.23	35.62
R15	.17	.23	.10	.73	.54			
R18	.31	.12	.16	.71	.58			
R16	.28	.14	.10	.70	.50			
R12	.20	.05	.32	.60	.50			
R10	.48	.16	.14	.57	.55			
R20	.36	.02	.47	.52	.56			
R6	.51	.35	.01	.51	.60			
R8	.28	.83	-.07	.16	.87	2.09	9.10	44.72
R7	.05	.80	.28	.19	.40			
R5	.49	.28	.14	.14	.53			
R11	.18	.08	.83	.83	.22	1.60	6.97	51.69
R19	.06	.46	.60	.60	.39			
R24	.42	.22	.43	.43	.31			
KMO		.891			Bartlett's test of sphericity X^2= 1442.98			

Reliability Analysis:

As shown in table 3.12, the values of cronbach's alpha for cognition, motivation, and context were .78, .76, and .71 respectively, it meant the internal consistencies were acceptable. The values of cronbach's alpha for behavior was .62, shows questionable internal consistency.

Table 3.12

Cronbach's Alpha of the Four Dimensions in Self-Regulated Learning Scale

Dimensions	Question Number	Number of items	Cronbach's Alpha
Cognition	1, 2, 3, 4	4	.78
Motivation/Affect	5, 7, 8	3	.76
Behavior	11, 19, 24	3	.62
Context	15, 16	2	.71
Total Cronbach's Alpha			**.87**

Data Analysis

Raw data arrange and coding was done right after the data collected. The analysis used the Statistical Package for Social Science (SPSS) 17.0 for windows. The research substituted a mean for the missing data. First, descriptive statistics were computed to understand the current status of the variables. Hotelling T^2 was then done to test the differences of gender and grade. To answer questions concerning relationships between the variables tested, the Pearson-product moment correlation was calculated. To address the causal relations between the variables, three set of multiple regression analysis were done. Hierarchical regression analysis was then done to estimate the relationships among the variables.

CHAPTER IV

RESULT AND DISCUSSION

This chapter presented the statistical outcomes of the proposed model. This chapter begins with a description of the variables used in the research. The affect, effect, relationships, and causal relations between the variable were presented and discussed.

Descriptive Statistics

The sample in this research consists of 679 elementary students. The numbers of female and male participants were almost the same and the numbers of grade 5 and 6 students did not have much difference.

Current Status of Perceived Parental Psychological Support

Perceived psychological support was specified as an independent variable. The scale for formal test includes 9 items. Using Likert-type 4 point scale, the higher score is 4 and the lower score is 1, and the median is 2.5.

As shown in table 4.1, the mean in parental autonomy support, structure, and involvement were 3.21, 3.92, and 3.06 respectively, and the mean for total scale was 3.40. Those values were all greater than the median (2.5), it meant the current status of perceived psychological support in elementary student was above the average. Parental involvement had higher value of mean than the other two components indicates that elementary students felt their parents care about and participate in their school lives a lot.

Table 4.1

Descriptive Summary of Each Dimension of Perceived Parental Psychological Support (N=679)

Dimension	Mean	SD	Variance	Coefficient of skewness	Skewness SEM	Coefficient of kurtosis	Kurtosis SEM
Autonomy	3.21	0.75	1.11	-.78	.09	.17	.19
Structure	3.92	0.97	2.83	-.42	.09	-.50	.19
Involvement	3.06	0.58	1.33	-.70	.09	-.27	.19

Negative Skewness and platykurtic curve disclose the participants are prone to answer the questions with high score and the degree they perceive parental psychological support is fair. According to table 4.2, item P4 has the lowest mean (2.29), the elementary students do not feel that their parents restrict their behavior in school. Probably Eastern parents considered that teachers are the only in charge the behavior of their children in school.

Table 4.2

Descriptive Summary of Each Item of Perceived Parental Psychological Support (N=679)

	Item	Mean	SD	Variance
Autonomy	P6. My parents give me leeway for making mistakes at school.	3.48	.80	.64
	P7. My parents do not worry much about my grades as long as I try my best.	2.93	1.09	1.20
Structure	P1. My parents act in a consistent manner with regards to consequences for failure to comply with school rules.	3.17	1.00	1.00
	P4. My parents set limits for me regarding school behavior.	2.29	1.17	1.37
	P5. My parents make it a point to tell me the consequences for not behaving at school.	3.09	1.07	1.13
	P8. My parents are very clear about how they respond to my behavior in the school.	3.21	.95	.90
Involvement	P2. My parents enjoy hearing about my day at school.	3.11	.99	.98
	P3. My parents make sure that I am clearly understand the rules of the school.	3.12	1.07	1.15
	P9. My parents try to stay informed about my day at school.	2.95	1.07	1.15

Current Status of Self-Efficacy

The formal self-efficacy scale includes 10 items. Using Likert-type 4 point rating, the higher score is 4 and the lower score is 1, and the median is 2.5.

According to table 4.3, the mean in self-efficacy for academic achievement was 3.08, for self-regulated learning was 2.65, and the mean for total scale was 2.87. Those values were all greater than the median (2.5). It meant the current status of self-efficacy in elementary student was above the average.

The dimension "self-efficacy for self-regulated learning" got higher mean than the other dimension discloses that elementary students own more confidence in getting higher grades than in practicing self-regulated learning. Know how to get high grades don't means having good study skills.

Negative Skewness and platykurtic curve indicated that the participants were prone to answer the questions with high score and the degree they perceived self-efficacy was fair. As shown in table 4.4, the values of mean for the items ranged from 2.44 to 3.21 exhibited the elementary students owned similar self-efficacy on each item.

Table 4.3

Descriptive Summary of Each Dimension of Self-Efficacy (N=679)

Dimension	Mean	SD	Variance	Coefficient of skewness	Skewness SEM	Coefficient of kurtosis	Kurtosis SEM
For academic achievement	3.08	0.55	1.49	-.21	.09	1.26	.19
For self-regulated learning	2.65	0.77	3.00	-.06	.09	-.80	.19

Table 4.4

Descriptive Summary of Each Item of Self-Efficacy (N=679)

	Item	Mean	SD	Variance
For academic achievement	S1. Learning science and technology.	3.01	.76	.58
	S2. Learning language.	3.21	.72	.52
	S3. Learning social science.	2.93	.82	.67
	S4. Learning health and physical exercise.	3.20	.78	.62
	S5. Learning arts and humanities.	3.06	.92	.84
For self-regulated learning	S6. I can get myself to study when there are other interesting things to do.	2.44	.98	.96
	S7. I can always concentrate on school subjects during class.	2.76	.88	.77
	S8. I can plan my schoolwork for the day.	2.61	1.15	1.32
	S9. I can remember well information presented in class and textbooks.	2.85	.90	.81
	S10. I arrange a place for myself to study without distractions.	2.59	1.09	1.19

Current Status of Self-Regulated Learning

The formal self-regulated learning scale includes 12 items. Using Likert-type 4 point rating, the higher score is 4 and the lower score is 1, and the median is 2.5.

According to table 4.5, the value of mean in cognition and motivation were 2.65 and 2.70; in behavior and context were 2.15 and 2.29. The mean for this scale was 2.45. The scores of first two dimensions were greater than and just above the median (2.5) and the last two dimensions were lower than median. It demonstrated the current status of self-regulated learning in elementary student was below the average, students own poor skills practicing self-regulated learning. This can be explained by students under the background of Eastern culture are poor in study independently.

Table 4.5

Descriptive Summary of Each Dimension of Self-Regulated Learning (N=779)

Dimension	Mean	SD	Variance	Coefficient of skewness	Skewnesss SEM	Coefficient of kurtosis	Kurtosis SEM
Cognition	2.65	.86	2.98	-.10	.09	-1.03	.19
Motivation/ Affect	2.70	.85	2.17	-.28	.09	-.82	.19
Behavior	2.15	.83	2.05	.46	.09	-.63	.19
Context	2.29	.92	1.70	.31	.09	-.86	.19

Negative skewness and platykurtic curve in dimension of cognition and motivation disclose the participants were prone to answer questions with high score and the degree of self-regulated they believed were fair. Alternatively, positive skewness and platykurtic curve in dimensions of behavior and context exhibited the participants in these two areas were prone to answer the questions with low score and the degree of self-regulated learning they believed were not good.

As shown in table 4.6, elementary students were easier to have more confidence for the next exam if they get good grades this time. There were two items (R8 and R11) had the value of mean below median. The elementary students were not that prefer to ask their teachers to adjust the scope of homework when it's difficult for them to finish homework. And they usually also do not pay much attention to observe whether their studying time increase or decrease. This proved that Eastern students awe teachers, obey in all things, even can't arrange the time on their own

Table 4.6

Descriptive Summary of Each Item of Self-Regulated Learning (N=779)

	Item	Mean	SD	Variance
Cognition	R1. I will set targets for each stage of the learning activities.	2.62	1.07	1.14
	R2 I try to ask myself some questions when studying in order to understand the extent which I am familiar with the topic.	2.47	1.06	1.12
	R3. I try to take notes, list down outlines, and make notes on the textbooks in order to facilitate organizing when studying.	2.82	1.09	1.19
	R4. I adjust current study method when I get low grade.	2.68	1.07	1.14

continued

Table 4.6

Descriptive Summary of Each Item of Self-Regulated Learning (N=779)

	Item	Mean	SD	Variance
Motivation	R5. I am confident that I can reach the grade I set for myself.	2.64	1.02	1.04
	R6. I would say some words to encourage myself when my confidence of taking exam is low.	2.46	1.11	1.22
	R7. I will be more confident for the next exam when I got good grades.	3.01	1.03	1.06
Behavior	R8. I usually ask my teacher to adjust the scope of homework when it's difficult for me to finish homework.	1.85	1.07	1.15
	R11. I pay attention to see whether my study time increase or decrease.	1.94	1.04	1.09
	R12. I modify people I choose to call for help to improve the subsequent academic performance.	2.66	1.12	1.25
Context	R9. I keep observing changes of every teacher's personality, requirements, and teaching methods.	2.12	1.04	1.09
	R10. I modify my way of study to enhance future study efficiency.	2.46	1.07	1.15

Hotelling's T^2

This section is trying to explore gender and grade differences by using Hotelling's T-squared test.

Gender Differences in Perceived Parental Psychological Support

In the light of table 4.7, $T^2=16.374$, $p<.05$. According to Wu (2011), confidence interval across value 0 means no significant difference. There were no gender

differences in parental autonomy support and parental involvement, but there was gender difference in parental structure. Female students had more feeling that parents pay attention to and care about their school life than male students. Female owned more delicate personality and more able to feel things around.

Table 4.7

Gender Differences in Three Dimensions of Perceived Psychological Support

Variable	Male (N=339)		Female (N=340)		T^2	95% CI	
	Mean	SD	Mean	SD		Lower limit	Upper limit
Autonomy	3.16	0.76	3.25	0.73		-.46	.91
Structure	2.22	0.61	2.38	0.54	16.37	-1.06	-.22
Involvement	3.90	0.94	3.94	1.00		-.67	.40

Gender Differences in Self-Efficacy

In the light of table 4.8, $T^2=11.86$, $p<.05$. There were gender differences in self-efficacy and the two subscales. Female students had higher self-efficacy in academic than their male counterparts in both academic achievement and self-regulated learning area. This improved that female students were better to learn, think, evaluate, and adjust information to reach successful.

Gender Difference in Self-Regulated Learning

As shown in able 4.9, T^2=29.234, p<.001. There were gender differences in the subscales of cognition and behavior and there were no gender differences in subscales of motivation and context. Female students had better ability practicing self-regulated learning in cognition and behavior areas.

Table 4.8

Gender Differences in Two Dimensions of Self-Efficacy

Variable	Male (N=339)		Female (N=340)		T^2	95% CI	
	Mean	Standard deviation	Mean	Standard deviation		Lower limit	Upper limit
For academic achievement	3.03	0.57	3.13	0.52	11.86	-.97	-.03
For self-regulated learning	2.55	0.79	2.75	0.75		-1.64	-.32

Table 4.9

Gender Differences in Four Dimensions of Self-Regulated Learning

Variable	Male (N=339)		Female (N=340)		T^2	95% CI	
	Mean	Standard deviation	Mean	Standard deviation		Lower limit	Upper limit
Cognition	2.49	0.87	2.80	0.83	29.23	-1.89	-.59
Motivation/affect	2.65	0.86	2.75	0.83		-.78	.20
Behavior	2.06	0.83	2.24	0.82		-1.02	-.08
Context	2.21	0.95	2.37	0.90		-.67	.04

Grade Differences in Perceived Parental Psychological Support

The results shown in table 4.10, T^2=9.767, p<.05. But confidence interval all across value 0. There were no grade differences in perceived parental psychological support and the three subscales. Fifth and sixth grade students only has one year difference in age, there were no much difference in cognitive.

Table 4.10

Grade Differences in Three Dimensions of Perceived Psychological Support

Variable	Grade 5 (N=338)		Grade 6 (N=341)		T^2	95% CI	
	Mean	Standard deviation	Mean	Standard deviation		Lower limit	Upper limit
Autonomy	3.16	0.78	3.26	0.71	9.77	-.46	.09
Structure	2.31	0.57	2.29	0.59		-.34	.52
Involvement	4.00	1.00	3.84	0.93		-.07	1.00

Grade Difference in Self-Efficacy

Table 4.11 showed T^2=3.96, p>.05. There were no gender differences in self-efficacy and the two subscales.

Table 4.11

Grade Differences in Two Dimensions of Self-Efficacy

Variable	Grade 5 (N=338)		Grade 6 (N=341)		T^2	95% CI	
	Mean	Standard deviation	Mean	Standard deviation		Lower limit	Upper limit
For academic achievement	3.11	0.56	3.11	0.56	3.96	-.20	.74
For self-regulated learning	2.71	0.78	2.59	0.77		-.09	1.24

Grade Differences in Self-Regulated Learning.

According to table 4.12, T^2=8.827, p>.05. There were no grade differences in self-regulated learning and it's four subscales.

Table 4.12

Grade Differences in Two Dimensions of Self-Regulated Learning

Variable	Grade 5 (N=338)		Grade 6 (N=341)		T^2	95% CI	
	Mean	Standard deviation	Mean	Standard deviation		Lower limit	Upper limit
Cognition	2.71	0.88	2.59	0.84	8.827	-.201	1.125
Motivation/affect	2.76	0.85	2.65	0.85		-.172	.808
Behavior	2.23	0.87	2.07	0.78		.001	.951
Context	2.39	0.97	2.29	0.92		.040	.746

Pearson Product-Moment Correlation

This is to determine the linear relationships between the variables, which may be either positive or negative. According to Wu (2011), the correlation levels are as table 4.13.

Table 4.13

Levels of Correlation in Pearson Product-Moment Correlation

r value	Levels of correlation
r > 0.8	Perfect correlated
0.6 < r < 0.8	Highly correlated
0.4 < r <0.6	Moderately correlated
0.2 < r < 0.4	Modestly correlated
r < 0.2	Weakly correlated

The Correlations between Perceived Parental Psychological Support and Self-Efficacy

As shown in table 4.14, there was a statistically significant positive correlation between parental psychological support and self-efficacy. Parental autonomy support was weakly correlated to self-efficacy for academic achievement and modestly correlated to self-efficacy for self-regulated learning. Parental i and involvement were modestly correlated to self-efficacy for academic achievement and moderately correlated to self-efficacy for self-regulated learning.

The Correlations between Perceived Parental Psychological Support and Self-Regulated Learning

Table 4.14 showed that there was a statistically significant positive correlation between parental psychological support and self-regulated learning. Parental autonomy support was modestly correlated to cognition and motivation and was weakly correlated to behavior and context. Parental involvement was moderately correlated to self-efficacy. Parental structure was moderately correlated to cognition and motivation and moderately correlated with behavior and context.

Table 4.14

Display of Pearson Product-Moment Correlations

	1	2	3	4	5	6	7	8	9
1 Autonomy	1								
2 Involvement	.26**	1							
3 Structure	.31**	.53**	1						
4 For academic achievement	.15**	.25**	.35**	1					
5 For self-regulated learning	.23**	.41**	.48**	.48**	1				
6 Cognition	.23**	.39**	.45**	.45**	.76**	1			
7 Motivation	.25**	.38**	.41**	.47**	.64**	.67**	1		
8 Behavior	.17**	.32**	.39**	.30**	.58**	.61**	.55**	1	
9 Context	.18**	.34**	.38**	.32**	.60**	.68**	.59**	.66**	1

Note: ** p<.001

Correlations between Self-Efficacy and Self-Regulated Learning

According to table 4.14, there was a statistically significant positive correlation between self-efficacy and self-regulated learning. Self-efficacy for academic achievement was moderately correlated to cognition and motivation and modestly correlated to behavior and context. Self-efficacy for self-regulated learning was

highly correlated to cognition, motivation, and context, and moderately correlated to behavior.

Regression Analysis

Two parts were examined in this section. First part included the relations between each two of the three variables. Three set of multiple regression analysis were done to explain this. The second part determined the mediator role of self-efficacy. Hierarchiacal regression analysis was conducted to test if self-efficacy mediates the effect of perceived parental psychological support on self-regulated learning.

The Prediction between Perceived Parental Psychological Support and Self-Efficacy

In this section, the parental support subscales were used as the independent variables (perceived parental autonomy support, parental structure, and parental involvement) and self-efficacy as the dependent variable (self-efficacy for academic achievement and self-efficacy for self-regulated learning). Furthermore, the results were statistically significant ($p<0.001$). Generally, elementary students own high self-efficacy when their psychological needs were satisfied.

Table 4.15 showed the predictability of parental psychological support to self-efficacy for academic achievement reached statistically significant, $F = 34.27$, $p <.05$, this model explained 13% of the variance. Parental autonomy support ($\beta= .04$, $p>.05$) disclosed that this dimension was not able to predict self-efficacy for academic achievement. Structure ($\beta= .30$, $p<.05$) and involvement ($\beta= .09$, $p<.05$) indicated that both parental structure and involvement were able to predict it significantly. In this relation, only with good competence and relatedness that

student was able to have high self-efficacy in academic.

The predictability of parental support to self-efficacy for self-regulated learning reached statistically significant, F = 82.25, p <.05, , this model explained 26% variance. Autonomy (β= .07, p<.05), structure (β= .35, p<.05), and involvement (β=.21, p<.05) indicate that all the dimensions of parental psychological support could predict student's self-efficacy for self-regulated learning significantly. This proved that when psychological needs were satisfied, self-efficacy was promoted.

Table 4.15

The Values of Standardized Regression Coefficient in Multiple Regression for Parental Psychological Support and Self-Efficacy

	Criterion variable	
Predictor variable	For academic achievement	For self-regulated learning
Parental autonomy support	.04	.07*
Parental structure	.35*	.09*
Parental involvement	.21*	.30*
F (679)	34.27	82.25
Adj. R^2	.13	.26

PS. The table only showed the beta values. Note: * p <.05

The Prediction between Perceived Parental Psychological Support and Self-Regulated Learning

In this section, the parental psychological support subscales were used as the independent variables (perceived parental autonomy support, parental structure, and parental involvement) and self-regulated learning as the dependent variable

(cognition, motivation, behavior, and context). Furthermore, the results were statistically significant ($p<0.001$).

Table 4.16 showed the predictability of parental psychological support to cognition reached statistically significant, $F = 70.92$, $p < .05$, this model explained 24% of the variance. Autonomy ($\beta = .08$, $p<.05$), structure ($\beta = .20$, $p<.05$) and involvement ($\beta = .32$, $p<.05$) indicated that all the dimensions of parental psychological support could predict cognition significantly.

The predictability of parental psychological support to motivation reached statistically significant, $F = 62.04$, $p < .05$, this model explained 21% of the variance. Autonomy ($\beta = .11$, $p<.05$), structure ($\beta = .22$, $p<.05$) and involvement ($\beta = .26$, $p<.05$) demonstrated that all the dimensions of parental psychological support could predict motivation significantly.

The predictability of parental psychological support to behavior reached statistically significant, $F = 45.45$, $p < .05$, this model explained 16% of the variance. Autonomy ($\beta = .04$, $p<.05$), structure ($\beta = .15$, $p<.05$) and involvement ($\beta = .30$, $p<.05$) exhibited that all the dimensions of parental psychological support could predict behavior significantly.

The predictability of parental psychological support to context reached statistically significant, $F = 47.28$, $p < .05$, this model explained 17% of the variance. Autonomy ($\beta = .05$, $p>.05$) showed that parental autonomy support was not able to predict it. Structure ($\beta = .19$, $p<.05$) and involvement ($\beta = .27$, $p<.05$) disclosed that both parental structure and involvement were able to predict it significantly.

In this section, only parental autonomy support was not able to predict the

dimension “context” of self-regulated learning. When basic psychological needs were satisfied, students’ self-regulated learning ability and skills were enhanced.

Table 4.16

The Values of Standardized Regression Coefficient in Multiple Regression for Parental Psychological Support and Self-Regulated Learning

	Criterion variables			
Predictor variable	Cognition	Motivation/affect	Behavior	Context
Parental autonomy support	.08*	.11*	.04*	.05
Parental structure	.32*	.26*	.30*	.27*
Parental involvement	.20*	.22*	.15*	.19*
F (679)	70.92	62.04	45.45	47.28
Adj. R^2	.24	.21	.16	.17

Note: * p <.05

The Prediction between Self-Efficacy and Self-Regulated Learning

In this section, the self-efficacy subscales were used as the independent variables (self-efficacy for academic achievement and self-efficacy for self-regulated learning) and self-regulated learning as the dependent variable (cognition, motivation, behavior, and context). Furthermore, the results were statistically significant ($p<0.001$).

As shown in Table 4.17, the predictability of self-efficacy to cognition reached

statistically significant, F = 488.31, p <.05, this model explained 59% of the variance. Self-efficacy for academic achievement (β= .08, p<.05), self-efficacy for self-regulated learning (β= .71, p<.05) indicated that both the subscales of self-efficacy could predict cognition significantly.

The predictability of self-efficacy to motivation reached statistically significant, F = 269.59, p <.05, this model explained 44% of the variance. Self-efficacy for academic achievement (β= .22, p<.05), self-efficacy for self-regulated learning (β= .53, p<.05) demonstrated that both the subscales of self-efficacy could predict motivation significantly.

The predictability of self-efficacy to behavior reached statistically significant, F = 171.48, p <.05, this model explained 34% of the variance. Self-efficacy for academic achievement (β= .03, p>.05) showed that this subscale of self-efficacy were not able to predict it. Self-efficacy for self-regulated learning (β= .56, p<.05) exhibited that the subscale of self-efficacy could predict behavior significantly.

In addition, the predictability of self-efficacy to context reached statistically significant, F = 47.28, p <.05, this model explained 36% of the variance. Self-efficacy for academic achievement (β= .05, p>.05) indicated that this subscale of self-efficacy was not able to predict it. Self-efficacy for self-regulated learning (β= .58, p<.05) showed that the subscale of self-efficacy could predict context significantly.

In the light of the above results, self-efficacy can predict almost all the four dimensions of self-regulated learning except the dimensions “behavior” and “context”. Roughly, students owned high self-efficacy in learning can enhance the extent of self-regulated learning.

Table 4.17

The Values of Standardized Regression Coefficient in Multiple Regression for Self-Efficacy and Self-Regulated Learning

	Criterion variables			
Predictor variable	Cognition	Motivation/affect	Behavior	Context
For academic achievement	.11*	.22*	.03	.05
For self-regulated learning	.71*	.53*	.56*	.58*
F (679)	488.31	269.59	171.48	47.28
Adj. R^2	.59	.44	.34	.36

Note: * p <.05

The Relationships among Perceived Parental Psychological Support, Self-Efficacy, and Self-Regulated Learning

In this section, the parental psychological support subscales were used as the first independent variables and the self-efficacy subscales were used as the second independent variables; the self-regulated learning subscales were used as the dependent variable.

The Relationship among Parental Psychological Support, Self-Efficacy, and Cognition of Self-Regulated Learning

Table 4.18 showed the predictability of parental psychological support and self-efficacy to cognition reached statistically significant, F =202.58, p <.05, this model explained 60% of the variance. Autonomy (β= .030, p>.05) and involvement (β= .05, p>.05) indicated that these two subscales were not able predict cognition. Structure (β= .07, p<.05), self-efficacy for academic achievement (β= .09, p<.05), self-efficacy for self-regulated learning (β= .66, p<.05) demonstrated that these three subscales could predict cognition significantly.

When self-efficacy played as a mediator, the variance those variables explained

increased 36% (ΔR^2=.36), ΔF^2=304.42, p<.05. The β value of autonomy changed from .08 (p<.05) to .03 (p>.05), from significant become insignificant. This indicated that self-efficacy completely mediated the autonomy-cognition relationship. Compared table 4.15 and table 4.18, the effect of autonomy on cognition was totally mediated by self-efficacy for self-regulated learning. The value of Sobel test was 1.97, p<.05. Indirect effect = 0.05. An increase in parental autonomy support would result in improving the cognition of self-regulated learning when self-efficacy for self-regulated learning increased.

The β value of structure changed from .32 (p<.05) to .07 (p<.05), both significant. This indicated that the effect of structure on cognition was partially mediated by self-efficacy for self-regulated learning. The value of Sobel test was 8.21, p<.05. Indirect effect = 0.25. The effect of parental structure on cognition was slightly increased when self-efficacy for self-regulated learning enhanced.

The β value of involvement changed from .20 (p<.05) to .05 (p>.05), from significant became insignificant. This disclosed that effect of involvement on cognition was completely mediated by self-efficacy for self-regulated learning. The value of Sobel test was 5.25, p<.05. Indirect effect = 0.15. The positive effect of parental involvement on cognition was slightly increased when self-efficacy for self-regulated learning enhanced.

Table 4.18

Results of Multiple Regression for Perceived Psychological Support, Self-Efficacy, and Self-Regulated Learning.

Predictor variable	Criterion variable							
	Cognition		Motivation/affect		Behavior		Context	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Step 1								
Parental autonomy support	.08*	.03	.11*	.07*	.04*	.00	.05	.02
Parental structure	.32*	.07*	.26*	.04	.30*	.12*	.27*	.08*
Parental involvement	.20*	.05	.22*	.10*	.15*	.05	.19*	.08*
Step 2								
For academic achievement		.09*		.20*		.01		.03
For self-regulated learning		.66*		.47*		.50*		.51*
ΔF^2		304.42*		155.82*		96.03*		108.92*
ΔR^2		.36		.25		.19		.20
F (679)	70.92*	202.58*	62.043*	116.63*	45.45*	73.36*	47.28*	81.00*
Adj. R^2	.24	.60	.21	.46	.16	.35	.17	.37

Note: * $p < .05$

The Relationship among Parental Psychological Support, Self-Efficacy, and Motivation/Affect of Self-Regulated Learning

Table 4.18 showed the predictability of parental psychological support and self-efficacy to motivation/affect reached statistically significant, F =116.63, p <.05, this model explained 46% of the variance. Autonomy (β= .07, p<.05) and involvement (β= .10, p<.05) indicated that these two subscales were able predict motivation/affect. Structure (β= .010, p>.05), self-efficacy for academic achievement (β= .20, p<.05), self-efficacy for self-regulated learning (β= .47, p<.05) indicated that these three subscales could predict motivation/affect significantly.

When self-efficacy played as a mediator, the variance those variables explained increased 25% (ΔR^2=.248), ΔF^2=155.82, p<.05. The β value of autonomy changed from .07 (p<.05) to .04 (p<.05), both significant. This indicates that effect of autonomy on motivation/affect was partially mediated by self-efficacy. Compared table 4.15 and table 4.18, the effect of autonomy on motivation/affect was totally mediated by self-efficacy for self-regulated learning. The value of Sobel test was 1.96, p<.05. Indirect effect = 0.04. An increase in parental autonomy support would result in improving the motivation/affect of self-regulated learning when self-efficacy for self-regulated learning increased.

The β value of structure changed from .26 (p<.05) to .04 (p>.05), from significant become insignificant. This demonstrated that the effect of parental structure on motivation/affect was completely mediated by self-efficacy for self-regulated learning. The values of Sobel test was 7.6, p<.05. Indirect effect = 0.19. The positive effect of parental involvement on motivation/affect was increased when self-efficacy for self-regulated learning enhanced.

The Relationship among Parental Psychological Support, Self-Efficacy, and Behavior of Self-Regulated Learning

As shown in table 4.18, the predictability of parental psychological support and self-efficacy to behavior reached statistically significant, F =73.36, p <.05, this model explained 5% of the variance. Autonomy (β= .00, p>.05), involvement (β= .05, p>.05), and self-efficacy for academic achievement (β= .01, p>.05) indicated that these three subscales were not able to predict behavior. Structure (β= .12, p<.05), self-efficacy for self-regulated learning (β= .50, p<.05) indicated that these two subscales could predict behavior significantly.

When self-efficacy played as a mediator, the variance those variables explained increased 19% (ΔR^2=.185), ΔF^2=96.03, p<.05. The β value of parental autonomy support changed from .04 (p<.05) to .00 (p>.05), from significant became insignificant. This indicated that self-efficacy completely mediated the autonomy-behavior relationship. Compared table 4.15 and table 4.18, the effect of autonomy on behavior was totally mediated by self-efficacy for self-regulated learning. The value of Sobel test was 1.96, p<.05. Indirect effect = 0.04. An increase in parental autonomy support would result in improving the behavior of self-regulated learning when self-efficacy for self-regulated learning increased.

The β value of parental structure changed from .32 (p<.05) to .07 (p<.05), both significant. This exhibited that the effect of parental structure on behavior was partially mediated by self-efficacy for self-regulated learning. The value of Sobel test was 7.59, p<.05. Indirect effect = 0.20. The positive effect of parental structure on behavior was slightly increased when self-efficacy for self-regulated learning enhanced.

In addition, the β value of parental involvement changed from .15 (p<.05) to .05 (p>.05), from significant became insignificant. This indicated that the effect of parental involvement on behavior was completely mediated by self-efficacy for self-regulated learning. The value of Sobel test was 5.08, p<.05. Indirect effect = 0.12. The positive effect of parental involvement on cognition was increased when self-efficacy for self-regulated learning enhanced.

The Relationship among Parental Psychological Support, Self-Efficacy, and Context of Self-Regulated Learning

Table 4.18 showed the predictability of parental psychological support and self-efficacy to context reached statistically significant, F =81.00, p <.05, this model explained 37% of the variance. Autonomy (β= .02, p>.05) and self-efficacy for academic achievement (β= .03, p>.05) showed that these two subscales were not able to predict context. Structure (β= .08, p<.05), involvement (β= .08, p<.05), self-efficacy for self-regulated learning (β= .51, p<.05) indicated that these three subscales could predict context significantly.

When self-efficacy played as a mediator, the variance those variables explained increased 20 % (ΔR^2=.202), ΔF^2=108.92, p<.05. The β value of structure changed from .27 (p<.05) to .08 (p<.05), both significant. This indicated that the effect of parental structure on context was partially mediated by self-efficacy for self-regulated learning. The value of Sobel test was 7.64, p<.05. Indirect effect = 0.20. The positive effect of parental structure on context was slightly increased when self-efficacy for self-regulated learning enhanced.

The β value of involvement changed from .19 (p<.05) to .08 (p<.05), both significant. This indicated that the effect of parental involvement on context was

partially mediated by self-efficacy for self-regulated learning. The value of Sobel test was 5.09, p<.05. Indirect effect = 0.12. The positive effect of parental involvement on context was slightly increased when self-efficacy for self-regulated learning enhanced.

Figure 4.1 to 4.2 displayed the routes between perceived parental psychological support and the four dimensions of self-regulated learning when self-efficacy played as moderator. Table 4.19 showed the summary of direct, indirect, and total effect of the mediation model.

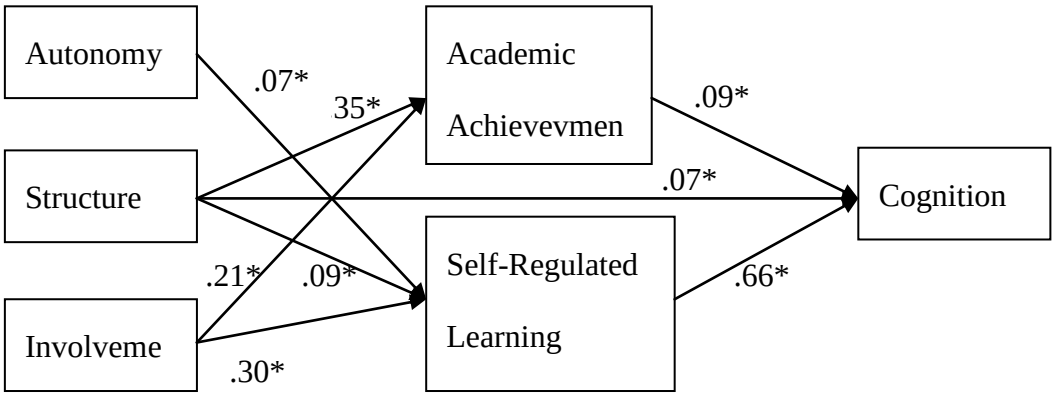

Figure 4.1 Self-Efficacy as Moderator between Parental Psychological Support and Cognition

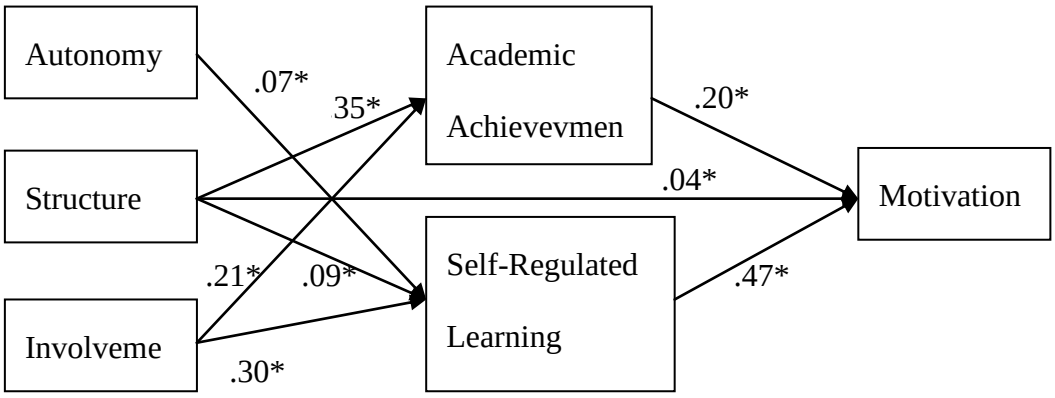

Figure 4.2 Self-Efficacy as Moderator between Parental Psychological Support and Motivation

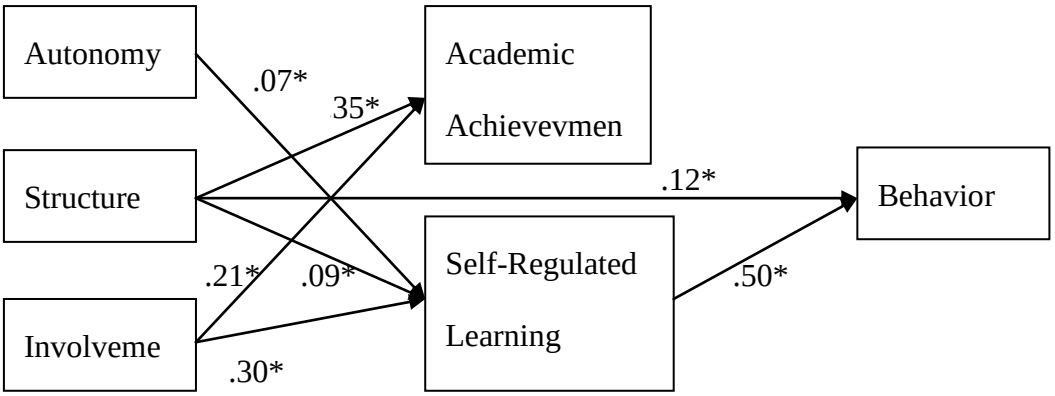

Figure 4.3 Self-Efficacy as Moderator between Parental Psychological Support and Behavior

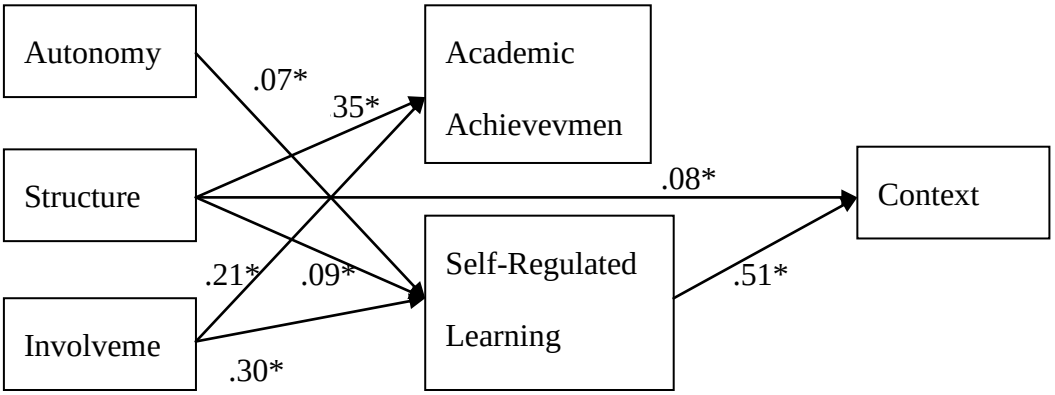

Figure 4.4 Self-Efficacy as Moderator between Parental Psychological Support and Context

Table 4.19

Summary of Direct and Indirect Effect

Independent variable	Dependent variable		Direct effect	Indirect effect	Total effect
Parental autonomy support	Self-efficacy for self-regulated learning	Cognition	0.03	0.05	0.08
		Motivation	0.07	0.04	0.11
		Behavior	0.00	0.15	0.20
Parental structure		Cognition	0.05	0.15	0.20
		Behavior	0.05	0.12	0.17
		Context	0.08	0.12	0.20
Parental involvement		Behavior	0.00	0.04	0.04
		Cognition	0.07	0.25	0.32
		Motivation	0.04	0.19	0.23
		Behavior	0.12	0.20	0.32
		Context	0.08	0.20	0.28

Note: Total effect = direct effect + indirect effect. Indirect effect = regression coefficient between independent variable and the mediator variable x regression coefficient between the mediator variable and the dependent variable.

CHAPTER V

CONLUSION

In this chapter, the researcher concludes this dissertation by summarizing the results and contributions briefly. Limitations are mentioned and some possible future research directions are suggested.

Conclusion

The study was designed to answer the research questions mentioned in chapter one. The followings are the answers and explanations for the questions.

Current Status

Elementary students felt parental psychological support more than average, especially parental involvement. Parents in Taichung supplied enough basic psychological needs to their elementary children especially relatedness.

Regarding self-efficacy in academic, elementary students owned high self-efficacy especially when it comes to academic achievement. Elementary students in Taichung were more confident with academic performance than self-regulated learning skills.

The current status of self-regulated learning in Taichung was generally lower than the average. Elementary students did not have good ability and skill of practicing self-regulated learning, especially in “behavior” and “context” dimension. They were poor in assessing and modifying information gathered.

Gender and Grade Differences

Regarding gender differences, there were no so much effects and evidence. Gender differences only showed in parental structure and the dimensions of cognition and context in self-regulated learning.

No grade differences regarding perceived parental psychological support, self-efficacy, and self-regulated learning. Only one year difference in age, this is the reason why no grade differences was found.

Correlations

There were positive correlations between each scale and each dimension. Only the levels were different, ranged from weakly to highly correlation.

Predictions

Although there were some different result between each dimensions, as a whole, there were positive and direct predictions between parental psychological support and self-efficacy and self-regulated learning. This proved that when basic psychological support was satisfied, the self-efficacy in academic and the ability of self-regulated learning enhanced. There was also positive prediction between self-efficacy and self-regulated learning. An increase in self-efficacy can increase the ability of self-regulated learning.

Mediation

The dimension “self-efficacy for academic achievement” was not able to play as an effective mediator between perceived psychological support and self-regulated learning. The dimension “self-efficacy for self-regulated learning” was able to

mediate the positive effect of perceived psychological support on self-regulated learning except between parental autonomy support-context and parental structure-motivation. The differences were just complete or partial mediation.

Probably when elementary student did not know how to assess information and modify environment effect, parental autonomy support can do nothing to help. And rules and limits set by parents only make the elementary student know what to do, not to help getting feeling to take effort.

Limitations of the Research

Despite the study's advantages, it does have some limitations and shortcomings. Recommendations are made for future researchers to conduct future studies.

Quantitative research method allows the researcher to objectively measure and analyze data and explain the findings. It can also advantageous because the researcher is more objective about the findings of the research. But one of the disadvantage is the context of the research is ignored. Another disadvantage is that the researcher needs to find large sample of the population.

Measurement occurs over a short period of time and data gathered simultaneously. Some bias may occur such as the participants desire to answer questions socially desirable behaviors and reluctance to answer the socially undesirable behaviors. Participant selection bias may also occur.

Not all students are included in this research. Because of the time limit, only on a small size of population who were attending grade 5 and 6 in elementary school in Taichung city were involved. Thus, the generalization of the results to other populations may be limited.

Recommendations

For parents

According to the short summary of the results in conclusion, the researcher would like to offer some suggestions for parents to help their elementary children in learning.

Raising children with autonomy support, provision of structure, and active participation in school and daily events to satisfy the three innate psychological needs based on self-determination theory will present a required condition for students' optimal learning. That psychological support will enhance student's academic-based and self-regulated learning-base self-efficacy. And the extent of self-regulated learning practiced will be reinforced.

It is difficult to overestimate the importance of parents in the cultivation of habits that lead to self-efficacy in a way that would prove useful in an academic setting; but the challenge becomes how best to translate this factor into actionable findings? Parents must first understand the definition of the three psychological supports and try to practice all the time. For Eastern parents, to provide children with autonomy support is not an easy thing. Eastern parents were rising up in patriarchy society and used to follow the requirements of their parents, never learned about autonomy/self-determination. Only through imitating and learning from others so they are able to know. A possible proactive step to take would be program that educates and encourages parents during parent-teacher meetings on the latest research on study-habits, and impressing on parents ways to create an environment that limits distractions while placing value on learning. To read more books, discuss

problems with peers or professors, and adjust after every practice about parent-child relationship are also beneficial.

For future research

Future researches should be alerted to the limitations of this study. Qualitative research method is suggested for future researchers to study more complex aspects of a participant's opinion and experience. The participant can provide information in their own words.

The longitudinal study is also recommended for additional researchers to consider developments and changes in the characteristics of the target population at both the group and the individual level. Therefore, sequences of events are established.

More researches are recommended to be conducted in the future to find out the distinct influences from paternal and maternal psychological supports to boys and girls. Instead of perceived parental psychological support, perceived teacher's psychological support should prove quite beneficial in additional researches.

The parenting styles in this research are self-determination theory-based. More different models are suggested to replace this model, such as authoritative, permissive, autocratic, and unengaged parenting.

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APPENDICES

Parental Psychological Support, Self-Efficacy, and Self-Regulated Learning Questionnaire for Elementary Students (Chinese Version)

國小學童父母親心理支持、自我效能與學業調整調查工具 (預試版)

各位同學您好：

這是一份研究問卷，為的是瞭解您的一些學習相關想法與行為。很需要您提供寶貴的意見與經驗，以便能更瞭解大家的學習行為，而能提供更好的服務。

以下有一些問題，有些是關於您的資料，有些是關於您個人的想法，請依照實際的情況與感受來作答，所有的資料僅供研究之用，絕對加以保密，不會透露給您的師長、同學或家人，請您安心作答。

由於問卷較長，可能花去您較多時間，請耐心作答。

最後，謝謝您耐心合作與熱誠的支持。

東海大學教育研究所　指導教授 林啟超博士
研究生 許愷玹 敬啟
中華民國 102 年 3 月

一. 基本資料 (請□內打勾)

(一)學校：_____

(二)年級：_____年 _____ 班

(三)性別：□ 男　　□ 女

(四)年齡：_____

(五)雙親的教育程度：

1.父親：□研究所以上 □大學 □專科 □高中職 □國（初）中 □國小 □未上學

2.母親：□研究所以上 □大學 □專科 □高中職 □國（初）中 □國小 □未上學

以下題目很簡單，請依照您的感覺或實際的狀況進行圈選(請將適合您感覺的答案圈起來)，如您的答案是 1，請圈成①，以此類推

二.知覺父母心理支持量表

題　　目	不是	不常是	有時候是	確定是
1.我非常清楚我父母對我在學校行為表現的期待	1	2	3	4
2.我父母會特地獎勵我在學校的各項成就	1	2	3	4
3.我父母對於處理我違反校規時態度都很一致	1	2	3	4
4.我父母喜歡聽我述說自己在學校的一切事情	1	2	3	4
5.我父母確定我非常清楚校規內容	1	2	3	4
6.我父母允許我自己決定何時完成作業	1	2	3	4
7.我父母鼓勵我能自行解決問題	1	2	3	4
8.我父母會為我在校行為設立規定	1	2	3	4
9.我父母很明確地讓我了解在校行為表現不好的後果	1	2	3	4
10.我父母會在我在學校犯錯的時候給我改過機會	1	2	3	4
11.只要我有盡力，我父母就不會擔心我的成績	1	2	3	4
12.我父母非常清楚如何處理我在學校的行為	1	2	3	4
13.我父母會盡力做好親師聯絡，以瞭解我在學校的狀況	1	2	3	4

三.學業自我效能量表

題目(學業成就的信心程度)	完全沒信心	沒信心	有信心	非常有信心
1.學習數學領域	1	2	3	4
2.學習自然與生活科技領域	1	2	3	4
3.學習國語領域	1	2	3	4
4.學習社會領域	1	2	3	4
5.學習健康領域	1	2	3	4
6.學習藝術領域	1	2	3	4
題目(對自我調整學習的自我效能感)	很少如此	有時如此	經常如此	總是如此
7.我能在期限內完成我應該做的作業	1	2	3	4
8.即使有其他有趣而吸引我的事物，我還是能要求我自己去溫書	1	2	3	4
9.上課時我都能專心於各科的學習	1	2	3	4
10.我能計畫安排自己當天在學校的各項活動時間	1	2	3	4
11.我能記住在課堂或在課本上所習得的知識	1	2	3	4
12.我會為自己準備一個不會分心的地方來念書	1	2	3	4
13.我會主動投入班上的各項學習活動	1	2	3	4

四.學業自我調整學習量表

題　　目	很少如此	有時如此	經常如此	總是如此
1.我會為每個階段的學習活動設定階段性的目標	1	2	3	4
2.在讀書的時候，我會問自己一些問題，以了解自己熟讀的程度	1	2	3	4
3.我會製作重點筆記、列舉大綱以及在課本上圈點畫線，以幫助自己整合學習內容	1	2	3	4
4.當我的成績退步時，我會調整或修正目前的讀書方法	1	2	3	4
5.我有信心可以達到自己所設定的考試分數標準	1	2	3	4
6.讀書時，我會隨時留意自己對於課程內容的興趣的增減，及其對我的讀書動力是否有影響	1	2	3	4
7.當我的考試信心低落時，我會說些激勵士氣的話語勉勵自己	1	2	3	4
8.當考試分數能達到預期標準時，我會對接下來的考試有信心	1	2	3	4
9.溫習功課前，我會先了解應閱讀的範圍、內容與頁數	1	2	3	4
10.學習時，我會隨時留意作業的內容、範圍、要求與進行方式是否有所改變	1	2	3	4
11.當難以完成老師指派的作業時，我會與老師商量，請求調整作業的範圍或進行方式	1	2	3	4
12.學習後，我會檢討自己是否達成學習重點、進度與標準等要求，並與老師討論如何調整改進，使自己更能夠完成學習任務	1	2	3	4
13.我的讀書心情常受到日常生活中發生的事情影響	1	2	3	4
14.我會不斷地觀察各科老師的個性、要求與教學方式的變化狀況	1	2	3	4
15.在班上，我會設法請同學保持秩序，讓我能夠專心唸書	1	2	3	4
16.在學習結束後，我會修改原來的調整讀書環境方法，來幫助日後的讀書與學習	1	2	3	4
17.讀書前，我會先計畫在不同時段溫習不同科目的功課	1	2	3	4
18.讀書時，我會注意可以運用來讀書的時間是否有增減	1	2	3	4
19.我常利用下課零碎的時間背誦英文單字或數學公式	1	2	3	4
20.學習後，我會修改我原來的時間管理方法，來幫助日後的學習	1	2	3	4
21.我知道應該如何開口向父母、老師或同學請教課業問題	1	2	3	4
22.我能判斷我是否需要使用參考書籍、工具或資料以幫助自己學習	1	2	3	4
23.讀書時，我會隨時留意自己是否需要向他人請教課業問題的增減情形	1	2	3	4
24.我會觀摩成績優異同學的讀書方法	1	2	3	4

國小學童父母親心理支持、自我效能與學業調整調查工具 (正試版)

各位同學您好：

這是一份研究問卷，為的是瞭解您的一些學習相關想法與行為。很需要您提供寶貴的意見與經驗，以便能更瞭解大家的學習行為，而能提供更好的服務。

以下有一些問題，有些是關於您的資料，有些是關於您個人的想法，請依照實際的情況與感受來作答，所有的資料僅供研究之用，絕對加以保密，不會透露給您的師長、同學或家人，請您安心作答。

由於問卷較長，可能花去您較多時間，請耐心作答。

最後，謝謝您耐心合作與熱誠的支持。

東海大學教育研究所　指導教授 林啟超博士
研究生 許愷玹 敬啟
中華民國 102 年 3 月

二. 基本資料 (請□內打勾)

(一)學校：_____

(二)年級：_____年 _____ 班

(三)性別：□ 男　　□ 女

(四)年齡：_____

(五)雙親的教育程度：

1.父親：□研究所以上 □大學 □專科 □高中職 □國（初）中
□國小 □未上學

2.母親：□研究所以上 □大學 □專科 □高中職 □國（初）中
□國小 □未上學

以下題目很簡單，請依照您的感覺或實際的狀況進行圈選(請將適合您感覺的答案圈起來)，如您的答案是 1，請圈成①，以此類推

二.知覺父母心理支持量表

題　　目	不是	不常是	有時候是	確定是
1. 我父母對於處理我違反校規時態度都很一致	1	2	3	4
2. 我父母喜歡聽我述說自己在學校的一切事情	1	2	3	4
3. 我父母確定我非常清楚校規內容	1	2	3	4
4. 我父母會為我在校行為設立規定	1	2	3	4
5. 我父母很明確地讓我了解在校行為表現不好的後果	1	2	3	4
6. 我父母會在我在學校犯錯的時候給我改過機會	1	2	3	4
7. 只要我有盡力，我父母就不會擔心我的成績	1	2	3	4
8. 我父母非常清楚如何處理我在學校的行為	1	2	3	4
9. 我父母會盡力做好親師聯絡，以瞭解我在學校的狀況	1	2	3	4

三.學業自我效能量表

題目(學業成就的信心程度)	完全沒信心	沒信心	有信心	非常有信心
1. 學習自然與生活科技領域	1	2	3	4
2. 學習國語領域	1	2	3	4
3. 學習社會領域	1	2	3	4
4. 學習健康領域	1	2	3	4
5. 學習藝術領域	1	2	3	4
題目(對自我調整學習的自我效能感)	很少如此	有時如此	經常如此	總是如此
6. 即使有其他有趣而吸引我的事物，我還是能要求我自己去溫書	1	2	3	4
7. 上課時我都能專心於各科的學習	1	2	3	4
8. 我能計畫安排自己當天在學校的各項活動時間	1	2	3	4
9. 我能記住在課堂或在課本上所習得的知識	1	2	3	4
10. 我會為自己準備一個不會分心的地方來念書	1	2	3	4

四.學業自我調整學習量表

題　目	很少如此	有時如此	經常如此	總是如此
1. 我會為每個階段的學習活動設定階段性的目標	1	2	3	4
2. 在讀書的時候，我會問自己一些問題，以了解自己熟讀的程度	1	2	3	4
3. 我會製作重點筆記、列舉大綱以及在課本上圈點畫線，以幫助自己整合學習內容	1	2	3	4
4. 當我的成績退步時，我會調整或修正目前的讀書方法	1	2	3	4
5. 我有信心可以達到自己所設定的考試分數標準	1	2	3	4
6. 當我的考試信心低落時，我會說些激勵士氣的話語勉勵自己	1	2	3	4
7. 當考試分數能達到預期標準時，我會對接下來的考試有信心	1	2	3	4
8. 當難以完成老師指派的作業時，我會與老師商量，請求調整作業的範圍或進行方式	1	2	3	4
9. 在班上，我會設法請同學保持秩序，讓我能夠專心唸書	1	2	3	4
10. 在學習結束後，我會修改原來的調整讀書環境方法，來幫助日後的讀書與學習	1	2	3	4
11. 我常利用下課零碎的時間背誦英文單字或數學公式	1	2	3	4
12. 我會觀摩成績優異同學的讀書方法	1	2	3	4

Parental Psychological Support, Self-Efficacy, and Self-Regulated Learning Questionnaire for Elementary Students (English Version)

(Pretest)

Thank you for taking the time to complete the following questions. This questionnaire asks about your personal beliefs of perceived parental psychological support, self-efficacy, and self-regulated learning. Do NOT write your name on this questionnaire. Your responses will be anonymous and will never be linked to your personally. Your participation is entirely voluntary. Please be patient to answer the questionnaire. Thanks for your cooperation.

Graduate Institute of Education, Tunghai University
Professor C. C. Lin
Graduate student K. H. Hsu
March 2013

Part I: Demogrphic (please tick the most appropriate response)

1 Please write the name of your school:

2 Please write your grade and class:

3 Gender：☐ Male ☐ Female

4 Please write your age：_____

5 Education level of your parents：

Father：☐ Graduate school and above ☐ College ☐ Junior college
☐ Senior high school ☐ Junior high school
☐ Elementary school ☐ None

Mother：☐ Graduate school and above ☐ College ☐ Junior college
☐ Senior high school ☐ Junior high school
☐ Elementary school ☐ None

Circle your best answer. For example, if your answer is 1, and make it ①.

Part II: Perceived Parental Psychological Support Instrument

Question	Very seldom	Hardly ever	Some of the time	Most of the time
1.I am very clear about how my parents want me to behave at school.	1	2	3	4
2.My parents go out of their way to praise my achievements at school.	1	2	3	4
3.My parents act in a consistent manner with regards to consequences for failure to comply with school rules.	1	2	3	4
4.My parents enjoy hearing about my day at school.	1	2	3	4
5.My parents make sure that I am clearly understand the rules of the school.	1	2	3	4
6.My parents allow me to make decisions about when to complete homework.	1	2	3	4
7.My parents encourage me to resolve problems on my own.	1	2	3	4
8.My parents set limits for me regarding school behavior.	1	2	3	4
9.My parents make it a point to tell me the consequences for not behaving at school.	1	2	3	4
10.My parents give me leeway for making mistakes at school.	1	2	3	4
11.My parents do not worry much about my grades as long as I try my best.	1	2	3	4
12.My parents are very clear about how they respond to my behavior in the school.	1	2	3	4
13.My parents try to stay informed about my day at school.	1	2	3	4

Part III: Self-Efficacy Instrument

Self-efficacy for academic achievement	Not at all confident	Not very confident	Fairly confident	Very confident
1.Learning general mathematics.	1	2	3	4
2.Learning science and technology.	1	2	3	4
3.Learning language.	1	2	3	4
4.Learning social science.	1	2	3	4
5.Learning health and physical exercise.	1	2	3	4
6.Learning arts and humanities.	1	2	3	4
Self-efficacy for self-regulated learning	Never	Seldom	Sometimes	Often
7.I can finish my homework assignments by deadlines.	1	2	3	4
8.I can get myself to study when there are other interesting things to do.	1	2	3	4
9.I can always concentrate on school subjects during class.	1	2	3	4
10.I can plan my schoolwork for the day.	1	2	3	4
11.I can remember well information presented in class and textbooks.	1	2	3	4
12.I arrange a place for myself to study without distractions.	1	2	3	4
13.I get myself to do school work.	1	2	3	4

Part IV: Self-regulated learning instrument

Question	Very seldom	Hardly ever	Some of the time	Most of the time
1.I will set targets for each stage of the learning activities.	1	2	3	4
2.I try to ask myself some questions when studying in order to understand the extent which I am familiar with the topic.	1	2	3	4
3.I try to take notes, list down outlines, and make notes on the textbooks in order to facilitate organizing when studying.	1	2	3	4
4.I adjust current study method when I get low grade.	1	2	3	4
5.I am confident that I can reach the grade I set for myself.	1	2	3	4
6.I keep an eye out for the increase or decrease of study interest and whether it affects my study motivation.	1	2	3	4
7.I would say some words to encourage myself when my confidence of taking exam is low.	1	2	3	4
8.I will be more confident for the next exam when I got good grades.	1	2	3	4
9.I always make sure the learning scope, content and number of page before reviewing.	1	2	3	4
10.I keep an eye out for the changing of home work content, scope, and requirements.	1	2	3	4
11.I usually ask my teacher to adjust the scope of homework when it's difficult for me to finish homework.	1	2	3	4
12.I review after learning if I meet learning objectives, progress and standards, and discuss with my teachers to adjust myself more able to complete the learning task.	1	2	3	4
13.My mood on learning often been affected by daily niggling.	1	2	3	4
14.I keep on observing the teachers' personality, requirements, and the change of their teaching style.	1	2	3	4
15.I keep observing changes of every teacher's personality, requirements, and teaching methods.	1	2	3	4
16.I modify my way of study to enhance future study efficiency.	1	2	3	4
17.I always make a study plan before reviewing.	1	2	3	4
18.I always pay attention to the length of time which I can use to study.	1	2	3	4
19.I pay attention to see whether my study time increase or decrease.	1	2	3	4
20.I modify my time management method to help future learning.	1	2	3	4
21.I know how to consult my parents, teachers, or classmates regarding study problems.	1	2	3	4
22.I can tell if I need to use reference books, tools or information to help my study.	1	2	3	4
23.I keep an eye for the increase or decrease of asking consultation from others regarding study problems.	1	2	3	4
24.I modify people I choose to call for help to improve the subsequent academic performance.	1	2	3	4

Parental Psychological Support, Self-Efficacy, and Self-Regulated Learning Questionnaire for Elementary Students (Formal test)

Thank you for taking the time to complete the following questions. This questionnaire asks about your personal beliefs of perceived parental psychological support, self-efficacy, and self-regulated learning. Do NOT write your name on this questionnaire. Your responses will be anonymous and will never be linked to your personally. Your participation is entirely voluntary. Please be patient to answer the questionnaire. Thanks for your cooperation.

Graduate Institute of Education, Tunghai University
Professor C. C. Lin
Graduate student K. H. Hsu
March 2013

Part I: Demographic (please tick the most appropriate response)

6 Please write the name of your school:

7 Please write your grade and class:

8 Gender：☐ Male ☐ Female

9 Please write your age：_____

10 Education level of your parents：

Father：☐ Graduate school and above ☐ College ☐ Junior college
☐ Senior high school ☐ Junior high school
☐ Elementary school ☐ None

Mother：☐ Graduate school and above ☐ College ☐ Junior college
☐ Senior high school ☐ Junior high school
☐ Elementary school ☐ None

Circle your best answer. For example, if your answer is 1, and make it ①.

Part II: Parental Psychological Support Instrument

Question	Very seldom	Hardly ever	Some of the time	Most of the time
1.My parents act in a consistent manner with regards to consequences for failure to comply with school rules.	1	2	3	4
2.My parents enjoy hearing about my day at school.	1	2	3	4
3.My parents make sure that I am clearly understand the rules of the school.	1	2	3	4
4.My parents set limits for me regarding school behavior.	1	2	3	4
5.My parents make it a point to tell me the consequences for not behaving at school.	1	2	3	4
6.My parents give me leeway for making mistakes at school..	1	2	3	4
7.My parents do not worry much about my grades as long as I try my best.	1	2	3	4
8.My parents are very clear about how they respond to my behavior in the school.	1	2	3	4
9.My parents try to stay informed about my day at school.	1	2	3	4

Part III: Self-Efficacy Instrument

Self-efficacy for academic achievement	Not at all confiden	Not very confident	Fairly confident	Very confid ent
1.Learning science and technology.	1	2	3	4
2.Learning language.	1	2	3	4
3.Learning social science.	1	2	3	4
4.Learning health and physical exercise.	1	2	3	4
5.Learning arts and humanities.	1	2	3	4

Self-efficacy for self-regulated learning	Never	Seldom	Sometimes	Often
6. I can get myself to study when there are other interesting things to do.	1	2	3	4
7. I can always concentrate on school subjects during class.	1	2	3	4
8. I can plan my schoolwork for the day.	1	2	3	4
9. I can remember well information presented in class and textbooks.	1	2	3	4
10. I arrange a place for myself to study without distractions.	1	2	3	4

Part IV: Self-Regulated Learning Instrument

Question	Very seldom	Hardly ever	Some of the time	Most of the time
1. I will set targets for each stage of the learning activities.	1	2	3	4
2. I try to ask myself some questions when studying in order to understand the extent which I am familiar with the topic.	1	2	3	4
3. I try to take notes, list down outlines, and make notes on the textbooks in order to facilitate organizing when studying.	1	2	3	4
4. I adjust current study method when I get low grade.	1	2	3	4
5. I am confident that I can reach the grade I set for myself.	1	2	3	4
6. I would say some words to encourage myself when my confidence of taking exam is low.	1	2	3	4
7. I will be more confident for the next exam when I got good grades.	1	2	3	4
8. I usually ask my teacher to adjust the scope of homework when it’s difficult for me to finish homework.	1	2	3	4
9. I keep observing changes of every teacher’s personality, requirements, and teaching methods.	1	2	3	4
10. I modify my way of study to enhance future study efficiency.	1	2	3	4
11. I pay attention to see whether my study time increase or decrease.	1	2	3	4
12 I modify people I choose to call for help to improve the subsequent academic performance.	1	2	3	4