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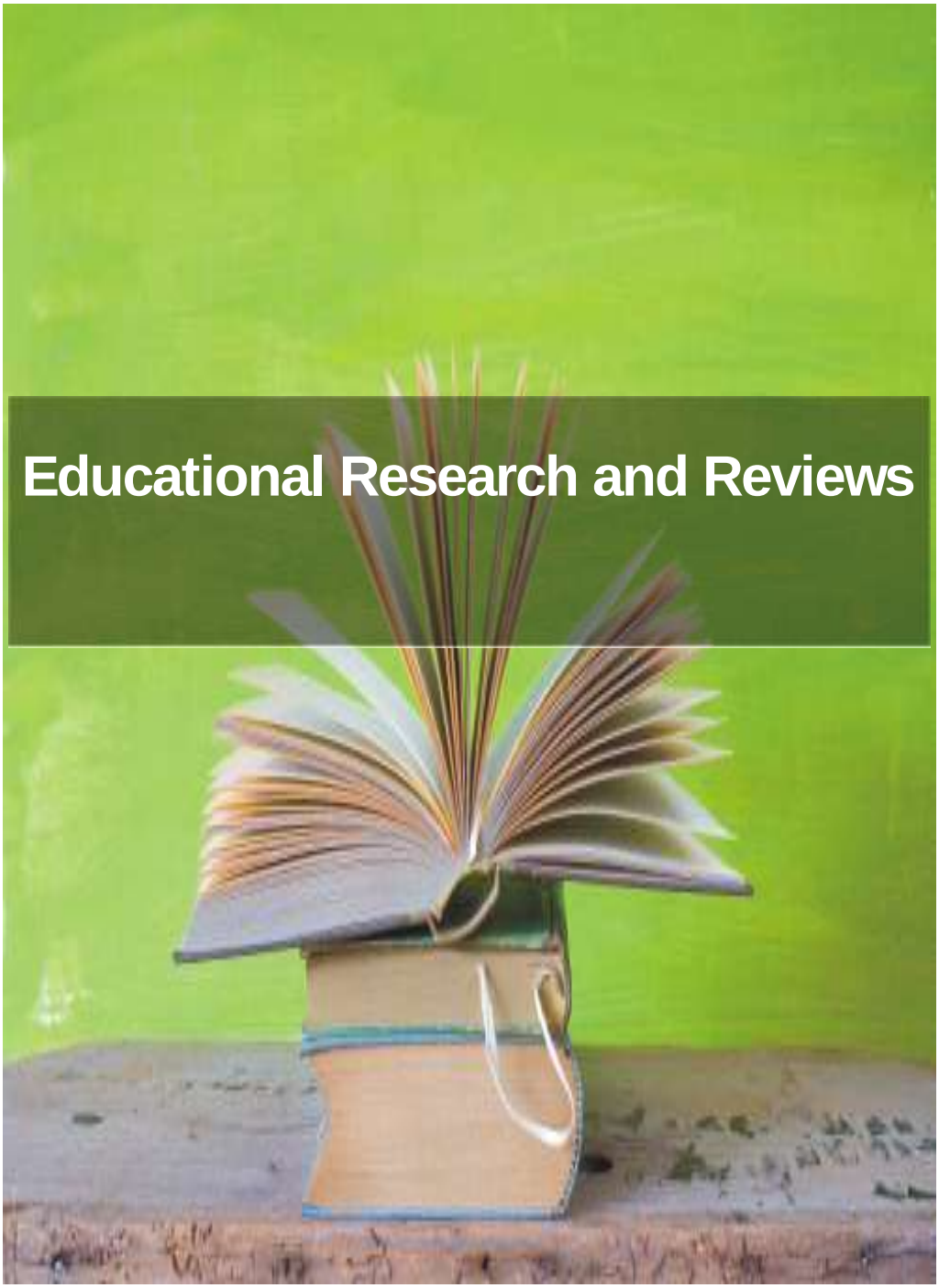

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Educational Research and Reviews

Full Length Research Paper

Humility and forgiveness as predictors of teacher self-efficacy

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This study explores the predictive influence of teachers' humility and forgiveness on their self-efficacy perceptions. The population of this research consists of teachers who work at public primary and secondary schools located in the central districts of Ankara, Turkey. The sample of the study is composed of 303 primary and secondary school teachers working in central districts of Ankara, Turkey. The research design is a correlational study identifying the direct predictive powers of humility and forgiveness on teacher self-efficacy. Pearson product-moment correlation coefficient identifies the inter-variable exploratory correlations, while path analysis examines the direct predictive powers of these factors on teacher self-efficacy. The analyses show positive and significant relationships among teacher self-efficacy, humility and forgiveness. Humility and forgiveness are found to positively predict teacher self-efficacy. The findings are discussed in the context of teacher self-efficacy and positive psychological state improvement and teacher training.

Key words: Self-efficacy, humility, forgiveness, teacher, positive psychology.

INTRODUCTION

An increasing interest in positive psychology and its variables and concepts such as well-being, pleasure, joy, zest, happiness, optimism, hope and enthusiasm is observed. Formerly and mistakenly, humility and forgiveness were perceived as a weakness and neglected in scientific research. Contrary to such beliefs, recent research consider humility and forgiveness as strengths of the character rather than weaknesses (Peterson and Seligman, 2004; Seligman, 2002; Seligman and Csikzsentmihalyi, 2000). In a complementary way, self-efficacy is seen as a positive feature for educational research (Hoy and Tarter, 2011).

As a notion of positive psychology, humility is perceived as an insignificance feeling in relation to low self-esteem which is an incorrect perspective (Tangney, 2002). In fact, humility is a value that requires courage, self-esteem, self-respect and respect towards others and it lacks self-respect and cowardice. Additionally, humble people embrace learning and teaching and teachers feel humility is adopting democracy instead of autocracy in classroom environment (Freire, 1998). Humble teachers may be more dedicated and easily receive peer support for their professional and personal development.

Moreover, to increase student participation and

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success, a democratic classroom environment where values support a participative atmosphere should be internalized by teachers. Adoption of humility by teachers and transformation of such a value into an effective behaviour develop both teacher-student communication and the quality of learning.

Literature reveals a positive relation between humility and strengths of character like self-esteem (Exline and Geyer, 2004), generosity (Exline and Hill, 2012), extroversion (Oh et al., 2011), openness to experience (Lee et al., 2010) and social communication (Peters et al., 2011). In this respect, literature introduces several findings on humble teachers who act respectfully, are open to new experiences, adopt democracy in classroom environment, and establish excellent social communication with high levels of self-respect.

Forgiveness, like humility, is also a neglected construct in the organizational studies (Bradfield and Aquino, 1999). Like humility, forgiveness is also accepted as a positive psychology term and a positive characteristic (Peterson and Seligman, 2004). Some studies indicate a positive relation between forgiveness and well-being (Bono et al., 2008; Krause and Ellison, 2003; Toussaint and Friedman, 2009), happiness (Maltby et al., 2005), empathy (Toussaint and Webb, 2010) and self-esteem (Eaton et al., 2006). In this perspective, it can be inferred that teachers with high level of forgiveness may feel better, be happier, have higher self-respect and establish a better empathy with their students. Additionally, forgiveness is negatively related to depression (Burnette et al., 2009), anger (Mohammadpour and Balaghat, 2013) and stress (Harris et al., 2006). Concordantly, humility and forgiveness are studied as positive values for teachers. This study focuses on the relationship between teacher perceptions of humility and forgiveness with teacher self-efficacy, which is widely regarded as a positive teacher feature.

Self-efficacy put forward by Bandura (1977) has been widely studied (Bandura, 1977, 1993, 2012; Pajares and Graham, 1999; Zimmerman, 2000). Some studies indicate that self-efficacy increases teacher performance and student success and it is regarded as important and valuable for teachers (Bandura et al., 1996; Caprara et al., 2006; Usher and Pajares, 2006). Several studies show a positive relation between self-efficacy and academic optimism (Chemers et al., 2000; Hulbert and Morrison, 2006; McGuigan and Hoy, 2006; Robinson and Snipes, 2009; Akhtar et al., 2013), hope (Bryant and Cvengros, 2004; Kumarakulakisignam, 2002; Lackaye et al., 2006; Robinson and Snipes, 2009), self-esteem (Khan et al., 2015) and zest for work (Sezgin and Erdogan, 2015).

The aforementioned studies associate self-efficacy with positive psychology variables so does humility and forgiveness. Taken as a tripartite structure, some studies indicate a positive relation between humility and forgiveness (Çardak, 2013; Dwiwardani et al., 2014; Powers et al., 2007). In addition, some findings show a positive relationship between self-efficacy and forgiveness (Baghel and Pradhan, 2014) and humility (Vieluf et al., 2013). It is essential to identify how teachers perceive humility and forgiveness in the context of Turkish culture to see the meanings ascribed as character features. Examining all these variables in a single study is believed to contribute to the understanding of the concurrent interactions.

Self-efficacy

Self-efficacy was put forward by Bandura (1977) in the framework of social cognitive theory (Bandura, 1986). Self-efficacy influences the behaviours of individuals and is affected by actions and conditions (Shunk and Pajares, 2002). It is defined as one's belief in successfully maintaining the actions to achieve a desired goal (Bandura, 1977). According to Bandura (1986), none of thought types affecting action takes more participation than the judgement related to people's capacity in the control of influential events.

Social cognitive theory stresses the important role self-efficacy plays on human behavior. Self-efficacy belief is not dependent on personal abilities but people can believe in their abilities, hence in their success. These beliefs affect people's plans and opinions (Zeldin et al., 2006). Self-efficacy directly affects individual behaviours (Bandura, 2012). Research points out a positive relation between teachers' perception of their own capacity and their behaviours supporting student success (Goddard and Goddard, 2001). Teacher's evaluation of self-efficacy leads to positive changes in students' behaviours (Gibson and Dembo, 1984). Teacher self-efficacy motivates and encourages them to create an effective learning environment and an effective academic process for students' success (Bandura, 1993). Self-efficacy affects individual behavior and collective normative environment and creates expectation for success (Goddard and Goddard, 2001). In conclusion, teacher self-efficacy affects countless teacher behaviours and it supports student success.

Forgiveness

Forgiveness and humility are defined as two character strengths in Peterson and Seligman's (2004) positive psychology classification. In terms of psychology, forgiveness is a multi-dimensional process including cognitive, emotional, motivational and social features (Witviliet, 2009). Forgiveness is a tendency that hinders destructive reactions in relationships and encourages constructive behaviours when treated destructively by others (McCullough et al., 1997). Forgiveness is claimed to be a useful process for solving interpersonal and

intrapersonal problems (Denton and Martin, 1998).

Although discussions continue about the definition of forgiveness, some main points are agreed on. Researchers agree that forgiveness does not mean forgetting, ignoring, excusing crimes and giving up reconciliation and legal accountability. Many researchers explain that forgiveness includes a serious and conscious decision-making process for giving up revenge and forgiving mistakes (Exline et al., 2003). Another definition describes forgiveness as giving a second chance to people when they make mistakes and not nurturing grudges (Peterson, 2006). Forgiving is a complex motivational change after an explicit insult in interpersonal relations. When the offended person forgives, his/her motivation may change towards searching for revenge, avoiding interaction with the guilty person or maintaining the positive relation (McCullough et al., 2001).

Humility

Although humility, regarded as another strength of character, has been considered equal to worthlessness and low self-respect for a long time, it is actually a sign of richness. Humility is a multidimensional structure, characterized by truly evaluating self-characteristics, accepting the limits of abilities and forgetting own self (Tangney, 2002). When a person is humble, he/she understands his/her own limits and becomes aware of ends (Snow, 1995). Humble people have an open attitude that includes the feeling of being true self-evaluation. Humility represents an attitude against pride and arrogance (Exline and Geyer, 2004).

True humility requires one to truly evaluate his/her abilities and the position in the universe. It requires accepting one's own limitations and forgetting oneself (Tangney, 2002). The main components of humility are defined as: 1) true evaluation of personal abilities and achievements; 2) ability to accept own mistakes, defects and limitations; 3) openness to new ideas, contrary information and suggestions; 4) knowing the position in the world; 5) less focus on oneself accepting to be a piece of a great universe; 6) appreciating the idea that people can contribute to our world in many different ways (Tangney, 2009).

Apart from positive psychology, forgiveness and humility are appreciated in many religions (Peterson and Seligman, 2004). In Turkish culture, Mawlana (b.1207-d.1273) stresses the importance of humility and forgiveness with his famous speech “Be like the running water for generosity. Be like the sun for grace and mercy. Be like the night to cover others’ faults. Be like death for rage and anger. Be like the Earth for humility. Appear as you are. Be as you appear.” Also Sheikh Edebali (b.1206-d.1326) advices Osman Gazi (b.1258-d.1326) “O Son! You are Master! From now on, anger is ours and compliance is yours; disagreement is ours and restoring is yours; accusing is ours and excuse is yours; mistake is ours and tolerance is yours; evil eye and words are ours and forgiveness is yours!”

The aforementioned studies on the concepts of humility and forgiveness confirm that these character traits have strengths rather than weaknesses. It is expected that humble individuals should be open to confronting their mistakes, be able to give up on themselves when necessary, be modest in their self-assessment, and focus on other people in their relationship (Elliot, 2010). People with a high level of forgiveness are expected to be forgiving towards themselves, others and situations and to continue their relationship with other people (Thompson et al., 2005). Thus, it can be expected that the humble and forgiving teachers can be individuals who can put their mutual relations on a positive ground, develop themselves by confronting their mistakes, evaluate themselves as they are, focus on the students and care for their needs and successes, forgive herself/himself against mistakes and can continue to maintain their relationship in a healthy manner by forgiving them when others make mistakes. All these humble and forgiving characteristics are closely related to teaching processes. In this context, humility and forgiveness can be related to teacher self-efficacy, which conceptualizes teachers’ perceptions of providing student participation, implementing effective teaching strategies and effective classroom management.

Humility and forgiveness are perceived valuable in both positive psychology and Turkish culture, as many others. Moreover, several studies list humility (Brady, 2011; Vagle, 2011) and forgiveness (Reichardt, 2001) as necessary teacher qualifications. Scientific understanding of humility presents a deliberate guidance to families, teachers and social leaders (Tangney, 2009). On the other hand, understanding of these notions through quantitative studies is seen as beneficial. This study aims to determine whether such notions are perceived as positive values in Turkish culture by analysing their relationship with self-efficacy, described as one’s belief on being successful in any task. This study may provide findings for decision makers of education and school administrators on the values to be integrated to pre and in-service teacher training and teacher self-efficacy levels to be improved. Thus, answers are sought for the following research questions:

1. Are there significant relationships among teachers’ perceptions of self-efficacy, humility and forgiveness?
2. Do teachers’ perception of humility and forgiveness significantly predict their self-efficacy perceptions?

METHODOLOGY

Model

The research design is a correlational study identifying the direct

Table 1. CFA results of scales.

Scales	χ^2	*df*	(χ^2 / *df*)	RMSEA	CFI	GFI	AGFI	RMR	NFI
TSES	221.53	116	1.91	0.055	0.97	0.92	0.90	0.054	0.94
HS	82.02	32	2.56	0.073	0.92	0.95	0.91	0.073	0.88
HFS	355.48	118	3.01	0.082	0.80	0.88	0.84	0.080	0.72

predictive powers of independent variables (humility and forgiveness) on the dependent variable (teacher self-efficacy). Fraenkel and Wallen (2009) explained that even though correlational studies do not provide evidence for causality, implications of a cause-effect relationship could be obtained through application of advanced statistical techniques. A structural equation modelling was used in this study to demonstrate the relationship between these three variables in a holistic way.

Population and sampling

The population of this research consists of teachers who work at public primary schools and secondary schools located in the central districts of Ankara. There are a total of 28525 teachers in 845 public primary and secondary schools in central districts of Ankara. In the population, 79% of the teachers are female (*n* = 22425) and 21% are male teachers (*n* = 6100). It is indicated that for large populations, samples of 300 to 500 persons are often adequate (Lodico et al., 2006). In this context, the sample of this research consists of 303 teachers. The sample is selected through convenience sampling model. In the study sample, 64.7% (*n* = 196) are female teachers and 35.3% (*n* = 107) are male teachers; 22.8% of the teachers (*n* = 69) are classroom teachers and 77.2% are (*n* = 234) branch teachers. The percentage of teachers at the age of 21 to 30 is 16.5% (*n* = 50), 31 to 40 is 40.9% (*n* = 124), 41 to 50 is 31.4% (*n* = 95) and 51 and over is 11.2% (*n* = 34). Moreover, 15.8% of the sample (*n* = 48) consists of teachers with 1 to 5 years teaching experience, 19.5% (*n* = 59) with 6-10 years teaching experience, 19.1% (*n* = 58) with 11-15 years teaching experience, 22.4% (*n* = 68) with 16-20 years teaching experience and 23.1% of the sample (*n* = 70) with 21 years and above teaching experience. Also, 69% (*n* = 230) of the teachers served for 1-5 years at the school, 18.5% (*n* = 56) teachers served for 6-10 years and 12.5% (*n* = 38) teachers served for 11 years or more.

Data collection tools

In this research, Teachers' Sense of Efficacy Scale (TSES), which has been developed by Tschannen-Moran and Hoy (2001) and adapted to Turkish by Çapa et al. (2005), was utilized to measure the self-efficacy level of teachers. Humility Scale (HS), developed by Elliot (2010) and adapted to Turkish by Sariçam et al. (2012), was used to measure humility levels. Heartland Forgiveness Scale (HFS), developed by Thompson et al. (2005) and adapted to Turkish by Bugay and Demir (2010), is used to measure forgiveness levels. The results of confirmatory factor analyses (CFA) of the scales are given in the Table 1.

Teachers' sense of efficacy scale (TSES)

In the research, Teachers' Sense of Efficacy Scale – TSES, developed by Tschannen-Moran and Hoy (2001) and adapted to Turkish by Çapa et al. (2005), was used to measure the self-efficacy level of teachers. The scale has 24 items in nine point Likert type. The scale has three subscales: 8 - item self-efficacy towards student engagement (example item: How much can you do to motivate students who show low interest in school work?), 8 - item self-efficacy towards instructional practices (example item: To what extent can you provide an alternative explanation for example when students are confused?) and 8 - item self-efficacy towards classroom management (example item: How much can you do to control disruptive behaviour in the classroom?). The grading options of the scale items are "None at all = 1" and "A great deal = 9". There are no reciprocal scaling items in the scale and high grades for each factor indicates high self-efficacy. According to validity and reliability tests of the scale conducted by Tschannen-Moran and Hoy (2001), reliability coefficients of subscales are found as 0.81 for student engagement, 0.86 for instructional practices and 0.86 for classroom management. Cronbach's Alpha coefficient of the items in the scale is found to be 0.90. According to validity and reliability tests of the scale conducted by Çapa et al. (2005), reliability coefficients of subscales are found as 0.82 for student engagement, 0.86 for instructional practices and 0.84 for classroom management. Cronbach's Alpha coefficient of the items in the scale is found 0.93.

According to the results of explanatory factor analysis (EFA) of the scale, scale items are gathered in three factors but factor loading of some of these items are not appropriately (evenly) distributed. Thus, these items are omitted from the scale and the remaining 17 items are evaluated. According to EFA results of the remaining 17 items, scale items are gathered under three factors: SE towards student engagement, SE towards instructional practices and SE towards classroom management. Cronbach's Alpha coefficient of SE towards student engagement is found as 0.81, Cronbach's Alpha coefficient of SE towards instructional practices as 0.69, Cronbach's Alpha coefficient of SE towards classroom management is 0.83 and Cronbach's Alpha coefficient of the whole scale is found 0.87. Also, it is seen that this three-factor structure explains 51.41% of total variance. The three-factor structure of TSES was verified by CFA and revealed that this three-factor model had an acceptable level of goodness of fit index (χ^2 / *df* = 1.91, RMSEA = 0.055, CFI = 0.97, GFI = 0.92).

Humility scale (HS)

Humility scale (HS), which has been developed by Elliot (2010) and adapted to Turkish by Sarıçam et al. (2012), is used to measure humility levels of the teachers. The scale aims to measure the overall level of individuals' humility and humility on the scale is considered both as a psychological structure and a moral virtue. The scale has 4 subscales: three-item openness (example item: When confronted with my mistakes, my first response is to explain why I did it.), three-item self-forgetfulness (example item: When someone else is being recognized, I think about my accomplishments), four-item modest self-assessment (example item: I often wish I was as talented as my peers) and three-item focus on others (example item: I feel honoured when others ask for my help). For teachers, the dimension of openness means that teachers accept their mistakes instead of producing excuses when they made mistakes in relation to their students or in their failures.

The dimension of self-forgetfulness implies that teachers should not boast of their successes or do not expect praise. The modest self-assessment refers to the fact that teachers do not see themselves superior to other people in the face of success or do not see themselves below other people in the face of their failures. The dimension of focusing on others implies that teachers value sacrifice for their students and consider helping their students as an honorable behavior. The scale has 13 5 - point Likert items. The grading options of the scale are defined as "strongly disagree = 1" and "strongly agree = 5". The first 6 items of the scale are reversely graded and high grades for each factor indicate high humility level for that factor. According to validity and reliability tests of the scale conducted by Sarıçam et al. (2012), reliability coefficients of subscales are found as 0.63 for openness, 0.67 for self-forgetfulness, 0.72 for modest self-assessment and 0.79 for focus on others.

EFA results of the scale show that the subscales openness and self-forgetfulness can form one single factor. According to EFA results, after 3 items are omitted from the scale due to inappropriate distribution of factor loading, the items of the scale form three factors: openness- self forgetfulness, modest self-assessment and focus on others. Cronbach's alpha coefficient of openness – self forgetfulness is found to be 0.60, Cronbach's alpha coefficient of modest self-assessment as 0.58, Cronbach's Alpha coefficient of focus on others as 0.70 and that of the whole scale as 0.70. Also, it is seen that this three-factor structure explains 56.63% of total variance The three-factor structure of HS was verified by CFA and revealed that this three-factor model had an acceptable level of goodness of fit index (χ^2 / *df* = 2.56, RMSEA = 0.073, CFI = 0.92, GFI = 0.95).

Heartland forgiveness scale (HFS)

HFS developed by Thompson et al. (2005) and adapted to Turkish by Bugay and Demir (2010), is used to measure forgiveness levels. The scale contains 6 items grading forgiveness of self (example item: Learning from bad things that I have done helps me get over them), 6 items grading forgiveness of others (example item: If others mistreat me, I continue to think badly of them) and 6 items grading forgiveness of situations (example item: I eventually make peace with bad situations in my life). Pedagogically, for teachers, the dimension of forgiveness of self shows that teachers can comfort themselves without any grudge against the negativities and mistakes they have experienced. The dimension of forgiveness of others shows that the teachers do not act strictly on the students against their mistakes, to understand them, do not desire to punish them and can leave behind their frustrations against the students. However, the dimension of forgiveness of situations refers to the fact that teachers are not stuck in negative thoughts against the uncontrollable negative situations that they live in school and finally get away from negative feelings. The scale has 18 items graded between "Almost always false of me = 1" and "Almost always true of me = 7". High grades for each subscale indicate high forgiveness level for that factor and the total high grade for the whole scale means that the person has a high level of forgiveness. Several items of the scale (2, 4, 6, 7, 9, 11, 13, 15 and 17) are reversely graded. According to validity and reliability tests of the scale carried out by Thompson et al. (2005), reliability coefficients of subscales are found as, 0.75 for forgiveness of self, 0.78 for forgiveness of others and 0.77 for forgiveness of situations. The reliability coefficient for the whole scale is found to be 0.86. According to validity and reliability tests of the scale carried out by Bugay and Demir (2005), reliability coefficients of subscales are found to be 0.64 for forgiveness of self, 0.79 for forgiveness of others and 0.76 for forgiveness of situations. The reliability coefficient for the whole scale is found to be 0.81.

EFA results of the scale illustrate that the subscales forgiveness of others and forgiveness of situations can form a single factor. According to EFA results, it was shown after 1 item is omitted from the scale due to inappropriate distribution of factor loading, the items of the scale are gathered under two factors, which are: forgiveness of self and forgiveness of others and situations. Cronbach's Alpha coefficient of forgiveness of self is found to be 0.55, that of forgiveness of others and situations is 0.80 and that of the whole scale is 0.80. Also, this two factor structure explains 56.62% of total variance. The two-factor structure of HFS was verified by CFA and revealed that this two-factor model had an acceptable level of goodness of fit index (χ^2 / *df* = 3.01, RMSEA = 0.082, CFI = 0.80, GFI = 0.88).

Data analysis

Initially, the data set was examined to identify mistaken values, outliers, normality and multicollinearity. No mistaken data input was found during this process. After the missing value analysis, very few items that are randomly left empty are given values through expectation – maximization (EM) algorithm. Pearson product-moment correlation coefficient defined the relationships between self-efficacy, humility and forgiveness of the teachers. Coefficient of correlation explains the level and direction of the relation between variables (Büyüköztürk, 2011). In the research, path analysis defines the predictability of independent variables on dependent variables. In this context, several goodness of fit indices were analysed. Accordingly, Byrne (1998) and Jöreskog and Sörbom (1993) declared the most commonly fit indexes as χ^2, GFI, AGFI, CFI, RMSEA and AIC indices. As χ^2 is sensitive to sample size, it is advised to be used with other fit indices. The criterion for fit indices included χ^2 / *df* being less than 5, GFI's being more than 0.90 and CFI more than 0.95 and RMSEA being 0.06 or less.

RESULTS

Relations between teachers' self-efficacy, humility and forgiveness levels

The relationships between teachers' self-efficacy, humility and forgiveness levels are given in Table 2. As shown in Table 2, there is a significant positive relation between self-efficacy and humility (r = 0.19, p < 0.01) and forgiveness (r = 0.29, p < 0.01). It can be interpreted that when teachers' levels of humility and forgiveness increase, self-efficacy levels increase as well. The table also shows a significant positive relation between humility levels and forgiveness levels of teachers (r = 0.32, p < 0.01). Except for the relations between scales and their subscales and between these subscales, highest level of significant relation is observed between openness – self forgetfulness and forgiveness (total) (r = 0.34, p < 0.01) and openness – self forgetfulness and forgiveness of others and situations (r = 0.34, p < 0.01), while the lowest level of relation is between self-efficacy (total) and openness – self forgetfulness (r = 0.14, p < 0.05).

Predictability of humility and forgiveness on teachers' perception of self-efficacy

A path analysis defines how and in what direction do

Table 2. Relationships between self-efficacy, humility and forgiveness (*n* = 303).

Variables	1	2	3	4	5	6	7	8	9	10	11
Self-efficacy (total)	1.00	0.87**	0.73**	0.80**	0.19**	0.14*	0.22**	0.05	0.29**	0.27**	0.23**
Student engagement		1.00	0.47**	0.47**	0.12*	0.10	0.11	0.08	0.25**	0.26**	0.19**
Instructional practices			1.00	0.49**	0.13*	0.09	0.16**	0.00	0.25**	0.17**	0.23**
Classroom management				1.00	0.23**	0.14*	0.28**	0.03	0.21**	0.19**	0.17**
Humility (total)					1.00	0.78**	0.73**	0.41**	0.32**	0.25**	0.28**
Openness-self forgetfulness						1.00	0.32**	0.09	0.34**	0.17**	0.34**
Modest self-assessment							1.00	0.12*	0.24**	0.26**	0.18**
Focus on others								1.00	0.04	0.10	0.00
Forgiveness (total)									1.00	0.63**	0.94**
Forgiveness of self										1.00	0.33**
Forgiveness of others and situations											1.00

** p < 0.01, * p < 0.05.

Table 3. Fit indices concerning the model.

χ^2	*df*	(χ^2/*df*)	RMSEA	CFI	NFI	GFI	AGFI	RMR
6.76	4	1.69	0.05	0.99	0.97	0.99	0.97	0.01

The model displayed an acceptable level of goodness of fit index (χ^2 / *df* = 1.69 < 5, RMSEA = 0.05, CFI = 0.99, NFI = 0.97, GFI = 0.99, AGFI = 0.97, RMR = 0.01).

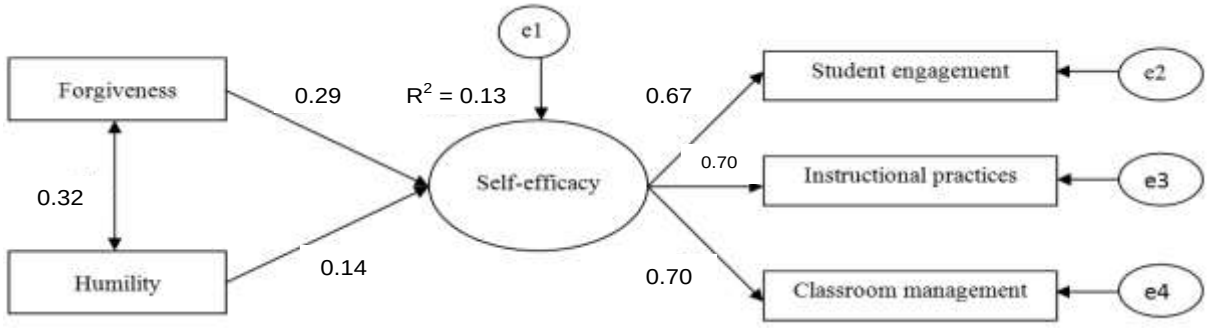

Figure 1. Standardized path coefficients.

humility and forgiveness levels of teacher predict the level of self-efficacy. Through the path analysis, direct predictability effect (predictor effects) of the independent variables on dependent variables is shown. The level of goodness of fit index concerning the research model is shown in Table 3.

Standardized path coefficients related to predictability of teachers' level of humility and forgiveness on their level of self-efficacy are given in the Figure 1. Predictability effects of independent variables on self-efficacy are given in Table 4.

Standardized path coefficients shown in Table 4 indicate that humility and forgiveness are positive significant predictors of self-efficacy. Forgiveness predicts self-efficacy more effectively (β = 0.29) than humility (β = 0.14). In addition, humility and forgiveness explain 13.2% of total variance related to self-efficacy.

DISCUSSION

This research investigates the relationship between teachers' humility and forgiveness levels, and their self-efficacy levels. A significant and positive relation between teachers' humility, forgiveness and self-efficacy levels is identified. According to the results of path analysis predicting self-efficacy, humility and forgiveness are significant and positive predictors of self-efficacy. Some of the research resulted in positive relation between self-efficacy and forgiveness (Baghel and Pradhan, 2014).

Table 4. Predictability effects of independent variables on self-efficacy.

Dependent variable		Independent variable	Standard estimation (estimate)	Standard error (SE)	Critical rate (CR)	Significance level (p)
Self-efficacy	←	Humility	0.14	0.05	2.02	*
	←	Forgiveness	0.29	0.03	4.12	**

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

The results of this research are in accordance with those of Baghel and Pradhan (2014). Vieluf et al. (2013) determined a positive relation between teachers' self-efficacy and humility levels as in this study. The results of the research provide positive relation between humility and forgiveness (Çardak, 2013; Dwiwardani et al., 2014; Powers et al., 2007). In this respect, the results of this research are consistent with the literature.

In this study, humility and forgiveness are found to be positively related to self-efficacy. Humility has been considered as equal to an insignificance feeling and low self-esteem (Tangney, 2002). Likewise, forgiveness is an ignored structure in organizational studies (Bradfield and Aquino, 1999). However, results of the study reveal that self-efficacy levels of teachers increase as their forgiveness and humility level increase. Thus, according to results of this study, in parallel with the studies indicating that humility and forgiveness are positive character features (Peterson and Seligman, 2004) and they are positively related to variables of positive psychology (Exline and Hill, 2012; Lee et al., 2010), humility and forgiveness predict self-efficacy. In other words, teachers believe that they are able to establish better student participation, apply instruction strategies better and manage the classroom effectively when their humility and forgiveness levels are high.

Studies on the relations between self-efficacy and positive psychology variables show the positive relation of self-efficacy with optimism (Chemers et al., 2000; Hulbert and Morrison, 2006; McGuigan and Hoy, 2006; Robinson and Snipes, 2009; Akhtar et al., 2013), hope (Bryant and Cvengors, 2004; Kumarakulakisignam, 2002; Lackaye et al., 2006; Robinson and Snipes, 2009), self-esteem (Khan et al., 2015) and zest for work (Sezgin and Erdogan, 2015). With the results of these researches, self-efficacy is believed to have a positive relation with positive psychology variables. In this context, the results of this research are in line with the literature of positive psychology.

Positive psychology concentrates on positive feelings rather than drawbacks, and aims to improve the quality of work and life. Individuals with a positive psychological state are likely to be healthy, happy, flexible and productive. Studies on the relationship between concepts of positive psychology and individual as well as organizational variables might help to investigate the positive psychology dimensions of school organizations. Moreover, studies on different educational levels or that use a sample of group of schools with different socio-economic levels should be addressed. Since high level of self-efficacy are thought to increase teacher's performance and student academic success (Bandura et al., 1996; Caprara et al., 2006; Usher and Pajares, 2006), further researches on relation between teachers' self-efficacy levels and other positive psychology variables will make great contribution to the literature. This study considers the notions examined at the cognitive perception level, so practice-oriented future research is necessary to advance the field to a greater extent. However as a strength of character humility and forgiveness seen that the values to be transferred to the students and are the values that teachers should have as a model in front of students (Brady, 2011). In this context, it can be said that it would be beneficial to increase the humility and forgiveness level of teacher candidates in the undergraduate education process and/or teachers who are currently working, in the context of increasing teacher performance and student achievement.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Educational Research and Reviews

Full Length Research Paper

Adaptation of the PERMA well-being scale into Turkish: Validity and reliability studies

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Seligman's "well-being scale" PERMA evaluates people's level of well-being in five dimensions: P: Positive and Negative emotions, E: Engagement, R: Relationships, M: Meaning, A: Accomplishment, N: Negative Emotion and H: Health. This scale measures a person's level of well being using five components. The measurement scale developed consists of 23 items with a scoring interval from 0 to 10. The internal consistency coefficient of the scale is 0.82. The adaptation study of the PERMA well-being scale was applied on a group of university students. For language validity, some translation texts (from English to Turkish/from Turkish to English) were given to the students in the department of ELT and positive significant correlations where obtained from the English and Turkish forms (r=0.95, p<0.01; r=0.95, p<0.01). The measurement tool with 23 articles and 8 dimensions tested by confirmatory factor analysis was seen to have enough goodness of fit index (χ2/sd=100.96/41, p=0.00, RMSEA=0.076, CFI=0.96, GFI=0.93, NNFI=0.94). As a result of the correlation analyses made for the criterion validity of PERMA well-being scale; a significant positive relation was found with subjective well-being scale and psychological well-being scale. The internal consistency coefficient of the scale was α=0.82 and test retest correlation was found at 0.81. As a result, the 23-item and eight-dimensional measuring tool became ready for use by the researchers.

Key words: Well-being, positive and negative emotions, occupation, relationships, meaning and success, well-being scale, reliability and validity.

INTRODUCTION

Happiness is an abstract concept and is quite difficult to define. Seligman (2002) analyzed happiness within three different elements: Positive Emotion, Engagement, and Meaning. Each element can be better defined and also be better measured than happiness. Positive emotion helps us to be positive and percieve the environment in a positive manner. Flow can be explained as a person's flow of thought during an engagement or activity. Meaning questions the purpose of life and plays a role as a bridge between us and our emotions. Seligman (2002) developed the theory. According to him, the theme of positive psychology is happiness and its peak is life satisfaction. At this point, the main theme of positive psychology is well-being and this is measured by

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flourishing. Positive psychology aims to improve this. Seligman also included two different elements in his theory; positive relationships and accomplishment. All the dimensions of well-being can be measured objectively. For example, flow (engegament) is the passage of time and has a different meaning for each person. According to Seligman's (2011) model, flourishing can be described as a dynamic structure of good functioning in many psychosocial areas. Rather than a single concept, it can be described as a combination of multiple concepts and harmonious relations. Five areas defined by the PERMA wellbeing theory were stressed; P: Positive and negative emotions, E: Engagement, R: Relationships, M: Meaning, and A: Accomplishment.

In order to determine the existence and absence of mental health, Keyes (2002, 2005) defined the concept of continuity of mental health. Mental health is not only the absence of mental illness, but is also a concept of the presence of positive emotions and the positive functioning of personal and social life. According to this approach, wellbeing consists of emotional well-being, psychological well-being and social well-being (Lamers et al., 2010). Diener (1984) interprets subjective well-being from a hedonistic point of view and focuses on criteria such as more positive emotions and satisfaction from life. In other words, social acceptance, social realization, social cohesion, social cohesion and social contribution should be components of social well-being (Keyes, 1998).

Ryff (1989) moves from psychological functioning and emphasizes that well-being is different than feeling good. With his multi-dimensional psychological well-being model developed by Ryff, the psychological functioning is based on the following six dimensions: (1) self-acceptance of the individual, (2) being in positive relationships with others, (3) being able to think and act autonomously, (4) to organize the environment in an effective manner, (5) to be an aim in life, and (6) self-development. According to Ryff, well-being is possible by living a functional life in these areas of life.

P: Positive and negative emotions: The first element of the PERMA well-being model is positive feelings that correspond to hedonic happiness feelings like pleasure, fun and joy. According to Seligman (2011), we need a positive feeling in our lives to live well. Positive emotions like commitment, happiness, hopefulness, love and peacefulness, renew our energy and rejuvenate us. In this approach, the emotions are sized from negative to positive and from low to high dimensions within a circumscribed model (Cacioppo et al., 2011; Huelsmann et al., 1998).

E: Engagement: In the PERMA well-being model the second contribution comes from a feeling of full involvement in activities or from interactions that brings engagement. It is also referred to as "flow" state (Csikszentmihalyi, 1990). Engagement is believed to improve power, devotion and commitment (Schaufeli et al., 2006). Engagement is also an important component of successful aging (Rowe and Kahn, 1987).

R: Relationships: Is the third contributing factor in the PERMA well-being model. According to Butler and Kern (2016), as humans we are "social beings" and good relationships form the essence of our well-being. People who have meaningful and positive relationships with others are happier than those who do not have. Forgeard et al. (2011) claim that relationships are important because people want to be loved and appreciated. Social relationships have positive effects on health and individuals' well-being (Tay et al., 2012). For example, social support has been associated with better physical health, longer life, and healthier behaviors (Tay et al., 2012; Taylor, 2011).

M: Meaning: Meaning is the fourth contributor within the PERMA well-being model. The sense of meaning is defined as defining the direction of life, connecting with something higher than oneself, feeling that one's life is valuable and important and believing that there is a purpose in someones life actions (Steger, 2012; Steger et al., 2008a). Meaning is about focusing on something bigger than ourselves or serving for a purpose. It is the desire of a person to believe that he/she is living or working for a greater purpose (Butler and Kern, 2016). Meaning gives the person the feeling that life is important. İt was found to be associated with better physical health, lower mortality risk and higher life satisfaction, joy in life, self-fulfillment, and the feeling from being able to fufill what is lacking in different domain (Ryff et al., 2004; Steger et al., 2008b; Boyle et al., 2009; Steger, 2012).

A: Accomplishment: The accomplishment factor in the PERMA well-being model is a driving force for accomplishing or achieving personal goals (Seligman, 2011). The effort to reach the goals of completing the tasks, involves the capability of competence and efficiacy. In fact, self-determination theory shows that competence is a basic human need (Ryan and Deci, 2000). It has been shown that struggling to achieve success is related to subjective well-being (Coffey et al., 2014; Seligman, 2011).

The PERMA well-being model has a multi-dimensional structure as mentioned earler and its measurement is very difficult. According to Seligman (2011), to measure the multidimensional structure of the PERMA well-being model, each dimension must be measured separately and therefore it should not be measured with a single scale. Scales in positive psychology focus on topics that include flow or intense concentration, devotion and poring (Csikszentmihalyi, 1990). National surveys tend to focus on objective achievement indicators, while for Butler and Kern (2016) most of the existing well-being scales are related to competence, mastery or effectiveness. Those who want to investigate happiness and well-being need appropriate scales. Well-established measurement tools help us to develop our theories and well-being

Table 1. The language validity table of the scale.

Scale	Sub-scale	Gender	%	$\overline{X}$	SS	r	p
PERMA Well-being scale	Turkısh version	Male	26.2	22.84	1.72	0.95	0.000
	English form	Female	73.8			0.95	

understanding. Subjective perspectives can be complemented by objective scales. Moreover, appropriate scales are also needed to assess the effectiveness of the increasing number of applications to improve well-being. One-dimensional scales, such as life-satisfaction, a concept similar to well-being, are highly influenced by the mental state of the individual and ignore other aspects of well-being (Huppert and So, 2013). A number of scales have been used to measure well-being and happiness. Mostly used scales such as development scale (Huppert and So, 2013), satisfaction scales (Diener et al., 2012), developement items (Huppert and So, 2013), short inventory of development (Su et al., 2014) and psychological well-being scales (Ryff, 2014) have been tested and used in various examples and applications. The 54-item Comprehensive Development Inventory (Su et al., 2014), which measures the five-dimensional structure of PERMA theory, includes both components of the PERMA well-being model and a number of other domains (e.g. learning, self-esteem, lack of autonomy, optimism).

There are no short valid instruments that can specifically measure the five-dimensional Seligman theory (2010), which is relatively new in Turkey. Until today, no studies have been found in Turkey in order to use Seligman's PERMA well-being model in experimental and other researches. The aim of this study is to investigate whether the structures of the PERMA well-being model can be measured as separate dimensions in the Turkish culture using the materials of well-being assessments obtained from university students and thus to investigate and apply the PERMA well-being theory in Turkey.

METHODOLOGY

Study I

The necessary permissions for the adaptation of the scale to the Turkish language were taken from Butler and Kern (2016). In the following period, the scale was translated into Turkish by four academicians who were experts in the field and are also proficient in English language. In addition, in order to assess whether there is a problem in the Turkish language, support was obtained from a specialist academician. At the last stage, two academicians who are experts in the field reached an agreed decision on the final form of the Turkish form.

It was announced to the students of Konya Necmettin Erbakan University Ahmet Keleşoğlu, Faculty of Education, Department of Foreign Languages, English Language Teacher Education Department that there will be an adapted well-being scale. In particular, they indicated the need for English-speaking sudents to measure the language equivalence of the scal, and two groups of voluntary students where created for implementation. The first group consisted of 84 students (73.8% female, 26.2% male, X = 22.84 years, Ss = 1.72) (Table 1).

The second group was reapplied to the same students after four weeks. According to the findings obtained from the first group for language equivalence, there was a high positive correlation between the scale's original English form and the Turkish version (r= 0.95, p< 0.000). According to the findings obtained from the second group for language equivalence, a high positive correlation was found between the scale form and the original English form (r = 0.95, p <0.000). According to the results obtained from these two groups, it can be said that the Turkish form of the scale is equivalent to the original English form.

Study II

Confirmatory factor analysis (CFA) was performed to determine the construct validity of the PERMA well-being scale. Observed variables (23) and 250 participants were included in this study. It was seen that there are 23 free parametric estimations in this study and that 272 participants are pointing out to a sufficient sample for confirmatory factor analysis. Considering that the study was carried out with 250 participants, it seems to meet the minimum criterion. Confirmatory factor analysis was conducted to reveal the structure of the PERMA well-being scale and confirm that the explained original form was verified in the Turkish sample. In order to obtain evidence on the validity of the PERMA well-being scale, a 5-factor structure of the 23-item scale was administered to the first-level confirmatory factor analysis. Using the Robust Maximum Likelihood method, χ2/sd, RMSEA, CFI, GFI and NNFI values were calculated as a measure of the model's goodness of fit and the following conditions are taken into consideration in order to be able to accept that the model is adhering to the adequate/acceptable level: χ2/sd≤5 (Kline, 2005; Sümer, 2000), RMSEA≤0.08 (Browne and Cudeck, 1993; Byrne and Campbell, 1999; Thompson, 2000; McDonald and Moon-Ho, 2002; Schermelleh-Engel et al., 2003; Jöreskog and Sörborn, 1993), CFI≥0.90 (Sümer, 2000; Bentler, 1980), GFI>0.90 (Hooper et al., 2008; Bentler and Bonett, 1980;) and NNFI≥0.90 (Sümer, 2000; Marsh et al., 2006). The compliance level of the 23-item Turkish form of the model described for the original well-being scale was tested. According to the obtained results as χ^2/sd=100.96/41, p=0.00, RMSEA=0.076, CFI=0.96, GFI=0.93, NNFI=0.94; the relationship between the implicit variable (factor) and the observed variables and the error variances of the observed variables for the 23 item PERMA well-being scale are presented in Figure 1.

As shown in Figure 1, the fit indices of the four-dimensional student commitment scale consisting of 23 items and 5 sub-factors are found as follows (χ^2/sd=100.96/41, p=0.00). The values for the fit indices are found as RMSEA=0.076, CFI=0.96, GFI=0.93, NNFI=0.94.

Study III

The criterion-related validity of the PERMA well-being scale was

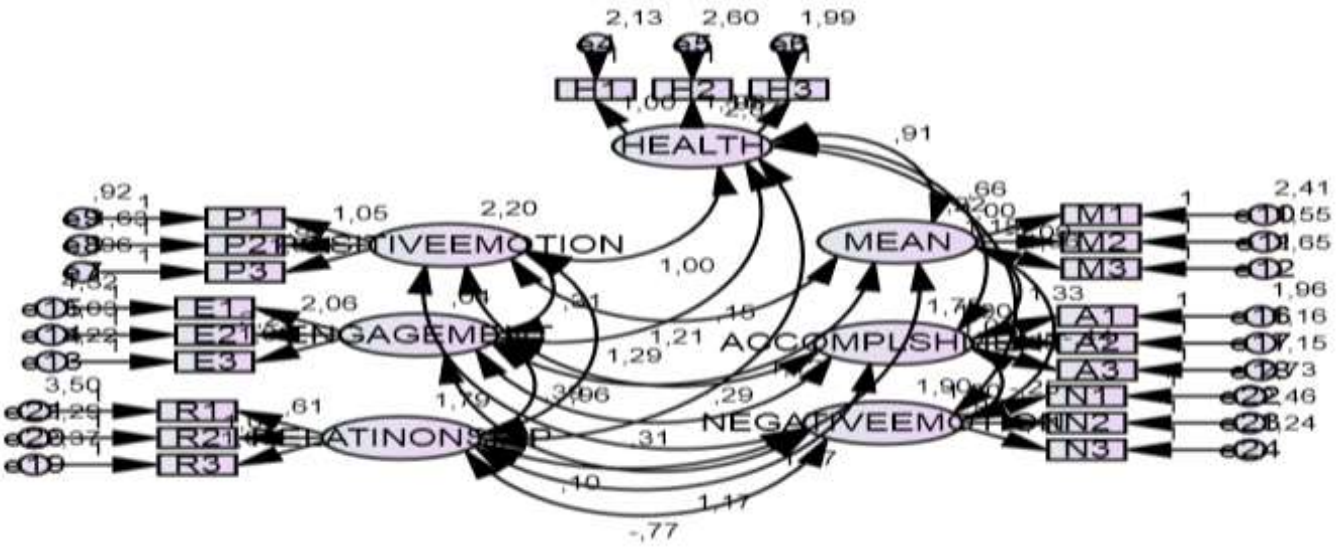

Figure 1. Confirmatory factor analysis of PERMA well-being scale

Table 2. Similarity scale validity table of Subjective well-being scale and psychological well-being scale of PERMA well-being scale.

Scale		Subjective well-being scale	psychological well-being scale
PERMA Well-being scale	r	0.449	0.519
	p	0.004	0.001

tested with 272 students from Education Faculty of Konya Necmettin Erbakan University, Eregli (Table 2).

As a result of the correlation analyses made in order to determine the criterion related PERMA well-being scale; the student's scores from the PERMA well-being scale showed a positive, significant and moderate (r=0.449, p<0.004) relation with the subjective well-being scale and also a positive, significant and moderate (r=0.519, p<0.001) relation with the psychological well-being scale. The subjective well-being scale developed by Tuzgöl Erdost (2005) and the psychological well-being scale developed by Diener et al. (2009) and adapted to Turkish by Telef (2013), were used to test the criterion-related validity of the PERMA well-being scale

Data collection tools

PERMA well-being scale

PERMA Measurement Instrument: The PERMA scale developed by Butler and Kern (2015, 2016) aims to measure the conceptualization of Martin Seligman's five dimensions of well-being (positive emotions, engagement, positive relationships, meaning and accomplishment). The scale consists of 15 items, 3 items in each dimension. Butler and Kern (2015, 2016) added 8 items to the scale in addition to the existing ones. When the total well-being score is calculated, 15 items and the well-being item are evaluated together. Apart from these, there are 7 filling materials on the scale. Three of these items measure the feeling of being healthy, 3 of them measure negative feelings, 1 for general well-being and 1 of them loneliness. Although the PERMA Measurement Instrument consists of 15 items, the authors who develop the scale suggest that the 23-item form should be used because of the important information provided by the additional items. In addition, negative emotions and loneliness items are used to prevent the incentives that participants may have due to constantly responding to positive items.

Scoring and Evaluation of the Scale: The PERMA scale consists of 15 items and 8 filling items with a total of 23 items which measure the components of the well-being model. The 7, 12, 14, and 20 items of the filling material are reverse coded. The scale consists of 15 items, 3 items in each dimension. The scores of sub-dimensions are calculated by taking the average of 3 items in the related sub-dimension: P Positive emotions: (p5+p10+p22)/3, E Engagement: (p3+p11+p21)/3, R Relations: (p6+p15+p19)/3, M Meaning: (p1+p9+p17)/3, and A Accomplishment: (p2+p8+p16)/3. Butler and Kern (2016) added 6 of the 8 filling items to the scale as two separate dimensions: H Health: (p4+p13+p18)/3, N Negative emotions: (p7+p14+p20)/3. Butler and Kern (2015, 2016) suggested adding happiness (p23) to the total of 15 items to determine the total well-being score. PERMA: (p5+p10+p22 +p3+p11+p21+ p6+p15+p19+ p2+p8+p16+p23)/16. The last remaining item measures loneliness: L Loneliness: p12. Butler and Kern (2016) recommended the application of the measurement instrument with its 23-item form. The use of the filling items may be useful in individual and group counseling practice.

Subjective well-being scale

The Subjective Well-Being Scale (ÖlÖ) was developed by Tuzgöl Erdost (2005). It is a Likert type measure of 46 items. There are personal judgments about life spaces and positive and negative

emotions included in this scale. The structural validity of the ÖIÖ was determined by the principal component analysis. The upper and lower 27% score group averages were compared with the t test and a significant difference were found between the groups. Similar scale validation studies showed a significant relationship between the ÖIÖ scale and the Beck Depression Inventory (BDI) (r = 0.70). The Cronbach alpha reliability coefficient of the scale was 0.93 and the test-retest reliability coefficient was found to be r: 0.86. As a result of the analyses, it was decided that ÖIÖ is a valid and reliable tool for determining the 'subjective well-being' levels of university students.

Psychological well-being scale

The Psychological Well-Being Scale was developed by Diener et al. (2009) and adapted to Turkish by Telef (2013). As a result of the exploratory factor analysis for the Psychological Well-Being Scale, a single factor structure that accounts for 30% of the total variance was obtained. The internal consistency coefficient of the Psychological Well-Being Scale was found as 0.87. Scores are calculated for both the sub-dimensions and the generalized scale. The high scores obtained from the scale are evaluated as having a high level of belonging. The high scores indicate that the person has many psychological resources and powers. As a result of the validity study conducted with university students, it was determined that the scale consists of a single factor and 53% of the total explained variance. The factor loads of the scale items vary between 0.61 and 0.77. Although the scale does not provide individual measures of psychological well-being aspects, it gives us a general overview of positive functions in different areas that we believe are important (Diener et al., 2010).

Study IV: Method

Reliability study group

The reliability studies of PERMA Well-being Scale were carried out on 152 students studying at the Education Faculty of Necmettin Erbakan University, Ereğli. For the reliability of the Turkish form of the PERMA Well-being Scale, internal consistency, two-half reliability and test-retest procedure were performed. The PERMA Well-being Scale was applied to university students twice in two weeks (Table 3).

The reliability coefficients of the PERMA Well-being Scale were found as α=0.81. The Cronbach alpha coefficients of the Turkish form of the scale vary between 0.62 and 0.82. Accordingly, the Cronbach alpha internal consistency coefficients for each sub-scale are as follows: Positive Emotion α=0.77, Engagement α=0.62, Relationship α=0.70, Meaning α=0.82, Accomplishment α=0.70, Negative Emotion α=0.65, Health α=0.83. The internal consistency coefficient for the entire scale was α=0.82

DISCUSSION

The purpose of this study was to adapt the PERMA Well-being Scale developed by Butler and Kern (2016) to Turkish and to examine the psychometric characteristic on university students. The PERMA Well-being Scale consists of five dimensions: P: Positive and negative emotions, E: Engagement, R: Relationships, M: Meaning, and A: Accomplishment. The high scores obtained from the scale indicate that the well-being level of the individual is high. In line with this aim, the scale was first translated into Turkish from its original form. After this step, a confirmatory factor analysis was performed to establish the validity of the scale. The fit index values of the scale are in a range of scores accepted in most studies in the field of statistics (Brown and Cudeck, 1993; Byrne and Campbell, 1999; Thompson, 2000; McDonald and Moon-Ho, 2002; Schermelleh-Engel et al., 2003; Bentler and Bonett, 1980; Bentler, 1980; Marsh et al., 2006).

The scale was found similar to the five dimensions obtained by Butler and Kern (2016). For this reason, the subscale names of the original scale were used also for naming the subscales in the Turkish form of the scale. Within the scope of validity studies of the scale, similar scale validity methods were used. For this purpose, the relations between the PERMA well-being scale, subjective well-being scale, and the psychological well-being scale were examined. The scores of the PERMA well-being scale showed positive, significant and moderate relations with the subjective well-being scale and also positive, significant and moderate relations with the psychological well-being scale.

The reliability coefficients of the PERMA well-being scale were found at r=0.81. The Cronbach alpha coefficients of the Turkish form of the scale vary between 0.62 and 0.82. Therefore, the Cronbach alpha internal consistency coefficients for each subscale are as follows: Positive Emotion α=0.77, Engagement α=0.62, Relationship α=0.70, Meaning α=0.82, Accomplishment α=0.70, Negative Emotion α=0.65 and Health α=0.83. The internal consistency coefficient for the entire scale was α=0.82. The reliability values from the scale originally developed by Butler and Kern (2016) also vary between 0.72 and 0.85. All these results can be evaluated as evidence that the PERMA well-being scale is a valid and reliable measurement tool for the Turkish sample. Butler and Kern (2016) also found similar reliability results in the original scale.

In light of all these findings and evaluations, it appears there is sufficient evidence that the 23-item Turkish form of the well-being scale can measure the patience of the individuals on seven basic dimensions. In other words, the structures of Positive Emotion, Engagement, Meaning, Accomplishment, Negative Emotion, and Health, which are aimed to be measured by the Turkısh form theoretically and the total dimensions of the PERMA models can be measured in a valid way. As a result, the scale has been prepared for use in studies which aim to examinine the well-being levels of individuals. The scale can examine the relations between the patience levels and other variables of university students who will be used for this study and can find answers to many other questions.

The sample of research consisted of university students. This is among the limitations of the research. In future researches, studies can be done on different

Table 3. Table showing the sub-dimensions and total reliability of the scale.

Scale	PERMA well-being scale	Positive emotion	Engagement	Relationship	Meaning	Accomplishment	Negative Emotion	Health
α	0.81	0.77	0.62	0.70	0.82	0.70	0.65	0.83

sample groups of the PERMA scale. It can also focus on positive constructs such as hope, optimism, and negative constructs such as depression, anxiety, and fear.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Educational Research and Reviews

Full Length Research Paper

Latent profile analysis of the good teacher characteristics in the 21st Century in the Northeastern Region of Thailand

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This research aimed to analyze the Latent Group Profile, hereafter (LPA) of good teacher characteristics' in the 21st century in the Northeastern region of Thailand. The samples were 4 groups, viz; 10 expert teachers for interviewing on the draft of the variable to develop the indicators; 12 teachers who won Guru Awards from Teachers Council for in-depth interviewing and use the data to adjust the variable to confirm good teacher characteristics' in the 21st century in a real situation. 1,103 primary school teachers in the Northeastern region were random from 11 provinces and were selected by applying multi-stage sampling technique and employed them for second-order confirmatory factor analysis. The research instrument was a set of 71 items questionnaire focusing on the good teacher characteristics' in the 21st century. The reliability of the questionnaire was at 0.933 and the discrepancy was between 0.264 - 0.696. The research findings revealed that, the LPA had 3 models, and the numbers of the groups in each model were 2, 3 and 4, respectively. When considering the probability that the classification was the most accurate (E_k), it was the model with 2 groups (likelihood = -7138.381, AIC = 14344.763, BIC = 14514.960, ABIC = 14406.967, E_k = 0.954). The proportion of the teachers in the LPA group 1 were 483 teachers, who were being a good role model for the learners (43.79%) and the LPA group 2 were 620 teachers, who believed in good values (56.21%).

Key words: Latent profile analysis, indicators, exploratory analysis, confirmatory factor analysis, the good teacher characteristics' in the 21st century.

INTRODUCTION

The goal of educational management is to develop learners, not just only educating learners, but also developing the learners' knowledge, thinking, work skills, ethics, social and mental capacity-solving complex problems (Sayamkammajon Foundation, 2016). The most important persons in the process of education are the teachers, whom Thai society has long regarded as venerable persons for ages. But it is because of societal progress that politics, economy, and technological development have changed rapidly under the globalization. Western cultures have flown into the Thai society, and have affected the teachers' characteristics,

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and influenced the current society. These changes have caused a direct impact on the way of life in both positive and negative aspects of the teachers' characteristics that cannot be ignored or avoided. The teachers' life goals have changed; they now focus on the objects, their honor, their stability and all of these have caused the teachers a lot of debt (Wichit, 1999, cited in Kurutham, 1985). Therefore the teacher characteristics have reduced gradually, implying that the teachers in the 21st century have to adjust themselves to the knowledge society or learning society. The educational organizations need to adapt themselves to be a learning organization.

Teachers are the most important factors in the educational process and policy that develop teachers' efficacy lead to developed students' outcome. Although Thailand has the standard for the teaching profession and there are many studies and definite various meanings of good teacher characteristics', there were no studies on developing the indicators of good teacher characteristics in the 21st century or what the character of the present teachers are and do as they conform to the change of the 21st century. Based on the importance of changing teachers' characteristics to be the outstanding teachers in the 21st century, the researcher is interested in studying what the good teacher characteristics in the 21st century of the teachers in the Northeastern region of Thailand are. This study is based on the indicators of the good teacher characteristics' in the 21st century. The characteristic of the indicators used to classify them are continuous observed variables. The researcher found out that the analytical technique that corresponds to this research problem is the Latent Profile Analysis (LPA) which is a new technique for finding and categorizing many continuous observed variables into small groups. The LPA provides accurate classification and it allows both dimension and similarly characteristics within the group, differences between groups, or specific group characteristics together with the characteristics of each group at once (Mutually Exclusive and Exhaustive) (Bray et al., 2006).

The results from the analysis will help to obtain useful information clearly and when the researcher wants to study the problem without the supporting of hypothesis with a theoretical framework. It will help the related persons to get the data of what level the good teacher characteristics' in the 21st century are. It also characterized the teachers in the Northeastern region of Thailand and how much it differs and to what extent. The results will help them know and plan to develop the good teacher characteristics' in the 21st century according to the characteristic of teachers in each group.

Indicators of the good teacher characteristics' in the 21st century

The indicators in this research were developed by the researcher and employed mixing methodology in sequential equivalent design. The researcher conducted the qualitative research method first, and then followed by a quantitative research method. The method of the development composed of 4 phases, viz; Phase 1: to create the good teacher characteristics' in the 21st century; Phase 2: to develop and adapt the indicators of the good teacher characteristics' in the 21st century; Phase 3: to apply an exploratory factor analysis; and Phase 4: to check the consistency between the 21st century model of the good teacher characteristics' indicators and the empirical data. The development of the indicators and questionnaires were composed of 11 standards and 71 indicators. There were: Standard 1 - report on the learners' development and developing learning materials systematically with 11 indicators; Standard 2 - collaborate with others in the community creatively with 7 indicators; Standard **3** - develop a practical lesson plans with 8 indicators; Standard **4** - perform activities concerning the high potential of learners with 8 indicators; Standard **5** - be a good role model for the learners with 7 indicators; Standard 6 - perform regular academic activities for teachers' professional development with 8 indicators; Standard **7** - seek and use information in professional development with 6 indicators; Standard **8** - believe in good values with 4 indicators; Standard **9** - perform the activities concerning the benefits of the learners with 5 indicators; Standard 10 - to organize learning activities focusing on learners' development with 4 indicators; Standard 11 - self-development on teacher profession with 3 indicators.

Research objective

This research aims to analyze group profiles of good teacher characteristics' in the 21st century in the Northeastern region of Thailand.

RESEARCH METHODOLOGY

Population and sample

The population in this research was the teachers' from Primary Educational Service Area in the Northeastern region of Thailand and the samples were 1,103 teachers from 11 provinces Primary Schools which were selected by applying multi-stage sampling technique (Table 1).

Research instrument

The research instrument was a set of 5-rating scale questionnaire focusing on the good teacher characteristics in the 21st century. The questions are based on 11 standards and 71 indicators

5 = the opinion on what the good teacher in the 21st century should have at the highest level.
4 = the opinion on what the good teacher in the 21st century should have at a high level.
3 = the opinion on what the good teacher in the 21st century should

Table 1. Number of samples.

S/N	Provinces	Number of samples (person)	%
1	Maha Sarakham	94	8.5
2	Nakhon Ratchasima	98	8.9
3	Kalasin	106	9.6
4	Yasothon	99	9.0
5	Khon Kaen	151	13.7
6	Amnat Charoen	95	8.6
7	Ubonratchathani	95	8.6
8	Si Sa Ket	106	9.6
9	Nong Khai	89	8.1
10	Nong Bua Lam Phu	100	9.1
11	Chaiyaphum	70	6.3
Total		1,103	100

have at a medium level.
2 = the opinion on what the good teacher in the 21st century should have at a low level.
1 = the opinion on what the good teacher in the 21st century should have at the lowest level.

The instrument was developed in the following stages:

1) The researcher employed the exploratory factor analysis, and got 12 standards and 72 indicators with Eigen value and variance percentage as shown: Standards 1 and 2 (6.637 and 9.218), Standard 3 (5.479 and 8.028), Standard 4 (4.921 and 6.835), Standard 5 (4.874 and 6.769), Standard 6 (4.499 and 6.248), Standard 7 (4.050 and 5.625), Standard 8 (3.633 and 5.046), Standard 9 (3.631 and 5.043), Standard 10 (3.130 and 4.347), Standard 11 (2.170 and 3.014). All 11 standards can explain the variance of co-characteristic at 69.502%.
2) The researcher found out the discrepancy by employing item total correlation of the score in each item and total score of the rest questions with the Pearson Product Moment Correlation Formula and found that the discrimination was between 0.389 - 0.768.
3) The researcher originated the reliability of the whole instrument using Alpha Coefficient of Cronbach, which was at 0.979.
4) Analysis of the construct validity of the questionnaires used the confirmatory factor analysis χ^2 = 1817.237, *df* = 1809, p-value = 0.4412, CFI = 1.000, TLI = 1.000, RMSEA = 0.002, SRMR = 0.021 and χ^2 /df = 1.004.

Approach

This research was the LPA of the good teacher characteristics' in the 21st century in the Northeastern region of Thailand. The characteristic of the observed variables were the continuous variables and latent variables were the categorical variable. The researcher conducted the research by using M-plus Version 7.2 with 5 phases as follows: (Webel, 1996; Muthen and Muthen, 2009). The samples were 4 groups; 10 expert teachers for interviewing on the draft of the variable to develop the indicators; 12 teachers who won Guru Awards from Teachers Council for in-depth interviewing and use the data to adjust the variable to confirm good teacher characteristics' in the 21st century in a real situation. 1,103 primary school teachers in the Northeastern region were random from 11 provinces, were selected by applying multi-stage sampling technique and employed for second-order confirmatory factor analysis

Phase 1: Develop the indicators of good teacher characteristics' in the 21st century

Step 1: The researcher created a draft of the variables by reviewing the texts, documents, theories, researches and interviewing 10 expert teachers' opinion about the draft and then used inductive analysis.

Step 2: the researcher develop the variables and adjust the variables in step 1 by in-depth interviewing 12 teachers who won Guru Awards from Teachers Council, then used inductive analysis in order to develop the variables to conform the real situation.

Step 3: the researcher did the second development of the variables by employing exploratory factor analysis.

Step 4: the researcher examined the consistency of the good teacher characteristics' model with the empirical data by using second order confirmatory factor analysis.

Phase 2: Analyze the LPA of good teacher characteristics' in the 21st century of the teacher under Primary Educational Service Area in the Northeastern region of Thailand.

Step 1: The researcher developed a model for analyzing latent structures with the LPA based on the good teacher characteristics' in the 21st century. It had 11 standards and 71 indicators.

Step 2: The researcher set the detail and re-checked the data.

Step 3: The researcher estimated the parameters of the model, and defined the number of profile group as 2, 3, 4,...., k which the program would analyze it based on the numbers of profile groups as the following steps:

3.1: Analyze the goodness of fit test of the LPA with the empirical data.
3.2: Estimate the probability of each observed variable in the sample and what it should be in each group.
3.3: Examine the pattern of variables or behaviors of samples in each cluster with the consistency of the probability in each pattern.
***3.4*:** Find mean probability of class memberships.
***3.5*:** Evaluate group differences and the number of the samples.

Table 2. Result of the LPA of the good teacher characteristics' in the 21st century of the teachers in the northeastern region of Thailand.

Number of groups	Log likelihood	Number of free parameter	AIC	BIC	ABIC		Members in each class
2	-7138.381	34	14344.763	14514.960	14406.967	0.954	1 = 483 2 = 620
3	-6402.028	46	12896.057	13126.323	12980.216	0.921	1 = 160 2 = 455 3 = 488
4	-5907.099	58	11930.197	12220.533	12036.311	0.909	1 = 91 2 = 332 3 = 351 4 = 329

ABIC= sample-size adjust BIC, E_k= Entropy.

Table 3. The result of the coefficient of the LPA of the good teacher characteristics' in the 21st century in the northeastern region of Thailand.

Standard	Class 1			Class 2		
	Mean	S.E.	%	Mean	S.E.	%
1. Report on the learners' development and develop learning materials systematically.	3.829**	0.022	76.58	4.574**	0.018	91.48
2. Collaborate with others in the community creatively.	3.944**	0.025	78.88	4.595**	0.019	91.9
3. Develop a practical lesson plan.	3.842**	0.022	76.84	4.662**	0.017	93.24
4. Perform the activities concerning the high potential of the learners.	3.912**	0.022	78.24	4.713**	0.016	94.26
5. Be the good role model for the learners.	4.172**	0.029	83.44	4.867**	0.011	97.34
6. Perform regular academic activities on teacher professional development.	3.898**	0.021	77.96	4.709**	0.016	94.18
7. Seek and use information in professional development.	3.856**	0.022	77.12	4.624**	0.020	92.48
8. Believe in good values.	4.139**	0.030	82.78	4.883**	0.011	97.66
9. Perform the activities concerning the benefit of the learners.	3.959**	0.025	79.18	4.741**	0.016	94.82
10. To organize learning activities focusing on student development.	3.873**	0.023	77.46	4.659**	0.020	93.18
11. Self-development on teacher profession.	3.798**	0.028	75.96	4.541**	0.024	90.82
Count		483			620	
Proportions		0.43790			0.56210	
Proportions mean		0.985			0.989	

Step 4: Compare the analysis from Step 3 regarding which model was the most appropriate and what the numbers of that group are by considering the goodness of fit test of the LPA model from the index AIC, BIC and ABIC. That was, if these statistics were small or close to zero, they represent the most appropriate model.

Step 5: Present the results of the analysis and interpretation.

RESEARCH SUMMARY

The result of the LPA of the good teacher characteristics' in the 21st century of the teachers in the Northeastern region of Thailand showed that it was because the analytical indicators were the continuous variables and the latent variables were the categorical variables; thus, the researcher studied the variables according to the indicators in Phase 1. The result revealed that 11 standards and 71 indicators of the good teacher characteristics' in the 21st century of the teachers in the northeast were used to categorize the teachers according to those standards, and indicators. The estimate of parameter of the LPA was shown in Tables 2 and 3.

From Table 2, the result of the LPA revealed that there were 3 models of the good teacher characteristics' in the

21st century of the teachers in the Northeastern region of Thailand. The numbers of the groups in each model were 2, 3 and 4 groups respectively. When considering the probability of the most accurate classification (E_k), it was the model with 2 groups (likelihood = -7138.381, AIC = 14344.763, BIC = 14514.960, ABIC = 14406.967, E_k = 0.954).

From Table 3, it was found that the proportion of the students in LPA group 1, were 483 students and calculated at 43.79%. LPA group 2 had 620 students and calculated at 56.21%. There was the significant difference level in each variable in groups 1 and 2 at 0.01 levels. This has shown that all of the standards could be used to represent the characteristic of the good teachers' in the 21st century in every group.

In the LPA group 1, when the mean of each variable was compared with the mean score probability of the group (0.985), it could classify the LPA depending on the indicators in one group. It was the group with significance lower than the mean score in every indicator. Standard 5, being a good role model for learners was at the highest mean score (4.172**) and the most significant indicator to be chosen into group 1 is called the group of the good role model teacher.

In LPA group 2, when the mean score of each variable was compared with the mean score of the probability of the group (0.989), it could classify the LPA depending on the indicator in one group. It was the group with significance lower than the mean score in every indicator. Standard 8, believing in good values, was the highest mean score (4.883**); and the most significant indicator of the member to be chosen into group 2 is called the group of the good values.

Considering the mean score of all indicators in two LPA groups, it was found that the LPA group 2 was significantly higher than those in the LPA group 1 in all indicators (The LPA group 1 had the mean score range from 75.96 to 83.44%, whereas LPA group 2 had the mean score range from 90.82 to 97.66%). It meant all standards could be used to classify the teachers based on the good teacher characteristics' in the 21st century. The LPA group 1 was the group of 483 teachers who serve as the good role model for the learners and the LPA group 2 was the group of 620 of the teachers who believed in the good values. This is shown in Figure 1.

DISCUSSION

Results of the LPA of the good teacher characteristics' in the 21st century of the teachers in the Northeastern region of Thailand according to the standards and indicators revealed that the teachers could be divided into two groups: the group of the 483 teachers who have been the good role model for the learners with the mean range from 75.96 to 83.44% and the group of 620 teachers who believe in the good value with the mean range from 90.82 to 97.66%. Both two groups had a little bit of mean differences and the mean was at the high level, which meant that most teachers in the Northeast of Thailand had the characteristics of good teachers. The result consisted with the study of Suneeporn Ratkarnwiwat (2006) who studied on the level of being a good teacher according to the teacher's handbook on "A good teacher who develops national human resources of the government teachers at schools that offered first and second intervals under the Office of Maha Sarakam Educational Service Area Office 2. The study indicated that the level of the self-performance of being a good teacher, according to the teacher's handbook was at the high level in all aspects: ideal and spirituality of being a teacher; the life-long self-development in terms of morality, ethics, moral principles, academics and teaching profession. Self-behaving and self-performance to be a good model in duty performance and living one's life to deserve being the person of worship for the social and attention to perform complete duties of the teacher by using dharma principles and academic principles.

When considering the standards and indicators used in the classification, it was found that all of them could identify the characteristic of the good teachers' in the 21st century of the teachers in the northeastern region of Thailand. The accuracy of forecasting was at 95.40% (E_k = 0.954), which may be because the LPA was a statistical method used to find and categorize the members into sub-groups from using the observed variables as many continuous variables and of using latent variables as classified variables. It was consistent with the variables that the researcher studied. The variables are derived from the development of researcher's indicators using the mixed methodology. The research was developed into three phases: Phase 1 - creating the standards and indicators of the good teacher characteristics' in the 21st century; Phase 2 - developing the standards and indicators; and Phase 3 - checking the consistence between the measurement models of standards and indicators hypothesis with the empirical data. It affected the grouping profiles with high predictive capabilities and it made both dimension of the number and the characteristic of the contributors within the group or the difference between the groups or specific characteristic of the groups including the characteristic of each group thoroughly in at once (mutually exclusive and exhaustive). The results of this research stated that most teachers in the northeastern region are the teachers, who are being a good role model for their learners and believing in good values. The classification of such groups has never been studied in classification criteria. It was impossible to know in advance how the distribution results in the number of subgroups (Bray et al., 2006, cited in a speech by Soonthonpot et al., 2012) and it was corresponding to Pastor et al. (2007) who studied on the LPA of concentrating the learning achievement goal and found

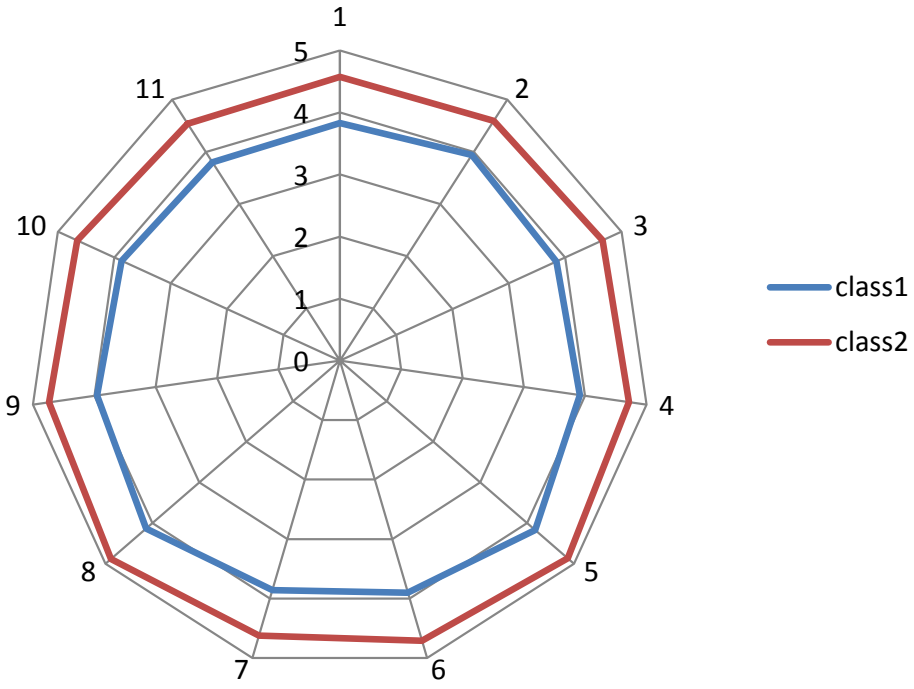

Figure 1. The LPA of the good teacher characteristics' in the 21st century in the northeastern region of Thailand.

that the LPA gave the better analysis than traditional techniques (such as regression and cluster analysis) and also with Bulotsky-Shearer et al. (2012) who studied on the LPA of the learning behaviors by peers and teachers. It was found that the LPA could clearly categorize the learning behavioral problems into two groups namely; a group of the learners with a high learning behaviors and a group of learners with low learning behaviors. Also, it was consistent with Sunan and Boonchoom (2015) who studied on the LPA of good citizenship of the students of Rajabhat University in the northeastern region; the results revealed that there were 3 models of the LPA according to the indicators that the researcher studied. The numbers of the groups in each model were 2, 3 and 4 respectively. When considering the probability of the most accuracy, it was the model of two groups' member (likelihood = -1840.622, AIC = 3731.244, BIC = 3848.359, ABIC = 3768.970, E_k = 0.922). The proportion of students in the LPA group 1 was 258 and calculated at 32.20% and the LPA group 2 was 542 students and calculated at 67.70. Overall, all 8 indicators were significantly different at the level of 0.01 within the LPA group 1 and the LPA group 2. It meant that all the indicators could represent all good citizenship in each LPA group.

As well as the tools used in this research, the researcher developed in accordance with academic principles and the samples were the teachers from 11 provinces from the northeast of Thailand which were sufficiently large to affect the reliability of the research result. The results of this research were consistent with the good teacher characteristics' in accordance with 12 standards of professional teacher of Teachers' Council (Secretariat Office of the Teachers' Council, 2006) and the good teacher characteristics according to Dharmic principle, the royal initiate of King Rama IX, the National Education Act, the judgment of the people, the project of promoting good teachers, and good teachers according to the concept of foreign educators (Leawwarin, 2013).

The LPA group 1 was a group of 483 teachers who have being good role models for the learners with the mean of 75.96 to 83.44%. They were a total of 4 indicators; 1) gentle, 2) self-discipline, 3) economy, loyalty, patience, harmony, punctuality, morals, ethics, justice, appropriate manner, emotional stability, and 4) clean and tidy outfit appropriate to the place and time. These were the most important indicators of the members being classified into the LPA group 1. And it conformed to the 8th standard of the Teacher Council which served as good role model for the learners; good expression, behavior and general personality, dressing, manner and ethically appropriate to be the teacher earning the learners admiration and consideration as a model (Office of the Secretary, Teachers Council, 2006). Also, it was consistent with the good teacher characteristics according to Dharmic principle (Leawwarin, 2013; cited in Dictionary of Buddhism-Pramuandhammas, 2011) which stated that the person who was a morale teacher, well-behaved, good role model and made the learners wanted to follow their

teachers with the encouragement to do well. It consisted with the royal speech of King Rama IX gave to the senior teachers in 1979 said that ".... true teachers must be diligent and persevering, generous and self-sacrificing, tolerant, patience, disciplined, careful in performance to be a good role model, integrity, faithfulness, sincerity, compassion, had a good will, be neutral not prejudice, increasing intelligence on both academics and reasons...". And this agrees with Sumon Amornwiwat who said that the teacher should be a good role model (Ubon Leawwarin, 2013).

The LPA group 2 were 620 teachers who had the good teacher characteristics' in the 21st century in term of believing in good values at the mean of 90.82 to 97.66% with a total of 4 indicators which was diligence, behaving in accordance with the professional ethics, kindness and high responsibility assisted with the 8th standard of Teachers Council in aspect of being the good role model for the learners (Office of the Secretary, Teachers Council, 2006). The result along with the royal speech of King Rama IX on the graduation ceremony of the university students and college education students at 13th December 1962 "...the duty of the teachers and lecturers was to teach the students to gain valuable knowledge and to train their mind to have good morality and be good citizens of the nation. Teachers' work was a very important job, as it is expected that they behave as good teachers to earn the students' respect and the parents' trust..." and the royal speech of King Rama IX given to the senior teachers at Dusidalai Hall on October 28th, 1980. "...A real teacher was the person who always does good things, for example, diligent, industrious, generous including selfless, discipline, good behavior, ambitious, honest, sincerity, kind, well-disposed, neutral mind, train the learner to be smart, in other words, to act as a teacher was to create the true virtue and to cultivate virtue or increase goodness. It would nourish the soul to grow stronger and refined to be purely clean ... " (Ubon Leawwarin, 2013); it agrees with the good teacher characteristics' under National Education Act, Section 53 which stated that teachers must behave in a moral and ethical manner in teacher profession.

Conclusion

The findings in this research can be beneficial for teachers, learners, parents, school administrators, and educators.

(1) Teachers get information to develop themselves to be good teacher characteristics' in the 21st century, plan their teaching-learning process aimed at enabling the learners to develop themselves at their own pace and to the best of their potential.
(2) The learners are enabled to have a better The learners are enabled to have a better understanding and awareness of the importance of good teacher qualities in the 21st century. The leaners understand and develop themselves to be good teachers and their career in the future that correspond to the changing world.
(3) The parents whose children have learned to be professional teachers understand good teacher characteristics' in the 21st century and cooperate with the educational institutions to organize experience to help encourage their children to be good teachers in the 21st century.
(4) The school administrators have information to policy setting, plan for the academic activities, budget support to promote the teachers to be good teacher characteristics' in the 21st century.
(5) The educators get the indicators of good teacher characteristics' in the 21st century of the teachers in the Northeastern region of Thailand, and are able to create the activities to promote the teacher good characteristics through various activities.

Suggestions for the future research

(1) The LPA in this research found that all standards and indicators could clearly categorize the teachers who had the good characteristics in the 21st century into two groups. Therefore, researchers or educators can use the process of the LPA as a guide to analyze latent characteristic of the variables in case there is no clear group classification before. The character of the observed variables must be the continuous variables.
(2) This LPA had the fifth standard, which was a good role model for the learners, and constituted the most important indicator of the members being classified in the LPA group 1 and the 8th standard; being a good role model were the most indicators of the members being classified into the LPA group 2, both two standards had exactly the same mean, so the researcher could adopt one of these standards as a criterion to classify the teachers.
(3) The study of the LPA of the good teacher characteristics' in the 21st century was conducted by analyzing the opinion of the teachers. The results reflected that the good teachers should believe in good values and be a good role model for the learners. The next study should be conducted about the identification of the good teacher characteristics' in the 21st century on the students' opinions.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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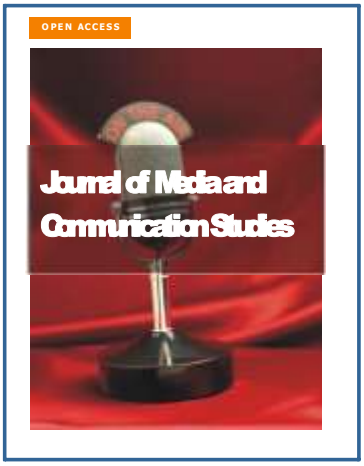

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