

# How Well-Being Mediates the Relationship between Social Support and Teaching Effectiveness

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## Abstract

When the function of the family does not work adequately, and the value of society is confusing, teachers become important promoters to turn this situation into a clear direction, and their behaviors can deeply influence their students. However, teachers are not isolated individuals left to fight alone or to concentrate only on their own work without having regard with what is happening in the outside world. They need resources from the sharing of the experience of peers, interaction within a social network, and social support for encouragement. A teacher with well-being can build self-confidence and hold an optimistic attitude and will present his or her best to their students. In addition, principal leadership plays a very important role in the operation of a school, and it will profoundly impact a teacher's service morale, teaching attitude, and effectiveness. Principal leadership is also a critical factor to decide whether the implementation of school affairs will succeed or not. The study aims to examine the impacts of social support, well-being, principal leadership on teaching effectiveness, the mediating effect of well-being between social support and teaching effectiveness, and the moderating effect of principal leadership between social support and teaching effectiveness. The study uses a questionnaire as the survey method to collect data from Chiayi County elementary school teachers in Taiwan. The authors dispatched a total of 300 questionnaires, and collected 265 valid copies. The effective response rate is 81.67%. The findings of the research are as follows: (1) Social support will positively and significantly affect teaching effectiveness, (2) social support will positively and significantly affect well-being, (3) well-being will positively and significantly affect teaching effectiveness, (4) principal leadership will positively and significantly affect teaching effectiveness, (5) well-being has mediating effect between social support and teaching effectiveness, and (6) principal leadership has no moderating effect between social support and teaching effectiveness.

**Keywords:** social support, well-being, principal leadership, teaching effectiveness, mediating effect, moderating effect

## 1. Introduction

People in a social life will be in contact with and connect with others in daily life. During this interactive process, people will either receive help from others or give help to others. The activities of people helping each other maybe considered a form of social support. Social support has a positive meaning to humanity because those receiving help may perceive themselves as being noticed and being needed. Through these activities, an individual can feel the meaning and the value of existence. When an individual encounters difficulty, he or she can seek substantial assistance and spiritual support through a social network to overcome the dilemma. Teachers, likewise, should not act alone to concentrate only on his own work without having regard with what is happening outside their sphere of influence. They need resources from the sharing of the experience of their peers, as well as the support and encouragement of their families.

On the same token, a good teacher depends not only on abundant knowledge and excellent teaching skills but also needs a good personality and a good psyche. The teacher's mental status will affect their students and may lead students to be mentally healthy and perceptive of well-being. A well-being teacher will present his or her

best to students and help build up their self-confidence and an optimistic attitude. In positive psychology, researchers consider social support important in bringing about an individual satisfaction while also facilitating mental health. When teachers obtain greater social support, the degree of social inclusion will rise, and they will get more respect, affirm and care about others more so that their physical and mental health will be strengthened directly. Accordingly, the study attempts to explore whether a teachers' social support system will positively affect their well-being and whether the teachers' well-being has a mediating effect between social support and teaching effectiveness.

Principals are the main leaders of the school and the locomotive of the school affairs. Principals play a very important role in a school's organizational operation and their leadership will directly impact the school's organizational atmosphere, efficacy, and culture. Teachers on the other hand are the first line developers and instructors of course content while principals are leaders that promote the development of the school. A principals' leadership style relates to the success of a school's affairs and deeply influences a teacher's effectiveness which encompasses a teacher's service, morale and teaching attitude. Therefore, this study also examines the influence or significance of a principal's leadership on teaching effectiveness. However, the teaching environment has become more complicated in the recent years. Teachers must deal with various new policies in schools which limit their ability to teach, for instance the "no punishment" policy has drastically changed the way teachers may deal with their students. Moreover, an increase in demands from parents to take care of their children has elevated the pressure on teachers in the profession today. All of these issues result in increased pressures on teachers which have risen unprecedentedly. Provided that principals can exert their leadership in a school's operation, both the teachers' teaching effectiveness and the relationship between teachers and their students will be benefited resulting in a significant effect on teachers' well-being. A secondary objective of this research is to verify whether a teacher's social support will have an interactive effect with principal leadership to influence teaching effectiveness.

## **2. Literature Review**

### *2.1 Social Support*

The concept of social support originated from research in clinical medicine during the 1970s. The research indicated that if individuals can receive support from social interaction when they are under pressure, they will have a better physical and mental health outcome to protect them from injury than those who are isolated. This is an illustration of the moderating factor of social support (Turner & Turner, 1999). Caplan (1974) considered social support in individuals attempting to obtain prompt assistance from people around them when they encounter pressures or problems. This kind of supportive behavior or interpersonal care can include families, friends, neighbors, colleagues, supervisors, and other relative persons (Hilkka & Marita, 2002; Guralnick, Hammond, Neville, & Connor, 2008; Fong, Cho, & Wu, 2006). Social support is not just to provide help but also includes interactive behaviors such as offering comfort and exchanging material resources, knowledge, and information (Orr, 2004; House & Kahn, 1985). Shumaker and Brownell (1984) argued that social support could be mutually beneficial for givers and receivers through the exchange of tangible and intangible resources such as behavioral assistance, feedback, information, inquiry, and intimacy to facilitate the receivers' health and mental well-being. Cohen and Wills (1985) asserted that social support is an interchangeable relationship through the exchange of social, emotional, instrumental and recreational resources to make people perceive their being loved, being accepted, and being valuable and to promote their physiological and emotional health. Therefore, social support refers to the system with which an individual acquires a consequential ability from important members of an individual's circle of contacts including family, friends or reference groups.

A considerable number of studies in social support and well-being have verified that social support can relieve an entity of pressure, maintain mental health and increase well-being at work (Holt-Lunstad, Smith, & Layton, 2010; Toker, 2011; Cohen & Syme, 1985; Cohen, 1998; Karademas, 2006; Park, Wilson, & Lee, 2004). Kruger (1997) found that social support is to support and evaluate the interventions of teachers to solve students' behavior problems. Social support is significantly related to well-being and a major factor for predicting well-being and teaching effectiveness (Chen, 2006). The sources and types of social support available is positively and significantly affected to well-being, and teachers who receive higher social support have better well-being and positive emotion, so they are more optimistic to feel satisfaction and attain job achievement than those who do not obtain support (Chen, 2004; Ku, 2005). However, in recent years the overall unhappiness of teachers in general has risen. Whether social support can promote teachers' well-being to improve the situation deserves further study. Thus, it caused researchers to divert their attentions on the relationship between social support and well-being into the influence of social support on well-being upon further exploration of these topics. They examined the mediating effect of social support on well-being and concluded that social support is a most

powerful mediating factor to positively affect a subject's well-being (Lu, 1998; Tseng, 2007; Yu, Chung, Chen, Syu, & Chao, 2011) and a facilitator to hoist an individual effectiveness while also being a reliever of pressure (Cutrona & Troutman, 1986). Meanwhile, social support is closely related to the teaching performance (Huang, 2008), and teachers who acquire more social support from their social networks can effectively promote their personal performance (Salami, 2011). As Hsu and Tsai (2013) mentioned, a suitable and proper social support from supervisors, peers, and families can enhance teaching effectiveness.

## *2.2 Well-Being*

The wave of psychological study on well-being, positive emotion, and happy orientation began in the 1970s. The purpose was to change the imbalance of research on psychological and psychiatric diseases into a new domain concerning positive emotions and an individual advantages and merits that help people pursue a real happy and better life. There are many researches regarding well-being, but different scholars have various views to define well-being. It creates different theories to interpret well-being, including the need satisfaction theory, the trait theory, and the judgment theory. The hierarchy of needs theory emphasizes that an individual will present positive emotions after satisfaction with an event (Sheldon & Bettencourt, 2002; Maltby & Day, 2001). This theory stresses that well-being mainly results from the satisfaction of a personal needs. Only when needs are satisfied can people feel well-being. If their needs cannot be satisfied in the long term, individuals cannot feel happiness. The trait theory maintains that personality determines whether an individual will perceive happiness or not (Diener, Oishi, & Lucas, 2003; Veenhoven, 1994; Diener, Suh, Lucas, & Smith, 1999). Extroverts are more likely to feel well-being than introverts who have neurotic personality (Costa & McCrae, 1980; Diener, 1984; Omodei & Wearihg, 1990; Chi, Yeh & Chen, 2010). The strengths of the trait theory make up for the insufficiency of the hierarchy of needs theory to clearly identify why optimistic and aggressive people own well-being and while pessimistic people cannot feel happiness. The judgment theory highlights that happiness comes from one's practical life, which is contingent on a comparison of ones' current achievements to the goals set for ones' life previously (Diener, 1994; Veenhoven, 1989). The comparison standard will differ following different situations, such as the experiences of others, personal experiences, or the ideals of goals and expectations (Lu, 1997; Diener, 1984). The judgment criteria can be diversified, including others or personal current and past life experiences, social viewpoints, or individual expectations. As long as an individual' present condition is above comparison standards, well-being will occur. So to speak, the judgment theory emphasizes both the effects of personality traits and life events on well-being and explains happiness more completely.

Many studies suggested that well-being can benefit an individual life and help job performance (Yang, 2014). Diener et al. (1999) proposed the concept of subjective well-being to signify the positive evaluation of a personal overall life, including high positive affect, life satisfaction, and low negative affect. Wilson (1967) pinpointed that well-being means happiness, which is the important meaning for a person to exist (Wu, 1994). The feeling of happiness is a subjective evaluation, but it can reflect the level of an individual' overall life satisfaction and pleasure. Ryff (1989) asserted that well-being does not only involve the obtaination of happiness but also the development of an individual's potential and the accumulation of perfect experiences. Snyder and Lopez (2007) also believed that well-being is a meaningful happiness that can contribute to mental health. Tsai (1992) denoted that only when teachers are better in psychical and mental health can they have better mood to boost their teaching effectiveness. Veenhoven (1994) argued that happiness should be evaluated by the positive degree of enjoyment or satisfaction in one's overall life. Moreover, happiness originates from a self-perceived health status that indicates an individual's healthy lifestyle will also influence life quality and psychological well-being (Kendall, Mahue-Giangreco, Carpenter, Ganz, & Bernstein, 2005). Wu (2005) contended that well-being comprises not only life satisfaction in the cognitive perspective and positive feelings in the emotional perspective but also mental health, self-esteem, and clear life goal. Therefore, well-being is an overall life evaluation of individual external perceptions and internal feelings. For those who have higher life satisfaction and positive emotions, they will present happiness, enjoyment and satisfaction in their physical and psychological mind. Teachers play an important role in the process of students' learning career, and their behavior will influence them enormously, so teachers' mental health and well-being are the prerequisite for students' mental health and well-being (Yu et al., 2011). However, the overall teachers' well-being is declining, and teachers consider that teaching is an occupation instead of education (Yen & Hsu, 2012). Thus, the research topic of the study is to explore whether teachers' well-being will affect teaching effectiveness and whether the well-being plays a mediating role, from the perspective of positive psychology.

## *2.3 Principal Leadership*

Researchers usually analyze the thoughts of leadership from the perspectives of traditional leadership theory, such as the trait theory, the behavioral theory, and the contingency theory as applied to aspects of modern

leadership theory, such as the charismatic leadership theory, the transactional leadership theory, the transformational theory, and the level five leadership theory. All these leadership theories accentuate a leaders' external leadership behavior and can be observed by researchers. In addition, the theories of leadership behavior emphasize initiating structure (task-oriented) behavior and consideration (people-oriented) behavior between organizational members. These two dimensions are often treated as research variables by educational researchers. A principal is the leader of a school, the center of the organization, the locomotive of the school transformation, and his or her leadership behavior will deeply influence the development of the whole school. There are many arguments regarding principal leadership, and each has their own interpretations. Some assert that principals should act as a transformational leader while others maintain that principals should play as an executive administrator just like a business leader (Hallinger, 1992). However, the concepts of principal leadership will differ following the variations of the environment. The principal's role moves from an executive administrator, a bureaucratic staff, a transformation agent, a teaching administrator to a transformational leader or a level five leader. Chen (1997) suggested that principal leadership refers to a principal influence or power to stimulate teachers' willingness and motivation to work hard in order to accomplish a school's goals and mission. This kind of leadership style stresses a leader who has an external and unique leadership behavior.

Velsor and Hellawell (1992) identified that a principal who wants to be a leader must be equipped with abilities, including interpersonal relationship skills, professional skills, instructional leadership skills, and administrative leadership ability. Lu (1994) indicated that the roles of principals can include the role of decision maker, resource provider, a teaching program evaluator, a communicator, and a problem solver. Wu (1991) suggested that principal leadership means a process that a principal attempts to affect others' behavior to achieve specific instructional goals under a specific situation. It is said that a principal uses his or her leadership to set up goals, job contents, effectiveness, division of power, and job allocation, as well as to utilize evaluation methods to improve defects. A principal needs to treat colleagues with sincerity, listen to their ideas, consider their requirements, maintain a harmonious atmosphere on campus, pay attention to coordination and communication, and build up a mutual trust relationship between teachers and staff. He or she also must put himself or herself into the teachers' shoes to understand their role as a member of the organization. A principal should have a proactive view to propose a reliable and acceptable vision and encourage teachers to take this vision as their goal so they can have concrete directions for their actions.

A considerable amount of research found that a principals' instructional leadership is an important factor to influence a school's effectiveness. Thus, to enhance the role and function of principal leadership and improve school effectiveness these topics need to be emphasized. Sergiovanni (1984) identified five leadership forces that can help to implement a school's affairs, including technical, human, educational, symbolic, and cultural forces. Kuo and Wu (2011) contended that building a supportive environment and having a good class management are the two best indicators to attain a school's goals. Yen and Hsu (2012) recommended that principal leadership behavior can increase teachers' willingness to work hard. Huang and Hsieh (2010) indicated that principal leadership has a positive effect on teaching effectiveness. Yeh and Wu (2010), and Chang (2011) found that principal leadership and teaching effectiveness are positively related, and there is a significant predictive power of principal leadership in teaching effectiveness. Thus, the more teachers perceived principal leadership behavior, the more teachers' effectiveness was influenced (Lin, 2006; Yeh, 2007; Chiu, 2008; Hsu, 2008; Yang, 2008). That is to say, there is a certain degree of interaction effect between principal leadership and teaching effectiveness.

#### *2.4 Teaching Effectiveness*

Following the changes of the teaching environment in recent years, the directions and the scopes of teaching effectiveness become different, and its definition also has various explanations. Borich (1994) claimed that teaching effectiveness signifies that a teacher needs to advance teaching and effective learning, and teaching has to be clear, diversified, mission-oriented and devoted fully to increasing the success rate of students to achieve their educational goals. In other words, teaching effectiveness refers to a teacher's application of better teaching skills and teaching methods to familiarize themselves with their teaching materials so as to build a better learning environment for students to perform well and achieve educational goals (Wu, 1998; Lin, 2002). Teaching effectiveness is related to teaching behavior and students' learning results. As the teaching effectiveness increases, the performances of students' behavior and learning will improve (Chi, Yeh, & Choum, 2013). In the views of the locus of control theory, teaching effectiveness is teachers believe that as long as they work hard in teaching they can influence their students' achievements. They considered that students are teachable, and their performance can be assessed by teaching (Gibson & Dembo, 1984). In the perspectives of self-efficacy theory, teachers are considered to be able to influence a student's accomplishments (Armor et al., 1976). The conviction

is teachers' beliefs in their abilities to influence students' learning and development (Guskey, 1981). Therefore, teaching efficacy is considered to be composed of two independent dimensions, including the sense of teaching efficacy and the sense of personal efficacy (Ashton & Webb, 1986). Teaching efficacy is the expectation that teachers can use teaching to affect students' learning, and it also identifies that teachers trust that they have the ability to influence students' learning. Teachers' self-efficacy means an assessment of teaching ability, and performance represents the teachers' ability to positively impact students' learning. Regardless whether it is the locus of control theory or the self-efficacy theory, both argue that a teacher's teaching effectiveness and teaching behavior can help students learn better. Marsh and Bailey (1991) declared that teaching effectiveness needs to be evaluated multi-dimensionally, including learning value, teaching enthusiasm, clear expression, group interaction, the harmonious relationship between teachers and students, curriculum context, evaluation methods, extracurricular assignments and learning difficulty. According to teaching procedures and time differences, teaching efficacy is divided into three stages: preparation before teaching, application during teaching, effectiveness evaluation after teaching. Money (1992) pointed out that teaching effectiveness should consist of (1) knowledge of subject matter, (2) effective communication, (3) well organized material, (4) ability to motivate, (5) friendliness and openness, and (6) classroom control. The core of teaching efficacy lies in effective teaching methods. Teachers who are confident in teaching and have perfect experience and knowledge can apply an appropriate and effective teaching method to build a better learning atmosphere, and they can adjust themselves on the basis of students' learning results to improve students' learning performance (Chi et al., 2013).

Gibson and Dembo (1984) suggested that teaching effectiveness is a belief that teachers can impinge on students' learning, and Ashton (1984) regarded that teaching efficacy will affect students' performance. Ryan (1986) defined that teaching effectiveness as teachers' ability to assist students in accomplishing specific educational goals. Hsu, Lee, Tsai and Wu (2010) specified that teaching effectiveness is that a mental status that a teacher is still willing to improve and solve problems or setbacks in the teaching process. Newmann, Rutter, and Smith (1989) verified that teaching effectiveness can increase a student's achievement. Allinder (1995) found that the a highly effective teacher can often raise the students' overall learning goal and set up a high expectation to help them achieve better performance. A teacher with high teaching effectiveness will trust he or she can help most of their students to learn, even if they are the most difficult students to teach and who are the least motivated to learn (Guskey, 1988). Meanwhile, highly effective teachers will not to worry in a teaching context (Gibson & Dembo, 1984), and they will perform more confidently and perceive less job pressure (Greenwood, Olejnik, & Pankay, 1990). Lin (2011) identified that teaching effectiveness has a mild relationship to well-being, and the effects between well-being and teaching effectiveness show a significant difference due to the variations of social support. Teachers with a greater social support system have higher teaching effectiveness than teachers with a lesser social support system. When teachers understand goals, beliefs, and values of the school from their principal, they will express high teaching effectiveness (Yen & Hsu, 2012).

### **3. Research Methodology**

#### *3.1 Research Framework*

According to research purposes, research questions, and literature reviews, this study proposes a research framework to explore the influences of social support, well-being, and principal leadership on teaching effectiveness (see Figure 1). Social support, well-being, and principal leadership are considered as independent variables, while teaching effectiveness is considered as a dependent variable. In addition, well-being acts as a mediating variable and principal leadership is treated as a moderating variable.

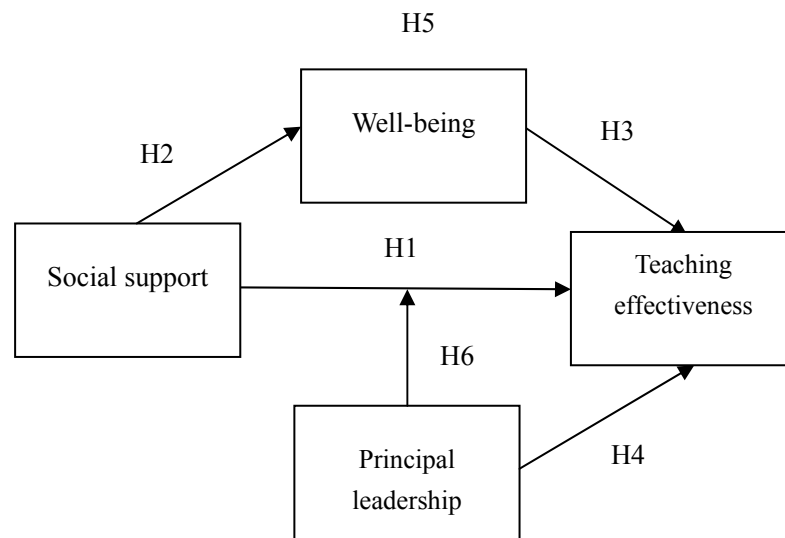


Figure 1. Research framework

### 3.2 Research Hypotheses

According to research purposes and research questions, the study proposes the research hypotheses as follows:

H1: Social support will positively and significantly affect teaching effectiveness.

H2: Social support will positively and significantly affect well-being.

H3: Well-being will positively and significantly affect teaching effectiveness.

H4: Principal leadership will positively and significantly affect teaching effectiveness.

H5: Well-being will mediate the effect between social support and teaching effectiveness.

H6: Principal leadership will moderate the effect between social support and teaching effectiveness.

### 3.3 Research Subject and Sampling Method

The study uses a questionnaire with a 7- point Likert scale (1-very strong disagree/7-very strongly agree) to verify the research hypotheses. It is divided into five parts: personal information, social support, well-being, principal leadership and teaching effectiveness. The study uses the convenient sampling method to collect data from Chiayi County elementary school teachers in Taiwan. In total, 300 copies of the questionnaire were dispatched, and 265 were returned. Excluding 20 invalid questionnaires, 245 copies were valid for further data analysis by SPSS 17.0 software. The effective response rate is 81.67%.

## 4. Research Results

### 4.1 Sample Characteristics

After the consolidating basic information of the samples, sample characteristics are described as follows: 31.8% are male and 68.2% are female. 45.7% are age between 31 and 40. 83% are married. 42% are graduates of teachers college. The years of service between 11 and 20 years is 52.2%. 60% of the respondents are full time teachers who also serve as a homeroom teacher. In terms of school size, 24.9% of the respondents came from schools with between 13 to 18.

### 4.2 Reliability

The study adopted Cronbach's  $\alpha$  to measure the internal consistency of the questionnaire. The results showed that Cronbach's  $\alpha$  is 0.913, 0.930, 0.971 and 0.916 to social support, well-being, principal leadership, and teaching effectiveness, respectively. According to Nunnally (1978), if Cronbach's  $\alpha$  is greater than 0.7, it stands for a high reliability. The results demonstrated that the measurement items of the questionnaire have a high internal consistency.

### 4.3 Analysis of Variance

The study adopted the t-test to analyze teachers' gender and marital status, and used one-way ANOVA to examine teachers' age, education, years of service, position, and school size. As shown in Table 1, well-being of male teachers is higher than those of their female counterparts. Teachers aged above 51 years old have the highest well-being. Teachers with years of service between 11 and 20 years have the highest social support. Full-time teachers with an administrative job have the highest significant variance to principal leadership, and teachers with years of service between 21 and 30 years have the highest significant variance to teaching effectiveness. The remaining variables do not have significant variance.

Table 1. Results of analysis of variance

Variables	Gender	Marriage	Age	Education	Years of year	Position	School size
Social support	N.S	N.S	N.S	N.S	11-20 years (highest)	N.S	N.S
Well-being	Male > Female	N.S	Above 51 years (highest)	N.S	N.S	N.S	N.S
Principal leadership	N.S	N.S	N.S	N.S	N.S	F.T. (highest)	N.S
Teaching effectiveness	N.S	N.S	N.S	N.S	21-30 years (highest)	N.S	N.S

Note. 1. N.S: Not significant, 2. F.T.: Full-time teachers with administrative job

### 4.4 Pearson's Correlation Analysis

The study applies the Pearson's correlation analysis to examine the overall relationship between social support, well-being, principal leadership and teaching effectiveness. The result indicates there is a significant and positive relationship between all these variables (see Table 2). The correlation coefficient between social support and well-being is 0.462 ( $p < 0.01$ ), which signifies a middle positive relationship, and the higher of teachers' social support, the higher of their well-being. The correlation coefficient between social support and principal leadership is 0.276 ( $p < 0.01$ ), which reveals a middle low positive relationship. The correlation coefficient between social support and teaching effectiveness is 0.517 ( $p < 0.01$ ), which represents a middle positive relationship, that is, the higher of teachers' social support, the higher of their teaching effectiveness. The correlation coefficient between teachers' well-being and teaching effectiveness 0.696 ( $p < 0.01$ ), which displays a high positive relationship, that is, the high of teachers' well-being, the higher of their teachers' teaching effectiveness. The correlation coefficient between principal leadership and teaching effectiveness is 0.338 ( $p < 0.01$ ), which exhibits a middle positive relationship, that is, the higher of principal leadership, the high of teachers' teaching effectiveness.

### 4.5 Regression Analysis

The results of regression analysis between variables are as follows: The results indicate that social support has a significant and positive effect to teaching effectiveness ( $\beta = 0.517$ ,  $p < 0.001$ ,  $R^2 = 0.268$ ,  $\text{Adj.}R^2 = 0.265$ ). Social support has a significant and positive effect to well-being ( $\beta = 0.462$ ,  $p < 0.001$ ,  $R^2 = 0.241$ ,  $\text{Adj.}R^2 = 0.211$ ). Well-being has a significant and positive effect to principal leadership ( $\beta = 0.338$ ,  $p < 0.001$ ,  $R^2 = 0.114$ ,  $\text{Adj.}R^2 = 0.111$ ). All coefficients ( $\beta$ ) here are standardized. Therefore, H1, H2, H3, and H4 are sustained.

Table 2. Results of correlation analysis

Variables	Mean	S.D	Social support	Well-being	Principal leadership	Teaching effectiveness
Social support	5.93	0.640	1			
Well-being	5.72	0.630	0.462**	1		
Principal leadership	5.16	1.100	0.276**	0.369**	1	
Teaching effectiveness	6.01	0.449	0.517**	0.696**	0.338**	1

Note. \* $p < 0.05$ , \*\* $p < 0.01$

#### 4.6 Mediating Effect Analysis

The study followed Baron and Kenny's (1986) suggestions to examine the mediating effects (see Table 3). Model 1, social support significantly and positively affects well-being ( $\beta = 0.455$ ,  $p = 0.000 < 0.001$ ). It signifies that the independent variable is significantly affected to mediating variable. Model 2, teaching effectiveness regresses with social support. The result shows that social support significantly and positively affects teaching effectiveness ( $\beta = 0.363$ ,  $p = 0.000 < 0.001$ ). Model 3, teaching effectiveness regresses with well-being. The results displays that well-being significantly and positively affects teaching effectiveness ( $\beta = 0.496$ ,  $p = 0.000 < 0.001$ ). The results of Model 2 and Model 3 satisfy that the condition of independent variable and mediating variable significantly affect the dependent variable. Model 4, the study inserts well-being into the regression analysis of social support with teaching effectiveness. The result is significant ( $\beta = 0.175$ ,  $p = 0.000 < 0.001$ ), and the value of coefficient reduces from 0.363 to 0.175, which reveals a partial mediating effect. So, H5 is supported that social support will affect teaching effect through the mediating effect of well-being.

Table 3. Results of mediating effect analysis

Variables	Well-being		Teaching effectiveness	
	Model 1	Model 2	Model 3	Model 4
Social support	0.455***	0.363***	—	0.175***
Well-being	—	—	0.496***	0.414***
R	0.462	0.517	0.696	0.730
R <sup>2</sup>	0.214	0.268	0.484	0.533
Adj. R <sup>2</sup>	0.211	0.265	0.482	0.529
F-value	66.113	88.827	228.203	138.068

Note. 1. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ;  $\beta$ : unstandardized coefficient

Further, the study followed Preacher and Hayes (2004)'s suggestion to test indirect effect and applied the Sobel test and the bootstrap approach confidence intervals (CIs) to verify mediating effects. The result shows that the Sobel test is significant ( $p = 0.000 < 0.001$ ). The  $z$ -value equals to 6.6649, which is greater than 1.645 ( $p < 0.05$ ), and the value of mediating effect is 0.1885. It indicates that there is a mediating effect. The study further uses the bootstrap method to examine the Sobel test. It shows that CIs between 95% and 5% (excluding 0) reaches significant levels (see Table 4). Therefore, the results also support H5.



Table 4. Regression analysis of the indirect effect between social support and teaching effectiveness

Direct effects and total effect						
	B	SE	t	p		
IV → DV	0.3631	0.0385	9.4284	0		
IV → MV	0.4549	0.0559	8.131	0		
MV → DV, DV is controlled	0.4144	0.0354	11.7233	0		
IV → DV, MV is controlled	0.1746	0.0348	5.0203	0		
Indirect effect and significance using the normal distribution						
	Value	SE	LL95% CI	UL95% CI	z	p
Sobel	0.1885	0.0283	0.1331	0.244	6.6649	0
Bootstrap results for indirect effect						
	Value	SE	LL95% CI	UL95% CI	Mean	
Effect	0.1885	0.0306	0.1327	0.2548	1.884	

Note. 1.IV: Independent variable (social support), DV: Dependent variable (teaching effectiveness), MV: Mediating variable (well-being). 2. N: 290, Number of bootstrap resamples: 5000, LL= lower limit, CI= confidence interval, UL=upper limit; 3. B= unstandardized coefficient.

#### 4.7 Moderating Analysis

The study uses hierarchy regression analysis to explore the influence of moderating effect of social support and principal leadership to teaching effectiveness, and adopts Baron and Kenny's (1986) procedures by inserting independent variable, moderating variable and interactive effect variable (independent\*moderating variable) to predict dependent variable (see Table 5). Model 1 indicates that social support significantly and positively affect teaching effectiveness ( $\beta=0.517$ ,  $p=0.000<0.001$ ). Model 2 shows that principal leadership significantly and positively affect teaching effectiveness ( $\beta=0.338$ ,  $p=0.000<0.001$ ). Model 3 displays that social support and principal leadership significantly and positively affect teaching effectiveness ( $\beta=0.459$ ,  $p=0.000<0.001$ ;  $\beta=0.211$ ,  $p=0.000<0.001$ ). Model 4 shows that the interaction effect of social support and principal leadership ( $\beta=0.044$ ,  $p=0.426$ ) has no significant effect to teaching effectiveness. As a result, H6 is not supported.

Table 5. Regression analysis of social support and principal leadership to teaching effectiveness

	Teaching effectiveness			
	Model 1	Model 2	Model 3	Model 4
Dependent variable				
Social support	0.517***	—	0.459***	0.469***
Moderating variable				
Principal leadership	—	0.338***	0.211***	0.212***
Interactive effect				
Social support*Principal leadership	—	—	—	0.044
R	0.517	0.338	0.556	0.557
R <sup>2</sup>	0.268	0.114	0.309	0.311
Adj. R <sup>2</sup>	0.265	0.111	0.303	0.302
F-value	88.827	31.350	54.076	36.208

Note. \*  $p<0.05$ , \*\*  $p<0.01$ , \*\*\*  $p<0.001$ ;  $\beta$ : standardized coefficient

## 5. Findings and Recommendations

### 5.1 Findings

When teachers receive support from families and colleagues, they will exert teaching profession and interact with students to increase teaching effectiveness and students' learning performance. The higher the social support teachers receive, the higher their teaching effectiveness will be. When teachers receive support from families and colleagues, their life satisfaction, assertiveness and psychical and mental health will rise, and their perceptions of well-being will be enhanced. When teachers' well-being increases because of life satisfaction, assertiveness, psychological and mental health, their teaching effectiveness will be increased. That is, when teachers perceive higher well-being, their teaching effectiveness will be higher. When principals promote job morale, give interpersonal consideration and have innovative vision, teachers will raise teaching effectiveness in teaching expertise and interact with students to improve their learning performance. In other words, principal leadership will influence teachers' teaching effectiveness.

The study confirmed that well-being will mediate the relationship between social support and teaching effectiveness. Teachers are not isolated individuals left to fight alone or to concentrate only on their own job without having regard with what is happening in the outside world. Teachers need resources such as the sharing of the experience of their peers, interaction with others, and the support of their families. A teacher's positive emotions, happiness and satisfaction will affect students' learning performance. When teachers have better physical and psychological health, they will have a better mood to teach and enhance teaching effectiveness.

The hypothesis that principal leadership has a moderating effect between social support and teaching effectiveness is not supported. It implies that principal leadership is not the only social support resource that teachers can receive. A teacher's social support system comprises of the interaction with others in the social network and assistance obtained from families and colleagues so that he or she can satisfy his or her needs and enhance his or her ability. In this case, a teacher will exert his or her teaching expertise and build a better relationship with students, so a teacher's social support will not be affected by principal leadership and impact his or her teaching effectiveness. That is, the interactive effect between social support and principal leadership will not influence a teacher's teaching effectiveness. In other words, social support and teaching effectiveness will not be influenced by the moderating effect of principal leadership, and the interactive effect between social support and principal leadership will not influence a teacher's teaching effectiveness.

### 5.2 Recommendations

This study recommends the following to school executive administrators: (1) The school authorities should set up workshops for elementary school teachers or provide teachers' consultations and solutions to solve their difficulties and improve their teaching quality. Thus, teachers can perceive support and consideration from the school and increase their teaching effectiveness. The school authorities should pay more attentions to the issue of teachers' social support by integrating with community support to make teachers acquire social support from the community and produce the interactive effect between social support and principal leadership to promote their teaching efficacy, (2) the school authorities should arrange activities that benefit teachers' health. So, teachers can fulfill healthy lifestyle and reduce pressure to enhance physical fitness. The school authorities can also arrange health seminars so teachers can release pressure and strengthen their health from different methods and increase well-being, and (3) the school authorities ought to appoint teachers' position appropriately according to their personality and consider their personal conditions aggressively and actively so as to build a friendly campus. By doing so, teachers' teaching quality and the school's overall performance can be improved.

### 5.3 Future Research

The authors recommend researchers in the future can further expand research subject in different areas to increase the generality of the study since we only collect samples from Chiayi County elementary school teachers in Taiwan, which raises the limitation to refer the results of the study. Moreover, the authors assume most teachers are inclined to give a positive response and may retain their real thinking when they are replying the questionnaire. This may make the research results exist in some differences. Thus, in addition to using an open-end questionnaire, the study recommends that researchers in the future can apply qualitative survey by adopting an interview method to make their research results more objectively and completely.

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