Doctoral Dissertation

An Investigation of Lower Secondary School Students' Affective Objectives Attainment in Western Rural China

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ABSTRACT

This study focused on the important issue of affective objectives under the New Curriculum Reform in China by examining the factor structure of affective objectives and to assess students' affective objectives attainment in rural China. This study investigated 1,563 volunteers from three lower secondary school students in Gansu Province, China. Exploratory factor analysis (EFA) was employed to construct and revise a model of affective objectives, and confirmatory factor analysis (CFA) was used to examine the structural validity and model fitting of the factors extracted by EFA. After confirming the factor structure of the questionnaire, ANOVAs was employed in the constructed model to compare the differences in students' affective development by gender, grade and parental migration states group. A hierarchical cluster analysis was used to clarify the parental style groups and hierarchical linear model was utilized for examining the classroom environment impacts on both student-level and class-level. Finally, the overall environmental variable impacts on students' affective objectives attainment was build on a hierarchical regression method.

Results: The final affective objectives questionnaire was able to put forth a statistically valid three-factor model that provides solutions for nine affective objectives: bravery, self-confidence, independence, fairness, integrity, forgiveness, gratitude, love of learning, and aesthetic. The affective objectives with the best performance in these rural students were gratitude, independence, and integrity, while the three lowest rated were

forgiveness, bravery, and confidence. Male students rated themselves statistically higher on confidence, bravery, and love of learning, whereas female students rated themselves statistically higher on independence, fairness, and aesthetic. Seventh-grade students reported higher scores than eighth- and ninth-grade students for confidence, integrity, love of learning, and aesthetic, whereas ninth-grade students rated slightly higher than eighth-grade students on bravery and gratitude. There were no significant differences on student's affective objectives attainment by four patterns of parental migration status. Six distinctive categories of parenting style were identified using cluster analysis: parental rejection, parental emotional warmth, parental overprotection, parental favoring, parental non-contact and polarized parenting style. Parental emotional warmth and parental favoring group showed highest scores on nine affective objectives, and parental overprotection turned out to be the worst parenting pattern comparing to other groups. In terms of classroom environment, relationship with teacher, classmates' friendship and competition appeared to be the most influential factors on affective objectives attainment on student-level, and relationship with teacher and class discipline turned out to be the two main factors on class-level. Finally, the combined impacts' finding showed that each of the three contexts appears to hold unique proportions of variance, and the final model confirmed that the explained variance in student's affective development was accumulated for prior two models.

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CHAPTER ONE

INTRODUCTION

1.1 Historical background of the study

The World Conference on Education for All, held in 1990 in Jomtien, Thailand, put forth the aims of meeting basic learning needs and expanding high-quality basic education. To meet these global challenges, China has recently taken on the task of improving the quality of its basic education (Zhou & Zhu, 2006). The Basic Education Curriculum Reform Outline was promulgated in 2001, marking the official launch of a new round of basic education curriculum reform in mainland China (Wang & Zhao, 2011). The New Curriculum Reform in China was implemented within a broad context of socioeconomic changes. It aimed not only to meet the challenges of changing the purpose of education and people's expectations of what it can provide in the 21st century, but also help facilitate the worldwide campaign, "Education for All" in "over-all improvement of quality in education at all levels" (Chinese National Commission for UNESCO, 2004). The fundamental principle of the New Curriculum Reform was that education must contribute to the overall development of each individual's mind and body, intelligence, sensitivity, aesthetic sense, personal responsibility, and spiritual values (Zhou & Zhu, 2006). To meet this fundamental principle, changes were needed in such areas as curriculum objectives, structure, content,

teaching process, evaluation, and school management. Among these required changes, this reform has successfully facilitated a fundamental shift from a one-sided focus on discipline-based basic knowledge and has resulted in a redefinition of "basic skills" according to three dimensions of curriculum content, representing a major breakthrough in curriculum content redesign or reorganization. The three-dimensional objective is defined as (1) knowledge and skills, (2) process and approaches, and (3) affect/attitude and values (affective objectives).

The new emphasis on affective objectives aroused great attention as it highlighted new trends not mentioned in previous reforms, and it was considered audacious and challenging. However, some scholars criticized the three-dimensional objective as too idealistic and only partially interpreted by educational practitioners (Wei, 2011; Zhang, 2009). From a definitional perspective, the term "affective objectives" was originally an imported foreign concept and definitions for "affect domain" were broad and often unfocused. From a practical perspective, teachers complained about confusion over how to teach and evaluate affective objectives in the classroom (Zhang, 2009). Furthermore, Wei (2011) indicated that most studies on the three-dimensional objective concentrated on the theoretical level, for instance, the relationships and meanings among three affective objectives. Rare empirical research focused on other aspects of affective objectives. To fill in the current research gaps mentioned above (unclear definition and rare empirical studies on affective objectives evaluation), Fu (2014) attempted to define the affective objectives within the Chinese concept and to design an appropriate assessment tool to examine

students' affective development. Although the results of this study failed to find a clear pattern in the factor structure of affective objectives, they suggested that future studies should take a different factor grouping method into consideration to perfect an assessment tool for affective objectives.

As China is a developing country, more than 60% of its population lives in rural areas. Approximately 94.46% of the nation's primary schools and 84.07% of the nation's primary students, as well as approximately 86.75% of the nation's lower secondary schools and 83.22% of the nation's lower secondary students, are in rural areas (Zhou & Zhu, 2006). Although rural primary and secondary schools, particularly those in the central and western regions, have overcome the difficulties of their poor conditions by steadily pushing the new curriculum forward and achieving significant results (Wang & Zhao, 2011), there remains a large disparity between the educational developments of rural and urban areas. Luo (2004) indicated that rural basic education is still within the margins of the New Curriculum Reform for three reasons. First, the ideas behind the design of the new curriculum are urban-oriented. For instance, ideas such as research study and the development of school curriculum are impractical for rural schools. Second, the implementation of the new curriculum has neglected the rural reality. Curriculum reform has adopted the approach of "experiment first, spread later." In the first round of the experiment, only six areas from counties (rural area) out of the 38 areas had been in the entire experiment, representing 15.79% of the total. Third, few teaching materials have reflected the rural reality. Guo

(2004) criticized these kinds of teaching materials as serious hindrances to curriculum implementation in rural areas.

Furthermore, there has been an unprecedented growth of rural-to-urban migrations in China driven by the combined forces of open-door economic reform and the sweeping trend of globalization. This increase has led this phenomenon to be called the largest migration in human history (Zhang, 2004). Findings from rural household surveys conducted by the Chinese National Bureau of Statistics have shown that the number of individual migrants leaving rural areas reached 137 million in 2007 (Leng & Park, 2010). Another study revealed that rural-to-urban migrants have to face formidable barriers in primary education and medical care due to the location-based public resource distribution and management systems (Xiang, 2007). A consequence of this is that a considerable number of married rural-to-urban migrants cannot afford to support their family in the destination cities. As a result, migration is usually associated with family separations, including those between parents who migrate and children who are left behind (Leng & Park, 2010). Nationwide, approximately 15% of all rural families include at least one member who has migrated to an urban area (Wen & Lin, 2012). According to recent national surveys, over 58 million children in China have been found to be left behind by their migratory parents, accounting for over 25% of rural children (China Women's Federation, 2008). These left-behind children, having separated from one or both of their parents, form a special youth

population and have drawn serious attention from various fields (Fan et al., 2009; Wen & Lin, 2012).

1.2 Theoretical background of the study

As the overall development of each individual is highlighted as the fundamental goal of the New Curriculum Reform, theories related to human development have been utilized to explore the environmental determinants of affective development. The linkages between the child's home environment and the child's school environment have drawn great attention by researchers in socialization and development studies (Ryan & Adams, 1995; Scaringello, 2002). Within these two developmental contexts, adolescents are influenced by the interaction with multiple socialization agents, such as their parents, teachers, and peers (Maccoby & Martin, 1983; Wentzel, 1999). Especially, adolescence is regarded as a particular period of human development in which the interface of the school and home contexts gains critical importance (Paulson, 1994; Steinberg & Silk, 2002). Adolescents are transformed from a highly dependent and controlled characteristic of childhood into a period marked by increasing awareness of self-exploration and autonomy (Wentzel & Battle, 2001). Bronfenbrenner (1979) also pointed out these two environmental contexts in the ecology theory that defines human development as forming lasting changes in the way each person perceives and deals with his/her environment. This system of human development has four levels (the micro-, meso-, exo-, and macro-systems). A microsystem is a pattern

including activities and interpersonal relations that experienced by the developing person. A mesosystem comprises the interrelations among two or more settings in which the developing person actively participates, such as the relations among home, school and peer group (Bronfenbrenner, 1979). An exosystem refers to one or more settings that do not include the person as the direct participant, but in which events could influence, such as parent's place of work, the activities of the local school board and community. The macrosystem refers to the larger level of the subculture or the whole culture. Dyad is the basic unit of the ecological environment that focuses on the relation between human and specific environments. Although the literature of development psychology includes frequent references to dyads as structures characterized by reciprocal relations, in practice, this principle has often been disregarded (Bronfenbrenner, 1979). In order to narrow down the environmental determinants which have the significant impacts on adolescents based on socialization and development studies, the current research only focused on mesosystem in Bronfenrenner's theory. For exploring the environmental impacts of the theoretical model, parenting style and classroom environment were chosen in this study to meet these substantive and methodological requirements.

Darling and Steinberg (1993) defined parenting style as the emotional climate in which parents raise their children. Sears et al. (1957) found that the children from a love-oriented disciplinary family are more likely to internalize the same values with their parents than the children from an object-oriented disciplinary family. They also found that the

parental love-oriented strategies are benefit for children's development of self-control and self-regulation. Classroom environment has a special Chinese culture-based concept that is quite different from the definition in most foreign literature. Compared to that in foreign countries, class is the basic unit constructing the school system, and has an extraordinarily stable quality in China. Classroom is consisted of the head teacher (who is in charge of the class) and students. During the school years, students carry out their social lives through learning and playing with their classmates and teachers. Classroom forms the most important developmental environment for students next to family (Jiang, 2004). Based on comprehensive evidence from Chinese culture-based quantitative and qualitative analyses, Jiang (2004) determined the five main elements of a classroom environment in a Chinese setting: relationship between head teacher and student, relationship between student and student, discipline of the class, competition, and study burden. The lack of empirical investigation into these research areas renders the present study indispensable for exploring the environmental determinants of a child's affective development. The findings of this research will provide a critical and original perspective on affective objectives attainment under the New Curriculum Reform in China and its linkages to home and school environments. The findings of this research will help improve family rearing patterns and teaching styles as well as students' affective development.

1.3 Purpose of the study and research questions

This study aims to fill the current research gaps surrounding the important issue of affective objectives by examining the factor structure of affective objectives and to assess students' affective objectives attainment in rural China by exploring the impact of parenting styles and classroom environments on students' affective attainment. The notions of affective objectives and environmental determinants will be discussed in detail in later sections. To achieve the study objectives, the following questions need to be answered:

Students' affective objectives attainment:

1. To what extent do students attain affective objectives in western rural China?
2. Do the affective objectives attainments of rural students differ according to the student's grade, gender, and parental migration?

Effects of parenting styles:

1. What types of parenting styles exist in western rural China?
2. How are different parenting styles associated with students' affective objectives attainment?

Effects of classroom environments:

1. Do students' perceptions of the classroom environment differ according to their demographic characteristics?
2. How do classroom environmental indicators relate to students' affective objectives attainment?

Effects of combined parenting style and classroom environmental factors:

1. How do parenting style and classroom environmental variables explain the attainment of students' affective objectives?

1.4 Significance of the study

The current study attempts to expand the research by exploring the environmental determinants of family and school to understand students' affective objectives attainment under the New Curriculum Reform in rural China. There are several reasons why a study of this nature is important. First, the New Curriculum Reform lacks a number of objective and subjective conditions, and requires further improvement—a problem that must be studied and addressed (Hao, 2006; Ma, 2000). This research contributes to the Chinese literature through its in-depth examination of the definitions and concepts of affective objectives under the New Curriculum Reform and its analysis of subject-specific curriculum standards. This study is the first to assess students' affective objectives attainment utilizing an explicit structure of a statistical model. Through its design of an appropriate questionnaire to capture students' affective development, this research provides a promising measurement tool for future curriculum evaluation purposes.

Second, although left-behind children have been commonly recognized as a serious social phenomenon, the circumstances of those who have remained immobile in rural areas have not been empirically examined in detail (Yeoh & Lam, 2007). This study conducted a

more in-depth investigation and analysis of the affective objectives attainment of left-behind children based on data from a large-scale sampling. In addition, I also examined the different types of family and class environmental determinants of rural children and their impacts on children's affective development. Furthermore, through analyzing the impacts of parenting style and classroom environmental factors and illuminating the linkage among family, school, and individuals, this study found important evidence of environmental determinants. The main findings of this research with regard to the significance of family- and class-level factors lend empirical support to the ecological model and social/educational psychology of child affective development. Results from this research have important and practical implications for school administrators, the Ministry of Education of China, and particularly educational practitioners: they give insight into the current situation of rural students' affective character development and the ways of promoting such development in their normal family and school life. This present study offers policy makers and educational researchers a new and critical perspective on affective objectives assessment to boost human character building for the purpose of educational reform.

1.5 Conceptual framework

The current New Curriculum Reform aims to develop the multi-faceted competencies of a new generation of citizens, and has necessarily re-oriented curricular goals to all-rounded human development (Zhou & Zhu, 2006). Affective objectives, a

newly raised and the most highlighted issue, require recognition and study so their contribution to students' overall development can be determined. The question of how people develop throughout their lives, and how social context can influence possibilities for individuals, has attracted a number of scholars to give human psychological processes prominence in human development. Bronfenbrenner (1979) proposed an ecological systems model of the lifelong progressive accommodations that individuals make to the changing environments in which they develop. This dominant theoretical framework in developmental psychology functions as an important basis for analyzing these overlapping and interacting social contexts, which are not distinguishable by reference to linear variables but are analyzed in systematic terms. Among a series of systems, the innermost level is the micro-system, which is the direct environment for individual activity and interaction. Although ecological systems theory has argued that the dyad is the basic unit of analysis in the micro-system and is characterized by reciprocal relations, it has often been disregarded in practice. Thus, recognition of this relationship provides the key to understanding developmental changes in not only the children but also the adults who serve as primary caregivers (Bronfenbrenner, 1979).

Most Western literature in psychology and sociology has identified the primary social domains that shape children's developmental trajectories as family, school, and peer groups. Among various family environmental factors, parenting style is considered to be the most important determinant influencing an individual's special characteristics. Parenting

style indicates the emotional collective expressed by a parent's attitude and behavior; it is also a combination of the parent's rearing wisdom, parenting behavior, and emotions. It does not change with the environment and reflects the essence of parent-child communications (Nancy & Laurence, 1993). Abundant researchers have found that parenting style has a predictable function in children's personality (Zheng, 2009), self-esteem (Dehart, Pelham, & Tennen, 2006), creativity (Gu, Chen, & Xu, 2003), and etc. The area of classroom learning environments is an example of a thriving field of research that has involved many promising studies of environmental variables. However, the researches focusing on classroom environment has hitherto been considered not making use of a person-environment interactional perspective (Fraser & Fisher, 1983). International researches have shown the relation between students' perceptions of the psychosocial characteristics of a classroom learning environment and students' cognitive and affective achievements (Fraser, 1980; Fraser & Walberg, 1981). Meanwhile, various forms of classroom environment assessment tools have been designed and widely used to examine student perceptions of classroom learning environments in Western countries. Epstein's (1987) theoretical model of overlapping spheres of influence also provides a useful conceptual framework for acquiring a global understanding of children's development. Deslandes et al. (1997) similarly focused on the roles that parents and the school need to play and on the linkage that is required between schools and families to promote a child's success. Aiming to complete the model, Deslandes et al. (1994) proposed to add the

parenting style variable to the external structure of the family sphere. In summary, the interactions among individuals, parenting styles, and classroom environments are pivotal for children's development. Therefore, the conceptual framework of the present research is based on Bronfenbrenner's (1979), Epstein's (1987), and Deslandes et al.'s (1997) models, as shown below:

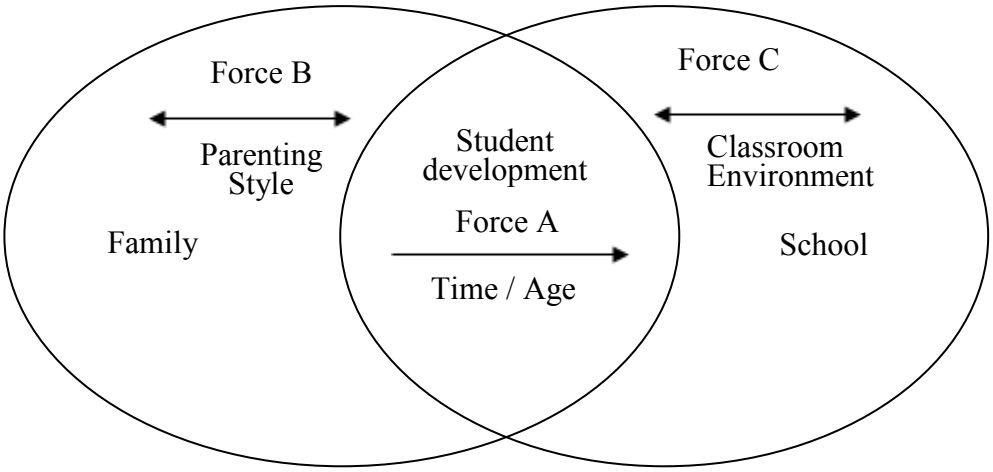

Figure 1 A conceptual model for the present research created by author modifying the models of Bronfenbrenner (1979), Epstein (1987), and Deslandes et al. (1997).

In the model, school and family are represented by two spheres, and these two spheres can be pushed together or pulled apart depending on the collaboration degree between family and school (Deslandes et al, 1997). Three major forces determine the amount of intersection: force A refers to individual and historic time, the age, and grade level of the student; force B indicates the family practice between parents and the individual, which focuses on parenting style in the present study; force C represents the relation between the individual and the school, which focuses on the class level. Students are central

to the model characterized by their developmental processes. The framework of the conceptual model dictates the following hypotheses for testing:

H1: Students' affective development is characterized by their gender, grade, and parental migration status.

H2: Different parenting styles may cause different levels of students' affective objectives attainment.

H3: Classroom environment has an influential impact on students' affective development according to the class level.

H4: Parenting styles and classroom environments may provide different explanations for students' acquisition of affective characteristics.

1.6 Limitations of the study

Several potential limitations of this study are worth noting. First, this study is based on cross-sectional data, which prohibit us from determining any causal associations between an individual student's psychological characteristics and affective objectives attainment. Except for interpersonal and contextual factors, the child's intrapersonal psychological characteristics are equally if not more important in shaping developmental outcomes (Wen & Lin, 2012). That said, differences and similarities among students' psychological factors would be neglected in shaping the trajectories of further adolescent outcomes. Longitudinal studies have recommended that inferences of the examination should focus more on

directionality and causality. Second, despite our efforts to ensure the representativeness of the sample, the participants were conveniently chosen from two rural counties in the Gansu Province of northwest China, thereby limiting the generalization of our findings to other areas of the country. In addition, due to the poor conditions in the research area, the family socio-economic status is not quite different among the participants. Therefore, I could not determine whether socio-economic status moderates parenting styles or students' affective development. For instance, Smith and Green (2007) suggested that less affluent parents tend to employ more punitive parenting strategies compared with more affluent counterparts. Further studies should be carried out on whether family socio-economic status has an important function in students' affective objectives attainment. Third, the affective objectives questionnaire utilized in this study has only four items under each affective objective to maintain a controlled length of the examination tool. Some objectives may not be extractable through exploratory factor analysis because of the small number of items. Further studies should add two or three carefully examined items under each affective objective and maintain a balance between the length and accuracy of the questionnaire. Fourth, parental rearing skills was hypothesized to be the most influential factor in the family setting as specified in the research framework. Other caregivers' (such as relatives, grandparents and etc) impacts on adolescents' affective development were not considered in the current research. Thus, question 5 "whom do you usually live with" in the general information part of the questionnaire survey was not used in the data analysis (see Appendix

A). It would be meaningful for researchers to identify different caregivers' rearing patterns in adolescents' development process in the future studies, especially for left-behind children. Last, but definitely not least, the use of self-reporting for information gathering may not be adequate for fully extracting the details of adolescents' affective development, parenting styles, and classroom environments. This kind of self-reporting without independent validation might result in an element of report bias. It would be desirable to include classroom observations, behavioral ratings, or interviews in future research. However, researchers, such as Anderson and Bourke (2002), have stated that self-reported questionnaires have more advantages than observational methods do in assessing these complex affective characteristics (further details will be discussed in Chapter Two). Moreover, it is critical to understand adolescents' experiences from their own emotional representations. Thus, it is not the experience per se that results in the outcome, but how the experience is interpreted and internalized (Ripoll-Nunez & Rohner, 2006). Despite these potential limitations, the main contribution of the current study is the design of a reliable and valid assessment tool for an affective objectives evaluation. Intended for furthering curriculum development in rural schools, the findings also include significant suggestions for the promotion of affect objectives from both family and school perspectives, as well as clarification of the kind of problems that might exist and how they might be improved.

1.7 Structure of the dissertation

This thesis is segmented into five chapters. Chapter One is comprised of the historical and theoretical background of the study, purpose of the study and research questions, significance of the study, conceptual framework, limitations of the study, and structure of the dissertation. Chapter Two provides a literature review of the research related to the current study, including studies on affective objectives from both Chinese and foreign perspectives, information on the affective assessments used in China, the designing process of the affective objectives questionnaire, the current situation of left-behind children, parental rearing patterns, and classroom environments. The methodology utilized in this study is discussed in Chapter Three, which contains the research design, samples, the research site, data collection, instrumentations, and analytic techniques. Chapter Four presents a factor structure exploration of the affective objectives questionnaire, measures students' affective objectives attainment by clarifying the patterns of parenting styles and classroom environments, and summarizes and discusses the research findings by highlighting the social and cultural aspects of students' affective development. The last chapter includes an overview of the study, comprehensive conclusions, some recommendations at the levels of policy, school, and family, and directions for future research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter first compares the concept of affective objectives from both foreign and Chinese perspectives and then discusses the affective assessments that are currently being utilized in China. This section also demonstrates the designing process of affective objectives in this study based on the subject-specific curriculum standards (grades 7-9) of three main subjects under the new curriculum. The second section reviews the vast literature on the concepts of left-behind children in rural areas from emotional-mental, health-behavioral, and academic-educational approaches. The third section discusses the concept of parenting style widely examined in Western and Chinese literature and illustrates the methodological gaps in the current research in China. The last section reviews the studies related to the classroom environment setting and describes the associated impact variables that were tested in this research.

2.1 Affective domain

The importance of affect was first raised in the mid-twentieth century. Before that, affect was excluded from the area of mainstream psychology. After Robert Zajonc's instigation of widespread discussion about the relationship between affect and cognition, psychologists in America began to recognize that affect has a specific contribution to cognition and inevitably influences the cognition process, especially cognitive strategy

(Zajonc, 1980). The significance of affect has also been definitively observed in fields other than cognitive interaction; for instance, Fredrickson (2001) argued that positive affect could help to increase problem-solving ability, creativity, and the motivation to study. Other researchers have also shown that affect plays a crucial role in the acquisition of knowledge and moral education, and the development of a good personality. Binet and Simon (1916) stated that children's development of non-intellectual characteristics in schools is at least as important as the development of intellectual characteristics. Countries like the United States have shown strong public support for the affective outcomes of education, as evident in a 1994 Gallup poll.

2.1.1 Affect in Western education

Classifying behaviors into taxonomies was one way researchers in many fields have set boundaries to delineate an area and organize ideas and concepts within those boundaries. Educators such as Krathwohl, Bloom, and Masia (1964), Gephart and Ingle (1976), and Brandhorst (1978) have developed several taxonomies in the affect domain in order to facilitate the teaching and learning process in the classroom. One taxonomy that was proposed by Gephart and Ingle is considered most useful because it provides an ideal overview from the perspective of the scope and breadth of the affective domain. This taxonomy included two major branches: physiological responses or behaviors and psychosocial responses or behaviors. Physiological responses or behaviors are more closely

related to the medical field whereas psychosocial behaviors are most closely related to the education and psychology fields. For example, values, emotions and perceptions are associated with psycho-social area and may not be of major concern to medical researchers. Among these taxonomies, the one developed by Krathwohl, et al. (1964) was well known and most widely used, and it was a landmark schema due to its most prescriptive traits. The authors divided development of the affective domain into five levels: receiving, responding, valuing, organization, and characterization (Krathwohl, et al., 1964). "Receiving" refers to learners' willingness to receive or attend a certain phenomenon of stimuli, such as classroom discussions, role playing, textbook reading, etc. This is the lowest level of affective learning, and the learning outcomes range from simple awareness to controlled or selected attention. The second level, which is "responding," indicates the desire of the student to be actively involved in a phenomenon, and the learning outcomes include acquiescence in responding, a willingness to respond, and satisfaction in the response (behaving with pleasure, zest, or enjoyment). "Valuing" means the value that a learner holds or attaches to a particular phenomenon or subject. Learning outcomes in this area range from acceptance of a value to preference and commitment. The behavior in this level is consistent and stable so that the value held is clearly identifiable. "Organization" refers to the learners' gathering and conceptualization of different values, and the organization of their own value system. In this process, the emphasis is on comparing, relating, and synthesizing values. The highest level of characterization by a value or value set is when the

learner has a value system organized into an internally consistent form to which they adapt their behavior in certain kinds of ways, and the behavior is pervasive, consistent, and predictable. Central to this taxonomy is the assumption that lower-level behaviors are prerequisites for higher-level behaviors. The Affective Taxonomy developed by Krathwhol et al. is considered to be the most helpful for classifying objectives in the affective domain because it also provides illustrative verbs for each level. Taking "receiving" for example, the verbs related to this objective are "asks," "chooses," "describes," "follows," "gives," "holds," "identifies," etc. Under "responding," the relative verbs are "answers," "assists," "complies," "conforms," "discusses," "greets," "helps," "labels," "performs," "practices," etc. "Valuing" includes behaviors such as "completes," "describes," "differentiates," "explains," "forms," "initiates," "invites," "joins," etc. All of these traits make the taxonomy useful at the curriculum construction level. This taxonomy has also been widely used to develop and categorize objectives for classroom instruction and research purposes. However, Martin and Briggs (1986) critically pointed out that evidence for the hierarchical validity of the taxonomy has been unconvincing and that very few studies have been conducted. For instance, Lewy (1968) conducted a study based on Krathwohl's affective taxonomy: while the findings provided descriptive and empirical support for the first three levels, they did not include the highest-level characterization or order the fourth-level organization as expected. Except for Lewy's study, other researches also failed to provide

strong evidence for the hierarchical order of Krathwohl's taxonomy (Airasian & Bart, 1975; Bart & Airasian, 1974).

Although taxonomies such as the ones mentioned above have provided a sufficient set of guidelines for researchers studying the affective domain, Martin and Briggs (1986) listed two important and striking limitations of the existing affective taxonomies. First, they argued that the taxonomies are too general and abstract, and second, that the taxonomic coverage of affective constructs is limited. To address this second point, most arguments have suggested that the affective domain should cover not only a category of attitudes, values, and morals, but also a category of behaviors related to self-development. Considering all of the limitations mentioned above, Martin and Briggs (1986) proposed taxonomy of the affective domain and defined affect as a category term that catalogues a class of behaviors with both an emotional tone and a cognitive component. In this taxonomy, self-development is placed at the apex of the "affective tree," as it is regarded as the most inclusive of all affective components. "Branches" under the self-development include attributions, social competence, values, morals and ethics, continuing motivation, etc. The taxonomy proposed by Martin and Briggs is superior to other taxonomies for the following reasons: first, it covers a more complete scale in the psycho-social affective area and identifies the components of the affective domain (e.g., self-development); second, the taxonomy interacts with cognition and makes the links more explicit compared to Krathwohl et al.'s; third, it establishes the capability verbs of the affective domain, enabling

teachers and instructional designers to plan lessons. Despite all of the advantages mentioned above, some potential limitations should be addressed. The large scale of the affective taxonomy makes it difficult to evaluate, and some components are hard to differentiate in detail (such as values and attitudes, attributions and social competence, motivation and interest). In addition, little empirical support has been provided for the placement of attributions and the relationships of all components on the "affective tree." Even though the existing taxonomies have been criticized for being too general, overly dependent on cognition, and limited in empirical support, they provide sufficient guidelines for researchers and educational practitioners to study the affective domain.

2.1.2 Affect in Chinese education

The earliest idea of affective education in China can be traced back to the Spring and Autumn Periods. Key philosopher Monzi once stated in *Confucian Analects* that people who know how to study are inferior to those who like studying, while people who like studying are inferior to those who take studying as a joy. This expression of active learning can also be found in Western affective literature: the behaviors that educators want to cultivate in the affective domain are generally voluntary (Martin & Briggs, 1986). Modern Chinese psychologists and educators have made efforts to understand and study affective learning as well. Yu (1999) considered three aspects in affective objectives: the cultivation of students' social emotions (including moral, sense, and aesthetics); the enhancement of

self-emotion and self-control; and the promotion of the affective experience between the self and the environment. In 2001, the New Curriculum Reform was promulgated, defining such affective objectives as emotion, attitude, and value. This major breakthrough of shifting the focus from discipline-based knowledge and narrowly defined "basic skills" to the three dimensions of curriculum (knowledge and skills, processes and approaches, and affective/attitudinal/value) has aroused great attention, especially in the form of the new emphasis on affective objectives.

Compared to the complete theories and studies of the affective domain in foreign countries, most Chinese literatures have been based on theoretical description, lacking an empirical analysis of the affective objectives in the new curriculum. Yang (2008), Sun (2009), Ren (2009), and Zhong (2011) discussed the meanings of such affective objectives as emotion, attitude, and value, as well as the relationships among three-dimensional objectives. However, the definitions of affective objectives that they gave are restricted to literal meanings, which prevented a detailed analysis of the new curriculum. For instance, emotion was defined as the direction of affect and emotional experience, which include study enthusiasm, interests, love, happiness, and aesthetics, among others (Ren, 2009). Zhong (2011) regarded affect as indicative of not only study interest, study enthusiasm, and study motivation, but also inner experience and richness of mind. Attitude has been defined as study attitude, study responsibility, optimistic life attitude, scientific attitude, and life attitude. Value emphasizes the unification of self-value and social value, scientific value

and humanistic value, and human value and natural value. Liu (2003) considered that attitude refers to beliefs and related emotional experiences, all of which have an impact on readiness and tendency of behavior. Values have a commanding and integral function in people's minds, attitudes, and behavioral intentions. These unclear definitions not only render it difficult for researchers to conduct relative studies, but also present difficulties for educational practitioners in teaching and evaluating affective objectives in the classroom (Zhang, 2009). Li (2011) criticized the state of current research with three points: first, studies on affective objectives are scarce. Even though research on affective education has been increasing, little has been related to affective objectives. Second, the number of professional education researchers involved has been insufficient. Most studies have been written by primary- and secondary-school teachers, and the contents have generally been about teaching practices without a theoretical basis. Third, literature on affective objectives attainment has usually been from the perspective of individual subjects. Thus, the similarity and common features among subjects have been neglected. Furthermore, most empirical studies in China have suggested that affective objectives under the New Curriculum Reform are quite similar to the taxonomy proposed by Krathwohl and colleagues, and have accordingly made their evaluations based on that taxonomy (Zhou, Lu, & Lu, 2002; Lu, Liu, & He, 2007; Wei, 2012; Lu, 2012). This taxonomy might not be sufficient for both formative and summative evaluation purposes due to its overly general and limited coverage of affective constructs. In Zhou et al.'s (2002) study, for example, they summarized

affective objectives into three aspects (moral, sense, and aesthetics) for the questionnaire and evaluated students' affective attainment based on Krathwohl's affective taxonomy. Their classification of affect lacked theoretical basis, and had difficulty with representing the five-level hierarchical transformation of the original taxonomy. Lu and colleagues (2007) also conducted one study on affective assessment in classroom teaching. The questionnaire was developed according to the psychological perspective of Krathwohl's affective taxonomy, and the target affect words in each item were rigidly examined based on Western measurement tools and the Chinese dictionary. This assessment tool might not meet the requirement of affective objectives evaluation for three reasons. (1) As Martin and Briggs (1986) argued that the affective domain and its concepts are so broad, the simple word testing could not adequately reveal the state of an individual's affective development. (2) The affect word-based questionnaire could be considered appropriate for classroom formative assessments, but not for summative evaluations. In other words, as the educational objectives in each subject and the different stages of the curriculum are diversified, one measurement tool might not meet both purposes. (3) As the assessment tool was designed based on psychological aspects, it may be challenging for teachers and educational practitioners to utilize and analyze in normal classroom teaching settings. To sum up, research related to affective objectives in the field of Chinese education still lacks theoretical foundations, systematic analyses, and empirical practices. Later sections will

provide a sharp view based on Western theories and Chinese cultural concepts to clarify the meaning and the measurement of affective objectives in the current research.

2.1.3 How to assess affective objectives

Before starting to assess affective objectives, the definition problems are worth mentioning. Well-conceived and clearly communicated definitions are keys to understanding affect. Anderson and Bourke (2000) pointed out three important functions of a good definition of affective objectives: (a) select or design an appropriate assessment instrument, (b) examine the technical quality of the instrument, and (c) interpret the results. The lack of definition and focus has made measurement of and research related to the domain difficult; and it has made translation of affective behaviors into classroom practice inadequate (Martin & Briggs, 1986). Bills (1976) also stated that educators will never be able to deal with affect in the classroom or for research without a better conceptual understanding of affect.

In the process of assessing affective objectives, it is also important to distinguish between the means and the ends. Affect means refer to learning environments and educational activities and strategies that facilitate the acquisition of an affective behavior. Affect ends or outcomes refer to behavioral changes that are expected to occur as a result of engaging in activities (Martin & Briggs, 1986). In the special object of affect, affective characteristics are normally a means to an end. For instance, students who possess positive

affective characteristics usually tend to achieve more attentive, more persistent, and less disruptive ends (Anderson and Bourke, 2000).

Two global methods of gathering information about the vast majority of human affective characteristics are the observational method and the self-report method. The observational method refers to gathering information by examining the person being assessed. The self-report method refers to gathering information by asking the person questions and listening to the responses. However, as Anderson and Bourke (2000) stated, the observational method has three problems comparing to self-report method. First, there is the problem of inferring affective characteristics from overt behavior. Second, there is the problem of observing behaviors relevant to the affective characteristic. Third, there is the problem of misinterpreting the behavior seen by the observer. Even though self-report method also has challenges to implement and the problems of observational method are not impossible to solve, but the proposed solutions are costly in time and money and are often somewhat impractical in the context of schools (Anderson & Bourke, 2002). For these reasons, the study utilized the self-report method (self-designed questionnaire) to examine students' affective development.

2.2 Questionnaire design process

2.2.1 Analysis of subject-specific curriculum standards

To clearly and concisely capture affective objectives in China, subject-specific curriculum standards (7^{th} to 9^{th} grades) of the New Curriculum are analyzed in order to precisely define affective objectives under Chinese concept. As shown in Table 1, three subjects (Moral Character Building, Chinese Language, and Mathematics) are selected for analysis because they take up almost half the total class time.

Table 1 Percentage of Total Class Hours for Various Subjects in 9-Year Compulsory Education in China

Percentage / Subjects	Previous Curriculum Scheme	New Curriculum Scheme	Increase/Decrease
Moral Character Building	6.6% (including Society)	7%-9%	+
Chinese Language	23.8%	20%-22%	_
Mathematics	15.7%	13%-15%	_
Foreign Language	4.3%	6%-8%	+
Art (or Music, Fine Art)	11%	9%-11%	~
Physical Education	8%	10%-11%	+
(Comprehensive Practice) Activity, Local and School Curriculum	21.5% (including productive Labor and Work Techniques)	16%-20%	_

Note. Source: Zhou and Zhu (2006) Educational Reform and Curriculum Change in China: A Comparative Case Study.

Based on the affective objectives relevant to each subject, key elements are extracted for coding. Four main affective objectives under Mathematics were as follows: (1) Participate in mathematics activities and have the curiosity and desire to acquire knowledge; (2) Enjoy the happiness of success, overcome difficulties in solving mathematics problems, and have courage and confidence in learning mathematics; (3) Dare to stand up for your own ideas, dare to question and innovate, and develop a habit of conscientious, independent thinking and cooperation; and (4) Develop a rigorous and realistic scientific attitude (CMOE, 2011a). Extracted key elements include interest in learning, bravery, confidence, innovation, independent, conscientious, and cooperation. Four main affective objectives under Moral Character Building are as follows: (1) Love your life, develop self-esteem and independent, and form a diligent and optimistic attitude; (2) Respect your parents, form a civilized, honest, kind and tolerant character; love collectivity and cooperate with others; (3) Advocate fairness and justice; (4) Love your hometown and respect the culture difference among various countries and ethnic minorities; (5) Love and take care of nature (CMOE, 2011b). Extracted key elements include self-esteem, independent, hope, gratitude, social intelligence, forgiveness and kindness. The same analysis process was carried out for Chinese Language and Moral Character Building curriculum standards. Five main affective objectives under Chinese language are: (1) Appreciate literature works and have your own emotional experience; (2) Try to understand the scientific spirit and thinking method through reading scientific literature; (3) Discover the beauty in your life, have real feelings

and creativity in your writing; (4) Learn how to communicate in a civilized way, have patience when you are listening and have confidence to express your own opinion in discussion; (5) Raise interesting questions in your study and life, discuss them with other students and enjoy the happiness of cooperation (CMOE, 2011c). Extracted key elements are aesthetic, open-mindedness, creativity, social intelligence, self-confidence and love of learning.

Summarized results have shown a relatively broad concept of affective objectives in China. Affective objectives are not purely affect-oriented, and are more likely characterized by strengths and building of virtues. According to the Moral Character Building subject standards, several traditional Chinese virtues such as gratitude, forgiveness, and integrity were also considered key affective targets. From the summary of affective objectives, one can conclude that most affective objectives overlapped with the Values in Action (VIA) Classification (Peterson & Seligman, 2004). This classification is considered one of the most systematic research methods for character strengths and virtues. The VIA Classification includes primary cultures from around the world, and there are six virtues, and 24 character strengths (Peterson & Seligman, 2004). After analysis, I extracted 16 main affective objectives under the New Curriculum Reform and summarized their definitions using the VIA Classification of character strengths as a reference in Table 2. These 16 main affective objectives are creativity, open-mindedness, love of learning, bravery, integrity,

kindness, forgiveness, citizenship, fairness, social intelligence, self-esteem, self-confidence, independence, aesthetic, gratitude and hope.

Table 2 Definitions of 16 Main Affective Objectives under the New Curriculum Reform

1. Creativity: Thinking of novel and productive ways to do things; includes artistic achievement but is not limited to it.
2. Open-mindedness: Thinking variously referred to as judgment, critical thinking, rationality, or open-mindedness.
3. Love of learning: Mastering new skills, topics, and bodies of knowledge, whether on one's own or formally; obviously related to the strength of curiosity but goes beyond it to describe the tendency to add systematically to what one knows.
4. Bravery: Not shrinking from threat, challenge, difficulty, or pain; speaking up for what is right even if there is opposition; acting on convictions even if unpopular; includes physical bravery but is not limited to it.
5. Integrity: Speaking the truth but more broadly presenting oneself in a genuine way, being without pretense; taking responsibility for one's feelings and actions.
6. Kindness: Doing favors and good deeds for others; helping them; taking care of them.
7. Forgiveness: Forgiving those who have done wrong; giving people a second chance; not being vengeful.
8. Citizenship: Working well as a member of a group or team; being loyal to the group; doing one's share.
9. Fairness: Treating all people the same according to notions of fairness and justice; not letting personal feelings bias decisions about others; giving everyone a fair chance.
10. Social intelligence: Being aware of the motives and feelings of other people and oneself; knowing what to do to fit in to different social situations; knowing what makes other people tick.
11. Self-esteem: Respecting oneself; not kowtowing to other people; not allowing other people's discrimination.
12. Self-confidence: Having the confidence to do things and to deal with other people; not being arrogant.
13. Independence: Accomplishing a task by one's own ability; not relying on other people.
14. Aesthetic: Noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life, from nature to art to mathematics to science to everyday experience.
15. Gratitude: Being aware of and thankful for the good things that happen; taking time to express thanks.
16. Hope: Expecting the best in the future and working to achieve it; believing that a good future is something that can be brought about.

Note. Source: Summarized by author from subject-specific curriculum standards (2011) of Moral Character Building, Chinese Language, and Mathematics using the Values in Action Classification as a reference (Park, Peterson, & Seligman, 2004).

2.2.2 Explanation of 16 affective objectives

Creativity is one of the character strengths and virtues proposed by Peterson and Seligman. Creativity entails two essential components: a creative person must produce ideas or behaviors that are recognizably original; relative behaviors must also be adaptive. The individual's originality must make a positive contribution to that person's life or to the life of others (Peterson & Seligman, 2004). Creativity is also regarded as an important quality of students' over-all development in the Chinese language and Mathematics curriculum standards. For instance, the overall goal of Chinese language curriculum objectives clearly states that students should learn actively through inquiries and creativity (CMOE, 2011c). Details of how to promote creative learning can be found in the subject of writing requirements (grades 7-9): observe life from multiple perspectives, capture the characteristics of the subject, and express yourself creatively.

Open-mindedness can also be comprehended as judgment or critical thinking. Open-mindedness is a part of character strengths because it is included in virtually all of the ancient and modern virtue catalogs. It is the willingness to search actively for evidence against one's favored beliefs, plans, or goals, and to weigh such evidence fairly when it is available (Peterson & Seligman, 2004). Chinese language curriculum standards mention that reading, writing, and oral expression should be based on one's own opinions or judgments. Mathematics standards also mention that students should rethink questions raised by others and form their own conscious evaluations (CMOE, 2011a).

Peterson & Seligman (2004) considered that people who possess the general trait of a love of learning are positively motivated to acquire new skills or knowledge or build on existing skills and knowledge. A love of learning is undoubtedly an important quality in the educational field. It is a strength that teachers would like to see in their students in the classroom and that parents would want to encourage in their children. As evident in the Mathematics and Chinese language curriculum standards, students should have an interest in and enjoy learning Mathematics and the Chinese language.

Bravery and integrity are categorized as the quality of courage in character strengths and virtues. Bravery raises the moral and social conscience of a society (May, 1978). Shelp (1984) defined bravery as the disposition to act voluntarily, perhaps fearfully, in a dangerous circumstance, in which the relevant risks are reasonably appraised, in an effort to obtain or preserve some perceived good for oneself or others while recognizing that the desired perceived good may not be realized. In the Mathematics curriculum standards, bravery is described as "experiencing the process and having the courage to overcome difficulties." Integrity captures a character trait in which people are true to themselves, accurately representing privately and publicly their internal states, intentions, and commitments (Peterson & Seligman, 2004). Moral character-building curriculum standards state, "students should understand that integrity is a valuable quality, and only while baring integrity can one be trusted by others" (CMOE, 2011b).

Kindness and social intelligence are grouped under the category of humanity in character strengths and virtues. Affective states of kindness are expected to give rise to helping behaviors that are not based on an assurance of reciprocity, reputation gain, or any other benefits to the self (Peterson & Seligman, 2004). It is written in moral character-building objectives that students should help others based on good intentions (CMOE, 2011b). Social intelligence concerns one's relationships with other people, persuasion, group members, and political power (Peterson & Seligman, 2004). Within the Chinese education perspective, it is explained in detail that students should learn appropriate ways of communicating with others and understand what emotions mean, how they progress over time, while maintaining their own positive mind frame and managing their own emotions (CMOE, 2011b).

Citizenship and fairness are under the same category of justice in character strengths and virtues. Peterson and Seligman (2004) explained that individuals with citizenship strengths have a strong sense of duty, work for the good of the group rather than for personal gain, are loyal to friends, and can be trusted to pull his or her own weight. In the objectives of moral character building, citizenship requires students to learn about the relationship between self and the team, to actively participate in school and class activities, and to have team spirit and group honor (CMOE, 2011b). Fairness is the product of moral judgment—the process by which people determine what is morally right, what is morally wrong, and what is morally proscribed (Peterson & Seligman, 2004). Moral character-

building curriculum standards state, "students should know that everyone is equal in personality and law, so one should treat others equally and not judge other people by their family background, body, intelligence, sex, and etc." (CMOE, 2011b).

Forgiveness represents a suite of pro-social changes that occur within an individual who has been offended or hurt by a relationship partner (McCullough, Pargament, & Thoresen, 2000a). In the world's major religious beliefs (i.e., Buddhism, Judaism, Islam, Hinduism, and Christianity), forgiveness is advocated as an important human quality. Chinese culture also regards forgiveness as an indispensable virtue in community activities. Moral character building also has the objective of fostering students' forgiveness toward others' mistakes during communication.

Self-esteem, self-confidence, and independence are set as student developmental objectives but excluded from the character strengths and virtues classification. These three affective objectives are considered to be integral parts of youth character building in the Chinese education perspective. Brockner et al. (1998) found that individuals with high self-esteem are more confident and self-reliant, and these individuals were more likely to believe that they have the abilities to provide meaningful input to decision-making processes. More importantly, self-esteem has been conceptualized as a resource that promotes successful adaptation during adolescence (Sandler & Twohey, 1998). Self-confidence enhances the individual's motivation; it gives anyone with a vested interest in his/her performance an incentive to build up and maintain his/her esteem (Roland & Jean, 2002). Although the

subject of independence lacks prior study, it is important for Chinese youth development. Because of the one-child policy, more and more Chinese adolescents have lost their self-care ability in their normal lives. Thus, independence has been newly added to the current research on moral character-building curriculum standards, which state, "students should adopt the life attitude of self-esteem, self-confidence, and independence, and learn from their experiences of constant strife to become stronger" (CMOE, 2011b).

Aesthetics, gratitude, and hope are classified under the category of transcendence in character strengths and virtues. As these three qualities belong to spirituality, they refer to a belief in the transcendent aspects of life. Aesthetics refers to the ability to find, recognize, and take pleasure in the existence of goodness in the physical and social worlds (Peterson & Seligman, 2004). Chinese language curriculum standards indicate that one should appreciate literary works and find the richness and colorfulness of life. Gratitude is a sense of thankfulness and joy in response to receiving a gift, whether the gift is a tangible benefit from a specific other or a moment of peaceful bliss evoked by natural beauty (Peterson & Seligman, 2004). The affective objective of gratitude in moral character-building curriculum standards states, "students should be grateful for the love and care given by parents, and show filial respect for parents and elders" (CMOE, 2011b). Hope represents a desire toward the future events or outcomes that will occur, and a feeling of confidence toward given efforts in good directions. As mentioned in the moral character-building

curriculum standards, “love your life and develop a diligent and optimistic attitude” (CMOE, 2011b).

2.2.3 Question selection and design

Before editing the initial draft of the questionnaire, some basic guidelines were compiled. First, the language used in the statements should be simple and clear to the target age group. Second, each statement should contain only one complete meaning so that students would not give confusing answers. Third, the statement should avoid endorsing everyone or no one. Fourth, double negative sentences should not be included. Items of affective objectives questionnaire were carefully selected and designed by three sources. First, appropriate questions for the study purpose selected from the original VIA Inventory of Strength (VIA-IS) questionnaire. Second, to adapt the questions to Chinese culture and the special age group, relevant questions were chosen from a Chinese virtue questionnaire (Duan et al., 2012) and a positive psychological quality questionnaire of Chinese primary and middle school students (Guan, Meng, & Keller, 2009); These two questionnaires were revised and developed by Chinese researchers to examine Chinese adolescents’ character strengths and virtues based on the VIA-IS. The findings showed good validity and reliability of the revised questionnaire. Third, questions were designed by author to better reflect students’ affective development status (e.g., self-esteem, self-confidence, independence).

Considering the length of the questionnaire, a sufficient number of items are needed to provide reliable information but not so many as to bore or deter students from giving thoughtful and accurate responses (Anderson & Bourke, 2000). The more affective characteristics that are being assessed, the more items are needed to provide information on the examined objective. Normally, four items are considered sufficiently capable for providing a good measurement. Thus, in the current study, 64 items made up the entire length of the questionnaire. As regards the number of response categories, this study utilized a four-point Likert-style format. Clear and increasing evidence has suggested that an even number of categories produces a more reliable scale than an odd number does (Andrich & Masters, 1988). As the middle (odd) category is normally designated as uncertain, unsure, or unknown, it is likely selected not only by those who are genuinely uncertain, but also by those who may have an definite opinion but do not want to express it (Anderson & Bourke, 2000). Among an even number of response categories, four would be suitable for relatively young students who may be confused by too many choices. On deciding the choice of calculating and reporting scale scores, un-weighted scale scores were chosen instead of weighted scores. This answer will vary depending on the major purpose in developing the scales and computing the scale scores. If the intention is to compare scale scores obtained from one administration to those of others, weighted scale scores should be used. If the purpose is to examine the reason behind the differences found among samples,

then un-weighted scores have the advantage of simplicity, especially if we have to deal with missing data (Anderson & Bourke, 2000).

2.3 Left-behind children

The phenomenon of left-behind children derives from parent-child separations during the process of population mobility. The existing issue of left-behind children is not only a severe one in China, but a common circumstance in all developing nations and areas. Findings of the research conducted by the United Nations Children Fund (UNICEF), United Nations Development Program (NUDP), and United Nations Office for South-South Cooperation have shown that 8.8 to 9 million children are separated from their parents in Philippine, 10 million Sri Lankan children are left behind at home, and 31 percent of Moldovan children aged between 0 and 14 are left behind at home (Pan & Ye, 2009). Luo et al. (2006) analyzed the historical background of left-behind children in China and summarized two main points. First, the left-behind populations are the result of the large migration of special groups, such as businessmen, literati, prisoners, and officers. Second, left-behind children also derive from the normal movements of the population. Several large-scale population migrations in Chinese history include *Zouxikou* and *Chuangguandong*. Nowadays, because of the "Reform and Opening-Up Policy," there has been an inevitable, massive transfer of the workforce from the countryside to the cities. This

kind of migration has generated millions of left-behind children in hometowns under the care of single parents or relatives.

Among the vast literature focused on left-behind children in China, scarcely any have clearly traced the details of this phenomenon. Most current literatures have suffered from three shortcomings. First, the definition of the age range of these left-behind children has not been the same. For instance, Liang, Hou, and Chen (2008), and Duan and Zhou (2005) regarded left-behind children as under the age of 14. While some scholars have considered that the age should be under 16 (Zou, 2006) or 18 (Ye, 2008), some have set the age range between 6 and 16 (Ding & Wu, 2004). Some studies have not even mentioned the age scale (Fan et al., 2010; Jia & Tian, 2010). In the Constitution of the People's Republic of China, children are defined as those who are under 18 years of age (Zhang, 2012). Based on relevant laws and regulations, this study established the children's age range as below 18 years old. Second, the description of the migrants' working length has not been clear. Some researchers have stated that the working length should be more than half a year (Lv, 2005) or more than four months (Ye, 2005), whereas some studies have not fixed the working length (Liang, Hou, & Chen, 2008; Jia & Tian, 2010; Su et al., 2012). Like most studies, this research did not consider the migrants' working length. Although almost all of the studies have not mentioned the number of home visits made by migrant workers, this study considered left-behind children as those whose parents visit home not more than once per month. A vague definition might widen or reduce the boundaries of left-behind children and

cause inaccuracy in the findings. Thus I defined left-behind children in this study as children whose ages are below 18 years, whose parents (both or just one) have left them at the place of household registration and do not come home more than once per month on average.

Foreign literature has analyzed the advantages and disadvantages of parental migration. In the Philippines, children of emigrants have better developmental outcomes in terms of education, nutrition, and physical health (Asis, 2006). Evidence has shown that in India, migration from rural to urban areas has led to an enhancement of educational consciousness (Srivastava & Sasikumar, 2003). On the other hand, parental absence can be harmful to child development due to lessened family support, supervision, and control. For example, a study conducted in Mongolia found that migration increases the movement of the population, thereby causing enrollment rate reduction and deficiency in teaching resources (Batbaatar et al., 2005). Left-behind children have to take care of their younger sisters or brothers, which on some degree influences their learning outcomes (Pottinger, 2005). Some reports have indicated that insufficient parental company can damage children's psychological health and performance in terms of behavioral deviation, low self-esteem, and low spirits (Glassgow & Shees, 1995; Jones, Sharpe, & Sogren, 2004).

The important issue of left-behind children has also been increasingly recognized in Chinese developmental literature. Findings on the impact of parental migration on left-behind children have yielded different conclusions in China, and rigorous empirical study

on this topic is still relatively limited. The existing studies can mainly be divided into three perspectives: educational, psychological, and sociological research. Ye (2005) pointed out that the academic score is not so different between left-behind children and children from non-migrant families, but some left-behind children have shown decreased scores due to the lack of parental monitoring and tutoring. Lv (2005) also argued that no significant differences in study interest and desire to learn exist between left-behind students and normal students. Parental absence may produce an impact on rural left-behind children in three aspects (Cao, 2007). (1) Change in study motivation: separation from parents can transfer study motivation to an emotional need. The children left behind wish to receive some affective consolation from friends or classmates in school. (2) Lack of study monitoring: whether left-behind children can be well supervised by single parents or guardians significantly influences their developmental status. (3) Inadequate learning environment: even though migrant families might be economically better off than non-migrant counterparts are, housework becomes an added burden on left-behind children. Compared to children from non-migrant families, left-behind children show psychologically more fragile outcomes, such as self-abasement, depression, self-isolation, acts of violence, hostility, and etc. Nearly 60% of left-behind children have mental problems, 65% do not want to communicate with their guardians, and 30% have stated outright that they hate their parents (Zhan & Zhang, 2005). In Jiang's (2005) study, results showed that 27.4% of left-behind children have anxiety problems, 27.6% have depression, 24.5% have the feeling of

fear, 22.7% are easily irritated, 57.6% misbehave, 35.2% have lied before, 7.4% have stolen stuffs, 30.6% have shown aggressive behavior, and 41.3% have done sabotage. Zhou (2005) asserted that primary-school students easily have emotional, communication, and inferiority problems, especially girls. Wang (2006) concluded that four family factors have an impact on left-behind children's psychological health. First, the longer the separation time is, the less healthy the children become. Second, if families cultivate less intimacy, knowledge, entertainment, and emotional expression, children are more likely to face contradiction. Third, guardians' educational background and parenting styles are pivotal to children's development. Parenting styles can be divided into four types: authoritative, authoritarian, indulgent, and neglectful (Chan & Koo, 2011). Children raised with authoritative and neglectful parenting styles have a higher risk of misbehaviors. Fourth, left-behind children living with brothers or sisters have better mental health than those raised alone. Ye (2006) argued that the issue of left-behind children is not a simple product caused by parent-children separation, but a complex result of different interactional factors from school, society, parents, and guardians. Sociological research on left-behind children has generally emphasized two directions: socialization process and social support. Fan et al. (2009) found that normal students perform best in social adjustment, whereas students whose parents have both migrated perform the worst. Wang (2006; 2007) summarized five characteristics of the socialization of left-behind children: a large degree of freedom in communication; left-behind children tend to close their hearts to others; anti-cultural thought; and long-time

interactions with the same generation. Parental and family functions are reduced through the process of children's socialization, and negative peer impacts possibly occur without parents' guidance. The value deviation of the peers influences the children to diverge from the establishment of life goals and value formation. In terms of social support, studies have found that the main support of left-behind children still derives from their parents, and that they need more care and love from teachers to relieve loneliness (Liu & Wu, 2007). Perceived social support has a significant negative effect on left-behind children's cheating, disciplinary, and illegal behaviors in lower secondary schools. Compared to the left-behind children who receive low support, the children who receive high support misbehave less (Liu & Fan, 2007). However, based on the limited empirical evidence, left-behind children do not differ much in school behaviors and health outcomes compared to those living with their parents (Xiang, 2007). More comparative studies are warranted to explore the role of parental migration in developmental outcomes among left-behind children (Wen & Lin, 2012).

2.4 Parenting styles

Among numerous family environmental factors, parenting style is a pivotal element that influences individual characteristics and development. After birth, human beings exist as individual organisms, but their basic subsistence includes parental care. Meanwhile, he/she transfers from an individual organism to a part of society (Peng, 2008). Various

literatures have shown that parenting style has a forecasting function for the multi-variables of children's development, such as personality (Zheng, 2009), self-esteem (Dehart, Pelham, & Tennen, 2006), mental health (Hu, Teng, and Wang, 2007), creativity (Gu, Chen, & Xu, 2003), happiness (Zeng, 2010), and misbehaviors (Ricky, Rinat, & Pavel, 2011). The strategies that parents employ in socializing their children and the effects of these strategies on children's developmental outcomes have been a key, albeit controversial, focus within child developmental literature (Smith & Moore, 2013). Scholars of intergenerational social mobility or status attainment have long established that family background matters a great deal in determining a person's life chances (Erikson & Goldthorpe, 1992). The Wisconsin model of status attainment (Sewell et al., 1970; Sewell & Hauser, 1980) stresses the role of aspiration in the attainment process. It also posits that aspiration is shaped by the expectations of parents and significant others. How do parents shape their children's aspirations? To address this question adequately, we need to move beyond the indirect treatment of what happens within the family. Instead, we need to study parent-child interactions directly (Chan & Koo, 2011).

Early in the twentieth century, researchers had begun to study the parenting typology in order to examine various parenting styles and behaviors. In the mid to late 1950s, Robert Sears and Eleanor Maccoby documented child-rearing practices through interviews with parents. Based on their interview data, Sears and his colleagues classified maternal disciplinary techniques into one of two distinct types: love-oriented and object-oriented

(Spera, 2005). The love-oriented style was described as the use of maternal warmth, praise, and emotional affection to respond to children's behaviors. The object-oriented style refers to the use of tangible objects to respond to children, such as time or toys (Sears et al., 1957). In examining the relationship between these disciplinary styles and child development, Sears et al. (1957) found that parental values have a unique impact: children from love-oriented families have more of a chance to internalize their parents' values than those from object-oriented families. In the myriad of early works conducted by Western researchers, Baumrind's (1971) parenting style typology (authoritative, authoritarian, and permissive) has been considered as one of the most extensive in the area of parenting. Based on the most famous and influential typological approach, Baumrind (1971) carried out extensive interviews and observations with parents to identify the primary parental typologies. Authoritative parenting style indicates child-rearing techniques that maintain a balance between love and affection and firm discipline. It contains the following elements: an expectation of mature behavior from the child and a clear establishment of standards by the parents; firm enforcement of rules and standards, etc. Authoritarian parenting style refers to the behavior of parents who tend to be strict and harsh, and have an absolute set of standards to which their children must conform. It has the following characteristics: parents attempt to shape, control, and evaluate the behavior and attitudes of their children in accordance with an absolute set of standards; parents emphasize obedience, etc. Permissive parenting style means that parents place very few rules or restrictions on their children.

Parents are tolerant and accepting toward the child's impulses, and use as little punishment as possible (Ang, 2006; Baumrind & Black, 1967). Relevant studies on these three parenting style typologies have summarized that the positive behaviors presented by authoritative parents, such as affectionate warmth and support, could cause better academic performance, communication skills, and lower externalizing/internalizing behavior problems in children; authoritarian and permissive parents usually adopt negative rearing styles, such as neglect and punishment, which always cause unsatisfactory developmental results in children (Luthar & Goldstein, 2008). For some types of individuals with special personality characteristics, three different parenting styles may have more or less serious influence (Wootton, Prick, Shelton, & Silverthorn, 1997; Dubas, Gerris, Janssens, & Vermulst, 2002). Studies have also found that children from permissive families demonstrate a higher frequency of school misconduct, substance abuse, and are also less engaged in school compared to those from authoritative or authoritarian families (Lamborn et al., 1991). Other problems accompanying the permissive parenting style are low self-esteem, low persistence toward study tasks, low tolerance for frustration, and extrinsic motivational orientation (Ginsburg & Bronstein, 1993). Although the beneficial effects of the authoritative style have consistently been demonstrated in European Americans, these effects have not always been found in ethnic minorities (Ang, 2006).

Maccoy and Martin (1983) argued that Baumrind's typology implies two underlying dimensions: responsiveness and demandingness. Baumrind (1991) noted that the

authoritative style is characterized by a balance between responsiveness and demandingness. In contrast, the authoritarian style possesses the qualities of excessive demandingness and low responsiveness. Four parenting styles could be obtained by cross-cutting responsiveness and demandingness: authoritative, authoritarian, indulgent, and neglectful (Chan & Koo, 2011). Low esteem, hopelessness, negative life satisfaction, and general psychiatric issues are often associated with hard and demanding parenting characteristics (Shek, 1999). Conversely, positive parenting characteristics such as concern and responsiveness more easily generate positive psychological well-being in adolescents (Shek, 1999). However, observing cultural diversity, researchers have stated that human interactions are not transferrable across cultural contexts because cultures differ along the lines of history, economics, customs, and levels of development (Nsamenang, 1992). Therefore, similar socialization practices might present different results cross-culturally (Smith, Springer, & Barrett, 2011). Certain inappropriate parenting behaviors in one culture may be viewed as nurturing in another (Chao, 2001; Korbin, 2003). For instance, Chan and Koo (2010) reported that children from authoritative homes show better adjustment than their peers from authoritarian families in Britain. Yet, Elias and Yee's (2009) study found no significant association between parental rearing styles and child outcomes among Malaysian adolescents. Unlike studies that use European American samples in which authoritarian is almost always associated with negative outcomes, those that use Asian adolescent samples have shown that both authoritative and authoritarian parenting styles appear to be associated

with some positive adolescent outcomes (Ang, 2006). More previous studies have given evidence on the significant difference in parenting behaviors between Eastern and Western cultures (Huang, Someya, Takahashi, Reist, & Tang, 1996; Liu & Guo, 2010). Thus, Shek (2005) noted that it is important to consider non-Western countries' parenting styles from a cross-cultural viewpoint. Further, Liu (2012) pointed out that Baumrind's three parenting style typologies neglect to investigate concrete parenting behaviors. Making a breakthrough with Baumrind's typology framework, Perris et al. (1980) developed 14 specific parental rearing behaviors, including abusive, depriving, punitive, shaming, rejecting, overprotective, over-involved, tolerant, affectionate, performance-oriented, guilt-engendering, stimulating, favoring siblings, and favoring subjects. Four subscales were found by factor analysis: rejection, emotional warmth, overprotection, and favoring subjects. Rejection is characterized by being hostile and critical, and applying punishment. Emotional warmth is shown through support, loving attention, stimulation, and acceptance. Overprotection refers to parents being fearful for the child, controlling toward the child, and anxious for his/her safety, as well as having high expectations regarding his/her achievements. Finally, favoring subjects is defined as the parents treating one child better than they treat the other siblings (Penelo, Vilad-rich, & Domènech, 2010).

In China, Confucianism and Taoism are at the core of the Chinese value system, guiding people's social behaviors and interactions. These two doctrines advocate the rejection of individuality and self-assertion, and the maintenance of a balance among

natural, human, and spiritual entities (Munro, 1985; Ryan, 1985). Confucianism advocates fulfilling social obligations, establishing interrelationships with other people, conforming to norms, respecting parents and elders, and maintaining the family reputation through individual achievements, whereas Taoism is concerned with self-control and interpersonal harmony (Fung, 1983; King & Bond, 1985). The traditional expectations of Chinese parents and parent-child communications are based on the structure of these two philosophies. A key aspect of Chinese child rearing is reciprocal expectation: parents expect children to be obedient and respectful, while parents are expected to be responsible and experienced, providing instructions that pass along cultural norms, values, and life experiences (Xu et al., 2005). Researches on Chinese parental rearing behaviors are generally based on Baumrind's three parenting style typologies and Perris et al.'s 14 specific parental rearing behaviors. Guan and Liu (1994) found that the adoption of an authoritative parenting style by parents is beneficial for children's socialization and other related specific aspects, like self-conceptualization. Children reared with the parenting styles of rejection and overprotection demonstrate more loneliness, insensibility, and difficulty with adapting to the external environment. Parental rearing behaviors of emotional warmth can promote balance in children's personality development (Wang & Fu, 2005). Comforting, encouraging, lenient, and affectionate parental rearing patterns benefit children's intelligence development, whereas punishment, abuse, rejection, overprotection, and negligence can cause children's irritability, lack of courage, and capriciousness (Fang, Xiong, & Guo, 2003; Xue, Yu, Sun,

& Jia et al., 1998). However, most studies on Chinese parental rearing behaviors have treated them as independent variables. Few researches have examined specific and concrete rearing patterns based on area and cultural characteristics. As argued by Liu and Guo (2010), parents tend to adopt the parenting practices that are appropriate to their culture, and raise their children with culturally favorable behaviors. Especially with the growing interest in the one-child policy, researches should try to explore various statistical methods to find a validated and reliable way to reflect real parental rearing behaviors and their effects.

2.5 Classroom environments

During the past 30 years, the field of learning environments has undergone significant, remarkable growth. As Hunt (1975) argued in the review "Person-Environment Interaction: a challenge found wanting before it was tried," researchers should include both the person and the environment within the same study and treat the person-environment fit as a key determinant of students' achievement. Researchers and educational policy-makers have identified the social, psychological, and behavioral characteristics of classrooms that promote students' academic success (Doll et al., 2010). Previous studies have found that learning environments have a valuable function for various research purposes in many countries (Fraser & Walberg, 1991; Goh & Khine, 2002; Khine & Fisher, 2003; Trinidad, Macnish, Aldridge, Fraser, & Wood, 2001). International research involving student perceptions of the psychosocial characteristics of classroom learning environments has been

conveniently synthesized in several major reviews into 1) the factors influencing classroom environments and 2) the effects of classroom environments on students' achievements of cognitive and affective aims (Fraser & Fisher, 1983).

Considering the structure of classroom environments, researchers have benefited from Moos's (1973) three general categories for conceptualizing human environments: relationship, personal development, and system maintenance and system change. The relationship dimension refers to the nature and intensity of personal relationships, such as mutual support, mutual help, etc. The personal development dimension is the path through which knowledge development progresses; it can also be called goal orientation. The system maintenance and system change dimension indicates the orderliness, clarity, control, and responsiveness to changes in the environment. Based on these categories, qualitative and quantitative research methods have been designed to assess and investigate learning environments (Tobin & Fraser, 1998). Researchers have developed a series of assessment tools suitable for normal or specific classroom evaluations. Fraser (1994) and colleagues conducted approximately 40 studies to make a remarkable contribution to the literature in terms of the relationship between classroom environments and students' cognitive and affective outcomes. Problems of the measuring tools were discussed throughout the questionnaire-designing process, and Fraser (1986 & 1999) used students' subjective perceptions as the assessment targets. Indicators of classroom environments were based on students' average perceptions, and dimensions were considered according to Moos's three

categories. Fraser's (1998) studies have found that the classroom environment varies according to school type, year level, and subject area.

Evidence in a series of studies has pointed out that classroom learning environments in Asia are particularly strong for students' development (Dorman & Adams, 2004). Classroom environment in China has an especially significant and special value that is different from the Western perspective (discussed in Chapter One), such as the significance of the homeroom teacher. Under the collective culture-based background, classroom environment is a prerequisite for facilitating students' active engagement in school and educational achievement. Jiang (2004) examined Fraser's (1986) questionnaire-designing process and found two issues. First, Jiang found it difficult to prove that the designer's intuitive understanding of the classroom environmental dimensions is correct. Second, Jiang also found it hard to guarantee that the real significant aspects are not missing even if the dimensions were decided by the designers. Therefore, to ensure that the assessment tools have structure validity and are realistic, classroom environmental observation cannot be omitted. In order to better adopt the Chinese educational culture and differentiate from Western classroom environmental measurements, Jiang (2004) employed three types of qualitative methods to extract the initial dimensions: one student composition with the theme of "my classroom"; another student composition with the topic of "my teacher"; and an interview with the homeroom teacher. The process of data analysis included the consideration of Moos's three categories and previous Western researchers' questionnaires,

including the Learning Environment Inventory (LEI) (Fraser, Anderson, & Walberg, 1982), Classroom Environment Scale (CES) (Moos & Trickett, 1987), Individualized Classroom Environment Questionnaire (ICEQ) (Fraser, 1990), My Class Inventory (MCI) (Fraser, Anderson, & Walberg, 1982), and Science Laboratory Environment Inventory (SLEI) (Fraser, Giddings, & McRobbie, 1992). Results showed that five factors (dimensions) are consistently associated with students' adaptation and development: relationship between teacher and student, relationship between student and student, discipline of the class, competition, and study burden. Four of these five aspects (relationship between teacher and student, relationship between student and student, discipline of the class, and competition) are significantly negatively related to students' anxiety, school avoidance, and poor interactions with peers (Tan & Chen, 2007). The student relationship dimension has a positive influence on children's respectful behaviors and forgiveness (Zhang, Zou, & Hou, 2006). Relationship with teacher, relationship with student, discipline, and study burden are positively related to students' life satisfaction (Tan & Zeng, 2007). However, regardless of Western or Chinese studies, researchers have partially focused on the impacts of classroom environment on academic performance or learning attitudes (Fraser, 1994). Researchers have emphasized aspects of student personality, and socialization development has subsequently become a relatively weak domain (Pianta, 1999). Even though more and more scholars have begun to pay attention to the effects of classroom environment on students' emotions and socialization, such as self-conceptualization, emotional adaptation, personal

relationships, and happiness (Jiang, 2005), there is still a gap in student character and strength building, especially regarding the combined influences of the family and school factors (Duan, Zhang, Li, Tang, & Duan, 2012). Thus, the present research gives a full picture of students' affective objectives attainment in a broad socio-cultural context, and examines the extent to which parenting styles and classroom environments influence students' affective achievement.

CHAPTER THREE

METHODOLOGY OF THE STUDY

This chapter provides an overview of the research methodology utilized in the present research. It includes descriptions of the research design, sample selection, and characteristics of the sample, measures, procedures, and analysis. It then details the data collection procedures, the instruments and measurement of variables used for this study, and the analytical tools appropriate for answering the established research questions.

3.1 Research design

As stated previously in section 2.1.3, the self-reporting method is superior to the observational method when assessing the complex affective characteristics of human beings (Anderson and Bourke, 2000). Thus, this present study mainly employed a questionnaire survey to examine students' affective objectives attainment, parenting styles, and classroom environments. A quantitative approach was used to explore the determinants of students' affective characteristics based on cross-sectional data chosen from two counties in the Gansu Province of northwest rural China. Dyad, the ecological structure characterized by reciprocal relations (Bronfenbrenner, 1979), was used in the parenting style and classroom environment questionnaires. It enabled the researcher to obtain a deep understanding of

students' affective characteristics in specific rural settings from social, cultural, and educational perspectives and their associations with child affective development.

3.2 Sample

Lower secondary-school students were selected as purposeful targets because the Basic New Curriculum Reform derived its objective from the compulsory basic education of nine years, and younger students might not have been able to understand the questionnaire due to their limited literacy ability. As Wang and Zhao (2011) stated, particularly central and western regions have been facing difficulties since the promotion of the new curriculum due to their poor conditions. As such, the western region was chosen to be the research site for this study. The participants were recruited from two rural counties in the Baiyin Region in northwest Gansu Province, China. Gansu is one of China's poorest provinces located in western China, ranking second to last among all provinces in rural per capita income in both 2000 and 2004. The province encompasses 390,000 km2, including the flat Loess Plateau, the Gobi Desert, some mountainous and hilly areas, and vast grasslands. According to Leng and Park (2010), Gansu was the most popular province destination provinces for migration men in 2004, followed by Xinjiang and Guangdong provinces. Considering of the minority of Xinjiang might not be able to represent the general situation in western area, only Gansu province was selected in the current research. Data were collected from three lower secondary schools (total 47 classes) with a

predominantly lower class background; thus, family background was not particularly emphasized in the later data analysis. These three schools were recommended by the Gansu education bureau that might have relative majority of left-behind children. The total sample of this study consists of 1,900 seventh-, eighth-, and ninth-grade lower secondary-school students. The collection rate is 94% (1,786 students) and the valid response rate is 88% (1,563 students). Data were collected between March and April, 2014.

Table 3 Demographic characteristics

	No-parent migration	Both-parent migration	Father-only migration	Mother-only migration
Age (M ± SD)	14.58 ± 1.37	14.96 ± 1.55	14.56 ± 1.47	15.00 ± 1.41
Male gender	474 (60.23%)	153(19.44%)	141 (17.92%)	19 (2.41%)
Grade				
7th	354 (65.31%)	80 (14.76%)	98 (18.08%)	10 (1.85%)
8th	270 (62.79%)	78 (18.14%)	78 (18.14%)	4 (0.93%)
9th	380 (64.30%)	110 (18.61%)	88 (14.89%)	13 (2.20%)
Rank among siblings				
Only one child	96 (73.28%)	22 (16.79%)	12 (9.16%)	1 (0.76%)
Eldest	388 (65.10%)	97 (16.28%)	104 (17.45%)	7 (1.74%)
In the middle	145 (59.67%)	41 (16.87%)	53 (21.81%)	4 (1.65%)
Youngest	375 (63.24%)	108 (18.21%)	95 (16.02%)	15 (2.53%)
Time for visiting home				
Monthly		80 (48.78%)	78 (47.56%)	6 (3.66%)
Half a year		128 (49.23%)	116 (44.62%)	16 (6.15%)
Yearly		50 (42.37%)	65 (55.08%)	3 (2.54%)
Above one year		10 (58.82%)	5 (29.41%)	2 (11.76%)

Table 3 shows the characteristics of the sample used in the current study. Five hundred and fifty-nine students from migrant families represent 35.76% of the whole

sample population. Among migrant families, two-parent migration is the most common (n = 268), followed by father-only migration (n = 264) and then mother-only migration (n = 27). This is consistent with patterns reported elsewhere that Gansu is popular for migrant men (Duan & Zhou, 2004; Wen & Lin, 2012). The mean participant age is 14.65 years (SD = 1.43; range 11–18), with the children from mother-only migration families being older (15.00 years) than those from father-only migration (14.56 years), both-parent migration (14.96 years), and no-parent migration families (14.58 years). Migrant mothers are a rare occurrence in the present study area (27 students). Even though the one-child policy has been implemented in China for many decades, families in rural areas still have two or more children (1,432 students have siblings). Among 559 students from migrant families, 384 answered "inside Gansu province" to the open question of "which city does your father or mother work in?" (73 missing data). This crude statistic indicates that more than half of the migrants' working places are near their hometown, so most of them can visit home monthly (n = 164) or approximately every half a year (n = 260).

3.3 Measures

3.3.1 Affective objectives questionnaire

The Affective Objectives Questionnaire (AOQ) was designed by the researcher to capture lower secondary-school students' affective objectives attainment (see Appendix A). The tool was developed to assess the 16 main affective objectives (creativity, open-

mindedness, love of learning, bravery, integrity, kindness, forgiveness, citizenship, fairness, social intelligence, self-esteem, self-confidence, independence, aesthetics, gratitude, and hope) under the new curriculum reform in China. The affective objectives questionnaire contains 64 items (16 scales, as shown in Table 1) for the self-assessment. Twenty-four of the items are reverse scored. The scale consists of two main parts. The first includes basic information (items 1–10): all participants were asked to provide information on their school, gender, age, grade, class, number of siblings, parents' workplace, and the frequency of parental home visits (for the students whose parents are working in other counties or cities). The second part contains the affective objectives questionnaire (items 11–74). The scale uses a four-point Likert-style format from 1 (*very unlike me*) to 4 (*very like me*) as suggested by Anderson and Bourke (2000) in their book on how to assess affective characteristics in schools. The measurement scales identify the thoughts and feelings experienced or the behaviors exhibited by the students in the past. An example item is "My family usually helps me wash clothes and clean my bedroom at home" (independence). Cronbach's α coefficient was calculated in the validity and reliability examination. Table 4 shows the item details under each affective objective.

Table 4 Item under 16 affective objectives

Affective Objective	Item
Creativity	1. There are always a lot of ideas fill my mind.
	14. I like doing things through methods that have not been tried before.
	21. I am not good at discovering new methods to solve math problems.

	46. The teacher always appraises my essay's content that is creative.
Open-mindedness	8. I always raise different opinion during class discussion.
	27. I feel difficult to accept different beliefs even if there are evidences.
	33. I always take other's suggestion without thinking.
	58. I think what the teacher say is right and should not be questioned.
Love of Learning	2. I often get very excited when I learn new knowledge.
	15. I don't like doing homework.
	39. I often read some literary works in my spare time.
	52. I always ask interesting questions in the process of learning.
Bravery	9. I always think ways to overcome the difficulties.
	22. I have the courage to do the right thing even when it is not popular.
	34. I defend my friends against an injustice when they are bullied.
	59. I'm afraid to learn the subjects that I'm not good at.
Integrity	28. I lie in order to achieve my purpose.
	40. I always keep my promise that I have made to other people.
	47. I hide my true feelings in order to cater to others.
	53. I never tell others secrets that my friends tell me.
Kindness	3. I don't help others if they don't ask.
	23. I feel very happy to help others.
	48. I think anybody who's in trouble should be helped and cared.
	60. I think that giving is more important than receiving.
Forgiveness	10. It's difficult for me to be reconciled with friend if we have a quarrel.
	16. I seek revenge if somebody hurts me.
	29. I forgive people who apologize to me even they have done bad things.
	41. I give people a second chance when they apologize.
Citizenship	4. Even though I don't agree with the group decision, I go along with it.
	24. I never leave litter in public place.
	35. I always admit the mistake I made.
	54. I rarely queue when I am taking a bus.
Fairness	11. I ask everyone to follow the same rules, even friends.
	42. I think teacher should treat fairly between good and poor students.
	55. I protect good friends in spite of unfair.
	61. I think that cleanser should also be respected.

Social intelligence	17. I often quarrel with my family because of trivialities.
	30. I don't feel arrogant for teacher's praise, and discouraged for their criticism.
	36. I rarely say "thank you", "I'm sorry" etc.
	49. I often have no intention of making my friends unhappy.
Self-esteem	5. I beg people in order to settle affairs.
	25. I feel angry if classmates give me the nickname and mock at me.
	43. I feel indifferent if the teacher criticizes me in public.
	62. I absolutely do not allow others to attack me with abusive words.
Self-confidence	18. I feel satisfied with my appearance.
	37. I believe I can handle things in a difficult situation.
	50. I have confidence to learn the subjects that I'm not good at.
	56. I always feel that I can't do anything.
Independence	12. I always complete homework through asking other people questions.
	19. I don't trouble others to help me do things that I can finish alone.
	31. My family usually helps me to wash clothes and clean bedroom at home.
	44. I always study under the supervision of the family.
Aesthetics	6. When I reading literature, I can feel the beauty of the words.
	26. Seeing pretty pictures or listening to beautiful music makes me feel better.
	38. I have no interest in music, art and dance.
	63. When I see beautiful scenery, I can't help but stop to admire it.
Gratitude	13. I let family and friends feel my love for them through actions.
	32. I think I need to work harder to repay teacher.
	51. I feel very happy to have my mom and dad.
	57. There are many people who I need to repay in my life.
Hope	7. I always recall the good things in life when I am upset.
	20. I don't own an ideal.
	45. I believe I will have a good future.
	64. When people see the negative side of things, I can always find the positive side.

3.3.2 Parenting style questionnaire: s-EMBU-c

S–EMBU-c, the Chinese measurement of parenting behaviors, was developed by Jiang and colleagues (2010) to characterize the parenting styles of preschool and school children based on Egna minnen Beträffande Uppfostran. The Egna minnen Beträffande Uppfostran (EMBU), One's Memories of Upbringing, was developed in Sweden by Perris, Jacobsson, Lindström, von Knorring, and Perris (1980). It is among the most commonly used retrospective parenting style measurement instruments. It consists of 81 items related to 14 aspects of parents' rearing behaviors, namely, "abusive, depriving, punitive, shaming, rejecting, overprotective, over-involved, tolerant, affectionate, performance-oriented, guilt-engendering, stimulating, favoring siblings, and favoring subjects" (Markus, Lindhout, Boer, Hoogendijk, & Arrindell, 2003). Four subscales are typically found by factor analysis, i.e., Rejection, Emotional Warmth, Overprotection, and Favoring Subjects. Considering the shortcomings of the original EMBU questionnaire, such as the excessive number of items (a total of 115), the different scales between father (6 scales) and mother (5 scales), and the diversity of Chinese culture, Jiang and colleagues (2010) revised it into a Chinese version based on the early 81-item EMBU (Perris et al., 1980). Each form for the mother and the father consists of three subscales: Rejection (6 items, e.g., "My father/mother gave me more corporal punishment than I deserved"), Emotional Warmth (7 items, e.g., "I think that my father/mother tried to make my adolescence stimulating, interesting, and instructive, for instance, by giving me good books, arranging camps for me to attend, and taking me to

clubs"), and Overprotection (8 items, e.g., "My father/mother forbade me to do things other children were allowed to do because they were afraid that something might happen to me") (see Appendix A). Item 15 is reverse scored. Scoring was done for each item with a four-point Likert scale: 1: Never; 2: Seldom; 3: Often; and 4: Most of the time. Its adequate internal reliability and construct validity with large samples in China have been shown (Jiang et al., 2010). Among 1,563 participants in the current research, 36 are from single-parent families. Considering this rare occurrence, I excluded those with parents who are divorced or widowed when examining the impacts of parental rearing behaviors on children's affective development in the later data analysis. Cronbach's alpha (α) was used to determine the internal consistency of the questionnaire. In this study, Cronbach's α was tested and showed good consistency reliability, ranging from 0.723 to 0.86.

3.3.3 Classroom Environment Questionnaire

The Classroom Environment Questionnaire (CEQ) was used to collect detailed information on classroom environments by asking students how often the described items in the questionnaire happened in the classroom setting. Based on comprehensive evidence from Chinese culture-based quantitative and qualitative analyses by Jiang (2004), the CEQ specifically assessed five factors (constructs) found to be consistently associated with students' adaptation and development: relationship between teacher and student (8 items), relationship between student and student (8 items), discipline of the class (8 items),

competition (7 items), and study burden (7 items). During the item-designing process, questionnaires commonly used in numerous Western literature were also compared, including the Learning Environment Inventory (LEI) (Fraser, Anderson & Walberg, 1982), Classroom Environment Scale (CES) (Moos & Trickett, 1987), Individualized Classroom Environment Questionnaire (ICEQ) (Fraser, 1990), My Class Inventory (MCI) (Fraser, Anderson & Walberg, 1982), and Science Laboratory Environment Inventory (SLEI) (Fraser, Giddings & McRobbie, 1992). Six of the items are reverse scored (Item 3, 5, 7, 8, 13, and 22). Scoring was done for each item with a five-point Likert scale: 1: Never; 2: Seldom; 3: Sometimes; 4: Often; and 5: Most of the time. Cronbach's α was tested in the present research and showed good consistency reliability, ranging from 0.76-0.89.

3.4 Procedures

To ensure the confidentiality of the participants, the study required merging students' family data in a confidential manner. The following procedures were necessary in the research process. The questionnaires were distributed to the students by each homeroom teacher in the morning after the researcher gave a detailed explanation of how to answer the questionnaire. This process was aimed to ensure that each individual receives the same instructions before answering the questionnaire. Considering the length of the total items, students were asked to return the questionnaires in the evening class so that they could have enough time to complete the questionnaires. The study protocol was approved by the Gansu

education bureau as well as the participating school district. In order to ensure the accuracy of the English translation of the questionnaire, one Chinese doctoral student who was majored in education in Hiroshima University was invited to check the Chinese-English translation in the current research.

3.5 Data analysis

3.5.1 Students' affective objectives attainment

I used the following steps in choosing items for final analysis in the affective objectives questionnaire. First, item analysis was conducted by identifying two groups in the total sample (top 27% and bottom 27%) according to total score. An independent sample *t*-test was then used to identify and remove non-significant items. Second, exploratory factor analysis (EFA) was employed to construct and revise a model of affective objectives, proceeding by principal component analysis. For exploring the factor grouping method, I used four different methods to perfect affective objectives assessment tool. They were six-factor models (Peterson & Seligman, 2004), five-factor models (Ruch et al., 2010; Singh & Choubisa, 2010), four-factor models (Brdar & Kashdan, 2010; Macdonald, Bore, & Muro, 2008), and three-factor models (Khumalo, Wissing, & Temane, 2008; Shryack, Steger, Krueger, & Kallie, 2010) as references. EFA included two steps: model construction and model revision. In model construction, factors were extracted by principal component analysis and rotated by the maximum variation method; the obtained

factors were confirmed to have eigenvalues greater than 1. In model revision, test items were deleted when the loading value was less than 0.30 on any factor and when the loading value was greater than 0.30 on many factors. Third, I randomly selected 436 students to create sub-sample 1 (n = 436) for confirmatory factor analysis (CFA). The average age of sub-sample 1 was 14.69 year (SD = 1.46 years; range 12–18 years). CFA with the maximum likelihood method was used to examine the structural validity and model fitting of the factors extracted by EFA. The final model was confirmed by checking the modification indices and each item's loading in the revised model. Finally, ANOVAs was employed in the constructed model to compare the differences in students' affective development by gender, grade and parental migration states group. Post hoc comparison was conducted according to the least significant difference criterion. All statistical analyses were performed using Statistical Product and Service Solutions (SPSS) 22.0 and Amos 22.0.

3.5.2 Effects of parenting styles

Correlation analyses (using the Pearson product moment correlations) were performed to examine the cross-sectional associations among the study variables (the AOQ and s-EMBU-c dimensions). The primary statistical analyses involved the use of cluster analyses to investigate the typology of parenting styles and subsequent group comparisons to explore how the cluster relates to the students' affective objectives attainment.

Cluster Assumptions: In this procedure, the following parenting style scores reported by the students were used as the criteria variables: (1) father/mother rejection, (2) father/mother emotional warmth, and (3) father/mother overprotection. Standardization is highly recommended in cluster analyses to enable the direct comparison of different variable scales. Standardization also ensures that the differences in standard deviations do not affect the distances in forming clusters (Aldenderfer & Blashfield, 1984).

Cluster Determination: In order to make a decision about the number of clusters, a hierarchical cluster analysis was carried out. The squared Euclidian distance was selected as a similarity measure and Ward's method was used to form the initial clusters without restricting their number. These analyses produced a dendrogram based on the distance between the clusters. To find the cluster solution that yields an ideal number of subgroups, I first made a ''subjective inspection of the different branches of the dendrogram'' (Aldenderfer and Blashfield, 1984). Once the number of clusters had been determined, a Quick Cluster Analysis was used to form the final groups. This analysis selects initial cluster centers according to MacQueen's k-means clustering method. Since the cluster solution in this approach depends on the order of cases in the file (SPSS Reference Guide, 1990), the quick cluster was run several times until the solution was stabilized. In this process, the final centers of each of the earlier solutions were saved and used as initial centers in the next run.

Evaluation of Cluster Differences: these analyses were conducted on standardized scores (z-scores) for all of the variables of interest. I used the cluster solution obtained from the previous analyses to describe the association between clusters and students' affective objectives attainment. This allowed for a more comprehensive interpretation of possible differences in the affective development between clusters. Finally, multivariate analysis of variance (MANOVA) was employed to analyze the influence of different parental clusters on the development of students' affective objectives attainment. Post hoc analysis was utilized to compare the clusters according to the least significant difference criterion.

3.5.3 Effects of classroom environments

The MANOVA test was utilized to compare the differences in students' perceptions of the classroom environment according to gender, grade, and parental migration status. During the process of examining the classroom environmental impacts, I considered the limitations of traditional regression analysis (Paterson, 1991), and thus used the hierarchical linear model instead. Two major problems would have arisen if I had used the analytic unit of the individual while neglecting the classroom. First, the variable relation between the measurement based on "class mean" and the measurement based on "individual mean" would have been logically different. Second, neglecting the "classroom identity" impact would have led to misinterpretations of the effect of the classroom environment rather than of the individual variable difference based on the classroom level, which might have been

significantly influenced by the classroom mean. From the logical regression perspective, the traditional method may have underestimated the standard deviation, whereas causing type one error to occur. The same misinterpretation would have happened if the analytic unit was based on class rather than on individual, as it would have underestimated the individual difference within the classroom level. The hierarchical linear model overcomes the aforementioned data nesting problems and allows different predicting variables at multiple levels. Thus, this study utilized a nested design of a two-level hierarchical linear model (HLM), given the multilevel nature of the data in which students (level 1) are nested within classrooms (level 2). Equation 1 specifies the model that examines the associations between students' affective objectives attainment and perceptions of the classroom environment at the individual level. Equation (1) specifies that each outcome (Y) for a child (i), who is in the classroom (j), is a function of the intercept after adjusting the relationship between student and teacher (β_{1j}), relationship between student and student (β_{2j}), discipline of the classroom (β_{3j}), competition among classmates (β_{4j}), and study burden (β_{5j}). Equation (2) examines the affective outcome (β_{0j}) based on the class level—the error terms with within-class variability and between-class variability are presented as r_{ij} and u_{0j}. β_{0j} - β_{5j} indicates the class average gradient for five subscales of the classroom environment. The overall class gradients for the five subscales are shown from γ_{10} to γ_{50}, and u_{1j} - u_{5j} specifies the error terms at the class level.

Level 1 model (1)

$$Y_{(1\text{-}6)ij} = \beta_{0j} + \beta_{1j}\ (S\_T_{ij}) + \beta_{2j}\ (S\_S_{ij}) + \beta_{3j}\ (DISCIPL_{ij}) + \beta_{4j}\ (COMPETI_{ij}) + \beta_{5j}\ (BURDEN_{ij}) + r_{ij}$$

Level 2 model (2)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\ (S\_T_j) + \gamma_{02}\ (S\_S_j) + \gamma_{03}\ (DISCIPL_j) + \gamma_{04}\ (COMPETI_j) + \gamma_{05}\ (BURDEN_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + u_{4j}$$

$$\beta_{5j} = \gamma_{50} + u_{5j}$$

3.5.4 Effects of students' demographic characteristics, parenting styles, and classroom environments on affective objectives attainment

In order to examine the unique contribution of students' demographic characteristics, perceived parenting styles, and classroom environmental variables in the explanation of affective objectives attainment, a hierarchical regression method of variable entry was selected. Hierarchical regression analysis is a method in which independent variables are entered into the regression equation in a sequence by the research in advance (Strayhorn,

2010). The hierarchy (order of the variables) is determined by the researcher's theoretical understanding of the relations among variables (Vogt, 1999). In this study, independent variables were entered into the regression model by three steps: background and individual traits, family-related variables, and school-related factors. This statistical design of hierarchical regression method handled a rigorous set of controls. Meanwhile, the "net effect" of each set of predictors on the dependent variable was isolated. All analyses were carried out based on weighted samples, and then corrected into the un-weighted sample size for correct standard errors (Thomas & Heck, 2001). The background variables (gender, age, and parental migration status) were entered in step 1, in order to control for their effects in the following steps; the indicator for perceived parental rearing behaviors in the family setting was added in step 2; finally, the perceived classroom environment was entered at step 3. Steps 2 and 3 identified the unique proportion of variance attributed to each context.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Students' attainment of affective objectives

4.1.1 Factor structure of the affective objectives questionnaire

This section presents the factor structure exploration of the affective objectives, and examines the validity and reliability of the questionnaire. As stated earlier, items for the final analysis were chosen based on the following strategies. First, item analysis was conducted by separating the total sample (N=1563) from the total scores calculated from the "my affection" section of the questionnaire. Then five non-significant items (1, 4, 25, 34, and 43) were deleted through an independent sample t-test. A total of 59 items were utilized in the exploratory and confirmatory factor analyses.

EFA: To provide a preliminary guide in specifying the number of factors, a second-order factor grouping analysis of the 16 affective objectives was performed following the recommendation of existing studies (Peterson & Seligman, 2004; Ruch et al., 2010; Brdar & Kashdan, 2010; Khumalo, Wissing, & Temane, 2008). Comparisons were made between the five-, four-, and three-factor models. A three-factor solution was chosen because it was more interpretable and accounted for a greater degree of total variance. Based on the highest loading items, fortitude, interpersonal strength, and vitality were named as factors.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is a statistical index to determine whether data are appropriate for factor analysis. KMO values greater than 0.70 are considered "good" and suggest that the data are well suited for EFA (Hutcheson & Sofroniou, 1999). The KMO value of the first factor, fortitude, was 0.742 and three affective objectives were extracted. After the rotation, these three factors accounted for 44.94% of the total variance. According to each item's content, these three affective objectives were confidence, independence, and bravery. The KMO value of the second factor, interpersonal strengths, was 0.774, also showed that data were suitable for EFA. Three affective objectives—integrity, fairness, and forgiveness—were extracted after the rotation, and explained 46.52% of the total variance. The third factor, vitality, had a KMO value of 0.775 and included three affective objectives—gratitude, love of learning, and aesthetic—after the rotation, accounting for 45.26% of the total variance (see Table 5).

CFA: CFA was conducted among 436 participants to examine the structure validity and model fitting. In the study, model fit was assessed by a combination of fit indices of chi-square, degrees of freedom (df), chi-square/df, goodness-of-fit index (GFI), incremental fit index (IFI), comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Here, with CMIN as the minimum of the discrepancy function, CMIN/df < 5 is considered acceptable; GFI, IFI, and CFI > 0.90 is an acceptable fit index; and > 0.95 is an excellent fit index. An RMSEA ≤ 0.06 indicates a close fit and ≤ 0.08 indicates a reasonable fit (MacCallum, Browne, & Sugawara, 1996; Hu & Bentler, 1999; Kline, 2005).

Table 5 Exploratory oblique rotated factor analysis results for nine affective objectives (N = 1563)

Factors	Items	Loadings								
	59	.828								
	56	.630								
	50	.612								
	31		.761							
Fortitude	44		.622							
	5		.524							
	12		.378							
	22			.756						
	37			.726						
	9			.476						
	35				.719					
	30				.635					
	40				.591					
	53				.549					
Interpersonal	29					.816				
strengths	41					.600				
	48					.573				
	60						.757			
	61						.624			
	42						.524			
	51							.758		
	57							.636		
	45							.588		
	32							.536		
	8								.703	
Vitality	52								.645	
	46								.635	
	2								.501	
	38									.795
	26									.651
	63									.552

Four potential models were proposed for comparison including the three-factor models and the complete model, which combines all factors. After testing the three-factor model fitting separately, I retained 31 items under nine affective objectives. Each of the three factors was calculated against the total score. CFA analysis was used again, treating the nine affective objectives as observed variables and the three factors as latent variables. These three latent variables were set as being interrelated with each other, and the residuals of the nine observed variables were set independently (see Figure 2). It can be observed from Table 6 that all four hypothesized models were statistically valid.

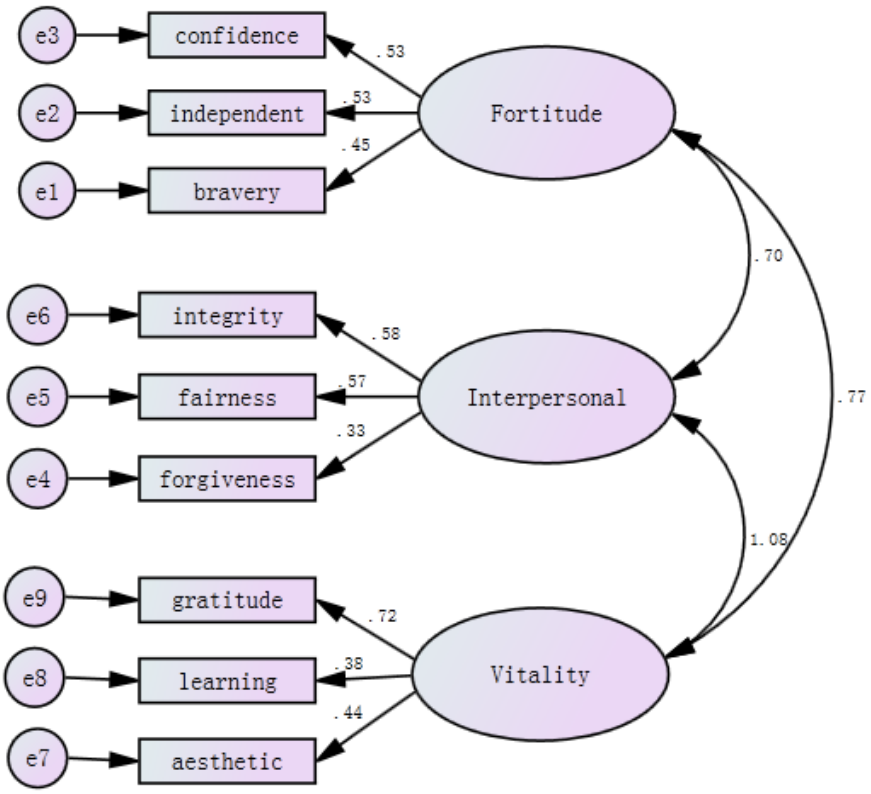

Figure 2 Structure model of the affective objectives questionnaire with standardized path coefficients.

Table 6 Confirmatory factor analysis (n = 436)

Factors	DF	CMIN	GFI	IFI	CFI	RMSEA
Fortitude	32	47.155	.979	.949	.947	.033
Interpersonal strengths	32	47.951	.979	.956	.955	.034
Vitality	41	75.380	.971	.922	.920	.044
Complete model	24	86.855	.966	.913	.911	.070

Note. Source: Computed based on primary data. DF, degrees of freedom; CMIN, minimum of discrepancy function; GFI, goodness-of-fit index; IFI, incremental fit index; CFI, comparative fit index; RMSEA, root mean square error of approximation.

Reliability: After CFA analysis, Cronbach's α coefficients of the three factors were 0.604 (fortitude), 0.612 (interpersonal strengths), and 0.644 (vitality), and that of the complete model was 0.794. As has been previously indicated, scale Cronbach's α should be greater than 0.60 in exploratory research (Hair, Black, Tatham, & Anderson, 1998; Wu, 2003). Results showed that the scale's consistency and reliability reached the acceptable level.

Finally, the final three-factor model, comprising fortitude, interpersonal strength, and vitality, consisted of nine affective objectives: confidence (item 59, 56 and 50), independence (item 31, 44, 5 and 12), bravery (item 22, 37 and 9), integrity (item 35, 30, 40 and 53), forgiveness (item 29, 41 and 48), fairness (item 60, 61 and 42), gratitude (item 51, 57, 45 and 32), love of learning (item 8, 52, 46 and 2), and aesthetic (item 38, 26 and 63). From observing from the findings, the three-factor structured model failed to confirm to the original 6-virtue framework (Peterson and Seligman, 2004). Among these items, some

questions were retained from the original designed questionnaire whereas certain questions were from unexpectedly dissimilar extracted factors. For instance, item 38 ("I have no interest in music, art and dance"), item 26 ("Seeing pretty pictures or listening to beautiful music makes me feel better") and item 63 ("When I see beautiful scenery, I can't help but stop to admire it") were retained under the factor aesthetic. The example of item 2 ("I often get very excited when I learn new knowledge") was originally from factor creativity but classified into love of learning after the EFA test. Still, the findings demonstrated that the self-designed questionnaire could be a promising assessment tool for investigating the affective characteristics of future lower secondary school students. The final affective questionnaire included 31 items in total would be utilized in the later data analysis.

4.1.2 Students' attainment of affective objectives

This section describes briefly the mean score of students' affective objectives attainment, and the differences according to gender, grade, and parental migration status. As mentioned in the prior chapter, 559 students are from migrant families, representing 35.76% of the whole sample population, characterized by two-parent migration (n=268), father-only migration (n=264), and then mother-only migration (n=27). The crude statistics show that migration is a prevalent trend in the Gansu province, especially for migrant men.

Mean scores. Table 7 shows the mean scores of students' affective objectives attainment. Among the nine affective objectives, the top three objectives are gratitude (M = 12.74, SD = 1.87), independence (M = 11.87, SD = 1.90), and integrity (M = 11.79, SD = 1.83), while the bottom three are forgiveness (M = 8.96, SD = 1.55), bravery (M = 8.45, SD = 1.48), and confidence (M = 8.09, SD = 1.76). The descriptive results of gratitude, independence, and integrity as the objectives with the highest performances demonstrate that, on average, rural students feel grateful for life, do not rely on other people when accomplishing tasks, and are honest in their moral principles. The objectives with the lowest performances, that is, forgiveness, bravery, and confidence, could be interpreted as indicating that students tend to be less forgiving of those who have done wrong things, to shrink from challenges or difficulty, and to lack the belief that they can deal with situations by using their own abilities.

Table 7 Means and standard deviations for self-reported affective objectives (N=1563)

Objectives	M	SD
1. Gratitude	12.74	1.87
2. Independence	11.87	1.90
3. Integrity	11.79	1.83
4. Love of Learning	10.23	1.90
5. Fairness	9.53	1.48
6. Aesthetic	9.40	1.68
7. Forgiveness	8.96	1.55
8. Bravery	8.45	1.48
9. Confidence	8.09	1.76

Note. Rage: 1-4. Gratitude, Independence, Integrity and love of learning: maximum score = 16; Fairness, Aesthetic, Forgiveness, Bravery and Confidence: maximum score = 12.

Gender differences: Table 8 presents the results for the ANOVA comparisons between boys and girls. Six affective objectives other than integrity ($F_{1, 1561} = 0.58$, $p > 0.05$), forgiveness ($F_{1, 1561} = 1.15$, $p > 0.05$), and gratitude ($F_{1, 1561} = 0.59$, $p > 0.05$) showed significant differences. Male and female students showed no different results in the evaluation of these three affective objectives. Nevertheless, male students rated themselves statistically higher in confidence ($F_{1, 1561} = 11.39$, $p < 0.01$), bravery ($F_{1, 1561} = 14.70$, $p < 0.001$), and love of learning ($F_{1, 1561} = 5.47$, $p < 0.05$), whereas female students rated themselves statistically higher in independence ($F_{1, 1561} = 9.40$, $p < 0.01$), fairness ($F_{1, 1561} = 6.28$, $p < 0.05$), and aesthetics ($F_{1, 1561} = 53.25$, $p < 0.001$). Among the three affective objectives that were rated higher by male students, the quality of bravery is consistent with prior research reported in other countries that men perform more bravely than women do (Furnham & Lester, 2011). Aesthetics, rated higher by female students, also corresponds to findings in Western literatures (Littman-Ovadia & Lavy, 2012). The results lend support to hypothesis 1 that students' affective development is characterized by their gender.

Grade differences: After comparing students' affective objectives attainment among different grade groups, the results showed that the objectives of confidence ($F_{2, 1560} = 12.14$, $p < 0.001$), independence ($F_{2, 1560} = 3.26$, $p < 0.01$), bravery ($F_{2, 1560} = 3.40$, $p < 0.05$),

Table 8 Gender differences on affective objectives attainments (N=1563)

Objectives	Male (n=787)		Female (n=776)		F
	X	SD	X	SD	
1. Confidence	8.24	1.75	7.94	1.76	11.39**
2. Independence	11.72	1.89	12.02	1.91	9.40**
3. Bravery	8.59	1.43	8.30	1.51	14.70***
4. Integrity	11.76	1.82	11.83	1.84	0.58
5. Forgiveness	8.91	1.49	9.00	1.60	1.15
6. Fairness	9.44	1.52	9.63	1.43	6.28*
7. Gratitude	12.70	1.85	12.78	1.90	0.59
8. Love of learning	10.34	1.89	10.12	1.90	5.47*
9. Aesthetic	9.09	1.69	9.70	1.62	53.25***

Note. ***p<.001, **p<.01, *p<.05

integrity ($F_{2, 1560} = 5.67$, $p < 0.01$), gratitude ($F_{2, 1560} = 6.85$, $p < 0.01$), love of learning ($F_{2, 1560} = 16.42$, $p < 0.001$), and aesthetics ($F_{2, 1560} = 7.38$, $p < 0.01$) have significant differences (see Table 9). Almost all of the top- and bottom-rated affective objectives, except for the love of learning, are represented differently among seventh-, eighth- and ninth-grade students. In the post hoc comparison, numbers 7, 8, and 9 indicate seventh-, eighth- and ninth-grade students, respectively. The comparison findings revealed that seventh-grade students reported higher scores than eighth- and ninth-grade students did for confidence, integrity, love of learning, and aesthetics, whereas ninth-grade students rated slightly higher than eighth-grade students did for bravery and gratitude. Grade comparison showed a significant effect on students' affective objectives attainment. Generally speaking, younger students rated themselves higher than older students did. Park and Peterson's (2006)

research on character strength using US samples also reported that fifth graders score higher than eighth graders do for most of the scales. These findings are consistent with hypothesis 1 that differences in students' affective objectives attainment are characterized by grade.

Table 9 Grade differences on affective objectives attainments (N=1563)

Objectives	Grade 7 (n=542)	Grade 8 (n=430)	Grade 9 (n=591)	F	Post hoc comparison
1. Confidence	8.38 (1.75)	7.98 (1.68)	7.90 (1.79)	12.14***	7 > 8, 9
2. Independence	12.02 (1.94)	11.87 (1.84)	11.73 (1.92)	3.26*	7, 8 > 9
3. Bravery	8.58 (1.52)	8.34 (1.47)	8.40 (1.44)	3.40*	7, 9 > 8
4. Integrity	12.01 (1.95)	11.69 (1.84)	11.68 (1.69)	5.67**	7 > 8, 9
5. Forgiveness	9.04 (1.52)	8.91 (1.51)	8.91 (1.59)	1.28	
6. Fairness	9.53 (1.55)	9.49 (1.48)	9.57 (1.40)	0.37	
7. Gratitude	12.96 (1.90)	12.53 (1.82)	12.69 (1.87)	6.85**	7, 9 > 8
8. Love of learning	10.58 (1.99)	10.17 (1.93)	9.95 (1.74)	16.42***	7 > 8, 9
9. Aesthetic	9.61 (1.70)	9.21 (1.72)	9.34 (1.62)	7.38**	7 > 8, 9

Note. ***p<.001, **p<.01, *p<.05

Differences in parental migration status: Table 10 presents the analytical results of differences in students' affective objectives attainment according to various patterns of parental migration status, including no-parent migration (n = 1004), mother-only migration (n = 27), father-only migration (n = 264), and both-parent migration (n = 268). Even though children from no-parent migration families scored slightly higher in independence (11.91 ± 1.92), forgiveness (9.03 ± 1.52), and aesthetics (9.43 ± 1.68) on average mean scores, no

significant differences were observed among the four groups in terms of the attainment of six affective objectives. This study's findings are consistent with some researches that have reported that the effects of the left-behind experience on children are insignificant (Wang, 2007; Zhu, Li, & Zhou, 2002); these findings are thus different from others that have claimed that the left-behind experience has significant negative effects on children's psychological health, academic studies, and social well-being (Wang & Wu, 2003; Steinhausen et al., 1980). In terms of mother-only migration, no significant differences were found among four parental migration statuses in this study.

Table 10 Differences on affective objectives attainments by various parental migration states (N=1563)

Objectives	No-parent migration	Mother-only migration	Father-only migration	Both-parent migration	F
	X (SD)	X (SD)	X (SD)	X (SD)	1.76
1. Confidence	8.07 (1.77)	7.74 (2.12)	8.28 (1.79)	8.09 (1.76)	1.76
2. Independent	11.91 (1.92)	11.74 (1.70)	11.73 (1.92)	11.88 (1.88)	0.62
3. Bravery	8.45 (1.47)	8.63 (1.47)	8.46 (1.57)	8.41 (1.43)	0.21
4. Integrity	11.79 (1.81)	11.63 (2.13)	11.88 (1.88)	11.75 (1.83)	0.31
5. Forgiveness	9.03 (1.52)	8.26 (1.91)	8.83 (1.48)	8.87 (1.65)	3.57
6. Fairness	9.54 (1.46)	9.22 (1.99)	9.43 (1.54)	9.63 (1.40)	1.22
7. Gratitude	12.75 (1.86)	12.15 (1.96)	12.75 (1.85)	12.75 (1.94)	0.91
8. Love of learning	10.16 (1.93)	9.93 (1.73)	10.50 (1.78)	10.28 (1.90)	2.56
9. Aesthetic	9.43 (1.68)	9.33 (1.52)	9.39 (1.58)	9.29 (1.79)	0.52

Note. ***p<.001, **p<.01, *p<.05

The findings do not prove that the children left by migrant mothers are the most disadvantaged in health behaviors, as reported by Wen and Lin (2012). I conclude that rural students' affective objectives attainment showed significant differences by gender and grade, but not by the four types of migrant families. The sign of the F value suggested that the results are opposite of what is specified by hypothesis 1, namely, that the affective objectives attainment of rural students could be influenced by parental migration status.

4.2 Effects of parenting styles

This section first explores the patterns of existing parenting styles in western rural China. It then describes the use of MANOVA to examine whether classified parental patterns differ according to students' gender, grade, and parental migration status. Finally, the association between students' affective objectives attainment and different parenting styles is discussed. In order to retrieve complete data on family demographics, data were re-screened through the original sample, and 37 students were found to have a single-parent family structure, which is a rare occurrence in the study area. To isolate the impact of the two-parent family structure in the clustering analysis, I restricted the sample to children who have two parents (excluding those with parents who are divorced or widowed).

4.2.1 Correlations among variables

Table 11 presents the means and standard deviations of the six parenting style variables (father/mother rejection, father/mother emotional warmth, and father/mother overprotection) reported by students (N = 1527). The crude statistics show that students generally rated highest in father/mother emotional warmth, and felt that they receive more care from mothers (M = 20.05, SD = 3.78) than they do from fathers (M = 19.23, SD = 4.10). The lowest-rated parenting behaviors are father (M = 9.44, SD = 9.59) and mother rejection (M = 9.59, SD = 3.02), as found in previous studies that have suggested that mothers tend to spend more time with children than fathers do (Ang, 2006; Pares et al., 2009).

Table 11 Means and standard deviations of six parenting style variables (N = 1527)

Variable	M	SD
Father rejection	9.44	3.03
Mother rejection	9.59	3.02
Father emotional warmth	19.23	4.10
Mother emotional warmth	20.05	3.78
Father overprotection	17.73	3.51
Mother overprotection	18.66	3.62

Note. Rage: 1-4. Father/mother rejection: maximum score = 24; Father/mother emotional warmth: maximum score = 28; Father/mother overprotection: maximum score = 32.

Correlations among the study variables were computed to facilitate an interpretation of the results. The correlation analyses in Table 12 show that father/mother rejections are negatively associated with students' affective objectives scores in three main factors

Table 12 Correlations among the variables (N = 1527)

Variable	1	2	3	4	5	6	7	8	9
1. Father rejection	-								
2. Mother rejection	.69**								
3. Father emotion warmth	-.28**	-.19**							
4. Mother emotion warmth	-.18**	-.29**	.76**						
5. Father overprotection	.53**	.39**	-.01	-.00					
6. Mother overprotection	.40**	.47**	-.03	-.01	.75**				
7. Fortitude	-.18**	-.17**	.26**	.24**	-.10**	-.11**			
8. Interpersonal strength	-.10**	-.11**	.20**	.23**	-.05*	-.02	.36**		
9. Vitality	-.12**	-.12**	.35**	.37**	-.00	.00	.45**	.51**	-

Note. ***p<.001, **p<.01, *p<.05

(fortitude, interpersonal strengths, and vitality). Father/mother emotional warmth are positively associated with students' scores in fortitude, interpersonal strengths, and vitality, whereas father overprotection is negatively associated with fortitude and interpersonal strengths and mother overprotection is negatively associated with fortitude. Six parental rearing behaviors are significantly correlated with three factor-structured students' affective objectives attainment in the expected direction: father rejection is negatively correlated with fortitude ($r = -.18$, $p < 0.01$), interpersonal strength ($r = -.10$, $p < 0.01$), and vitality ($r = -.12$, $p < 0.01$); mother rejection is also negatively correlated with fortitude (($r = -.17$, $p < 0.01$), interpersonal strength ($r = -.11$, $p < 0.01$), and vitality ($r = -.12$, $p < 0.01$); father emotional warmth is positively correlated with fortitude ($r = .26$, $p < 0.01$), interpersonal strength ($r = .20$, $p < 0.01$), and vitality ($r = .35$, $p < 0.01$); mother emotional warmth also showed positive correlations with fortitude ($r = .24$, $p < 0.01$), interpersonal strength ($r = .23$, $p < 0.01$), and vitality ($r = .37$, $p < 0.01$); both father overprotection ($r = -.10$, $p < 0.01$) and mother overprotection ($r = -.11$, $p < 0.01$) presented negative relations with fortitude, but no significant correlations with vitality. As anticipated, different parenting styles appear to account for substantial variance in students' affective development. Hence, in the subsequent analysis, I determined the kinds of parenting patterns that exist in western rural China and the effects of these parental rearing behaviors.

4.2.2 Parenting style groups

In order to identify homogeneous groups of student families according to their parenting styles, a cluster-by-case procedure was carried out among six parental rearing behavior variables. Cluster analysis refers to the technique of uncovering homogenous subgroups or clusters in a dataset to classify groups with high intra-cluster similarity and low inter-cluster similarity (Lattin, Carroll, & Green, 2003). In the present research, a hierarchical cluster analysis using Ward's (1963) minimum variance method was applied, and the squared Euclidian distance was selected as a similarity measure to form the initial cluster analysis. Based on the distance between the clusters in a dendrogram produced by the analysis, I used a Quick Cluster Analysis to form the final groups. After running the data several times, a six-cluster solution for students' perceived father/mother parenting styles was derived: parental emotional warmth, parental rejection, parental overprotection, parental favoring, parental non-contact, and polarized parenting style.

Apart from the three common parenting styles of the original parenting style scales mentioned earlier, three other parental rearing behaviors were newly obtained after the cluster analysis (parental favoring, parental non-contact, and polarized parenting style). Among the derived six groups, parental emotional warmth is the most common (n=392), followed by parental favoring (n = 368), parental non-contact (n = 320), parental overprotection (n = 195), parental rejection (n = 189), and then polarized parenting style (n

= 62). See Figure 3 for a visual representation of the cluster patterns in combined father and mother parenting styles with percentile z-scores.

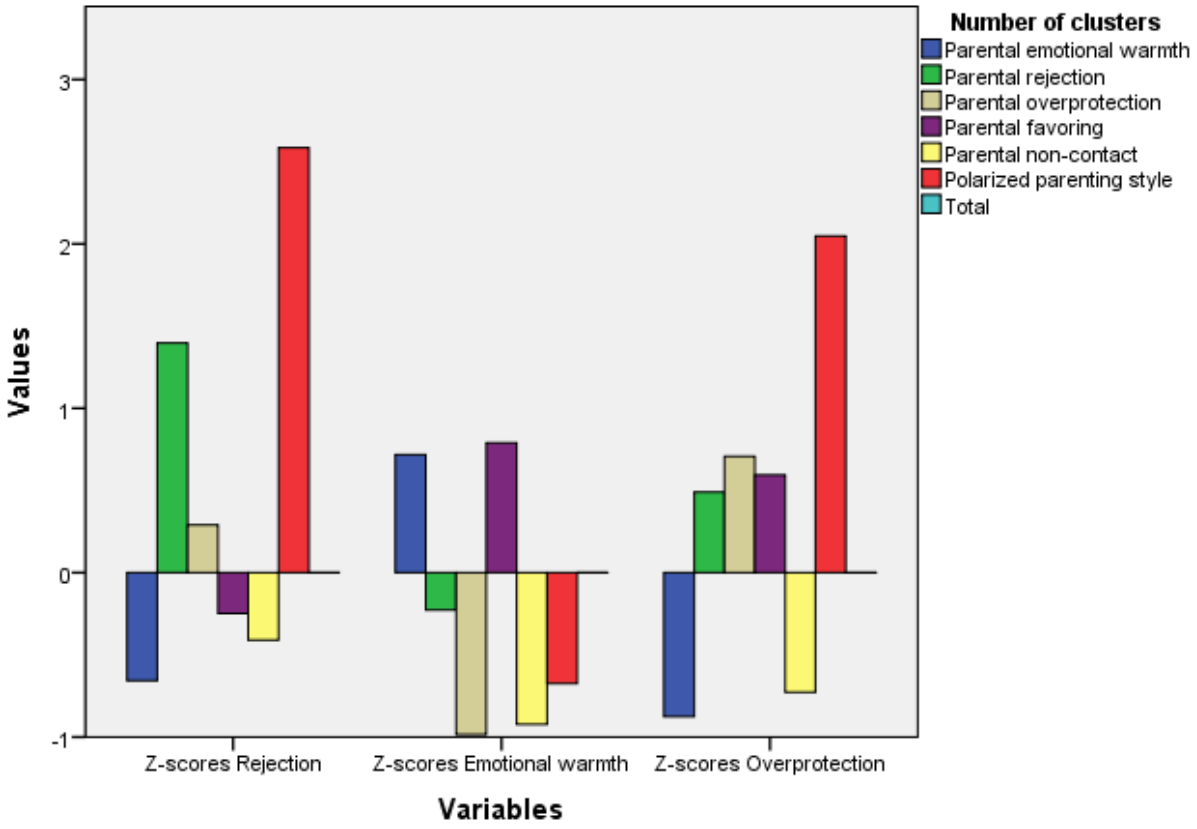

Figure 3 Cluster average z-scores on parental rejection, emotional warmth and overprotection

As shown in Table 13, students from families of parental emotional warmth are characterized by high values of father/mother emotional warmth (0.67 ± 0.60 and 0.67 ± 0.58, respectively), low scores of father/mother rejection (-0.60 ± 0.52 and -0.61 ± 0.52, respectively), and low scores of father/mother overprotection (-0.80 ± 0.57 and -0.84 ± 0.61, respectively). Participants in the cluster of parental rejection are characterized by higher scores for father/mother rejection (1.31 ± 0.71 and 1.26 ± 0.80, respectively), and relatively

Table 13 Means (M) and standard deviations (SD) of parenting style variables for the six parenting style groups (N = 1527)

		Parenting style group						
		Parental emotion warmth (n = 392)	Parental rejection (n=189)	Parental over-protection (n=195)	Parental favoring (n=368)	Parental non-contact (n=320)	Polarized parenting style (n=62)	F
Father rejection	M	-.60	1.31	.10	-.20	-.37	2.60	487.76***
	SD	.52	.71	.66	.60	.56	1.07	
Mother rejection	M	-.61	1.26	.44	-.25	-.39	2.16	377.04***
	SD	.52	.80	.83	.61	.60	1.38	
Father emotional warmth	M	.67	-.29	-.86	.74	-.86	-.61	340.45***
	SD	.60	.73	.69	.67	.67	1.15	
Mother emotional warmth	M	.67	-.13	-.99	.74	-.87	-.65	373.28***
	SD	.58	.71	.64	.62	.72	1.06	
Father overprotection	M	-.80	.54	.52	.53	-.67	2.10	413.19***
	SD	.57	.69	.76	.65	.61	.86	
Mother overprotection	M	-.84	.38	.81	.58	-.70	1.75	433.02***
	SD	.61	.69	.70	.62	.60	.77	

Note. ***p<.001, **p<.01, *p<.05

low scores for father/mother emotional warmth (-0.29 ± 0.73 and -0.13 ± 0.71, respectively) and father/mother overprotection (0.54 ± 0.69 and 0.38 ± 0.69, respectively).

The parental overprotection cluster showed high scores for father/mother overprotection (0.52 ± 0.76 and 0.81 ± 0.70, respectively), and lower scores for father/mother rejection (-0.10 ± 0.66 and -0.44 ± 0.83, respectively) and father/mother emotional warmth (-0.86 ± 0.69 and -0.99 ± 0.64, respectively). The fourth cluster of parental favoring showed students' high scores for both father/mother emotional warmth (0.74 ± 0.67 and 0.74 ± 0.62, respectively) and father/mother overprotection (0.53 ± 0.65 and 0.58 ± 0.58, respectively). The students from the parental non-contact cluster reported low scores in all six parenting scales. The last cluster characterized by the polarized parenting style has extraordinarily high values for father/mother rejection (2.60 ± 1.07 and 2.16 ± 1.38, respectively) and father/mother overprotection (2.10 ± 0.86 and 1.75 ± 0.77, respectively). Based on these findings, the related literature, and the questionnaire contents of each scale, I defined the six clusters of parental rearing patterns as follows: 1. The parental emotional warmth style refers to child-rearing techniques in which parents try to maintain a balance between love and affection, encouraging the verbal give-and-take of children, communicating openly, and recognizing the rights of both parents and children; 2. Parental rejection indicates parental rearing behaviors that are often accompanied by verbal abuse or even physical punishment, in which little verbal give-and-take occurs within the family setting. 3. Parental overprotection means that parents are always setting overly strict

and harsh rules that children have to obey, and being fearful, controlling toward their children, and anxious for their children's safety, with high expectations regarding their achievements; 4. Parental favoring sustains a balance between parental emotional warmth and overprotection. Children from parental favoring families often receive love and over-caring with a firm enforcement of rules and standards; 5. Parental non-contact is characterized by no emotional warmth, rejection, or overprotection in parental rearing behaviors. Usually, there is little communication between the parents and the children. Children from parental non-contact families often feel less loved but have complete freedom over their own decisions and activities. 6. Polarized parenting style refers to the rearing behavior of rejection and overprotection from either the mother/father or both parents. This kind of rearing style is characterized by fearful and over-controlling parenting behaviors. These parents typically demand obedience, establish strict restrictions, and are less caring. Even though this study is so far considered as the first to clarify clusters of parenting patterns using c-EMBU-s, previous studies have indicated that parental closeness, relationship cohesion, and parental monitoring are the most common rearing styles in Asian families (Chao, 2001). Consistent with previous findings, parental emotional warmth and parental favoring were rated higher than other types of parenting styles by rural students in western China. However, the newly derived group of parental non-contact (n=320) was unexpectedly found to represent a large number among the sample population. Among the parental non-contact families, 214 students are from no-parent migration families. Thus,

parental migration is not the main reason causing low communication and bonding child-parent relationships.

4.2.3 Parenting style groups and students' affective objectives attainment

The cluster solutions were analyzed to determine if, as hypothesized, different groups of parental rearing behaviors have an impact on students' affective objectives attainment. The MANOVA test was thus conducted on the six cluster solutions generated from students' perceptions of father/mother parenting styles. Table 14 shows the mean scores of nine affective objective variables and the differences among the six groups in terms of the nine affective objective outcomes. As predicted in hypothesis 2, there are highly significant differences among the six parenting style clusters in all of the affective objectives. Observing from the mean scores rated by students, we found that children from the parental emotional warmth cluster had the highest ratings in nine affective objectives: confidence (M = 8.55, SD = 1.79), independence (M = 12.44, SD = 1.84), bravery (M = 8.62, SD = 1.47), integrity (M = 12.26, SD = 1.77), forgiveness (M = 9.14, SD = 1.56), fairness (M = 9.77, SD = 1.40), gratitude (M = 13.30, SD = 1.66), love of learning (M = 10.46, SD = 1.89), and aesthetics (M = 9.07, SD = 1.61). Except for the parental emotional warmth group, students from parental favoring also scored higher than those from the parental rejection, overprotection, non-contact, and polarized parenting groups did in nine affective objectives. For the poorest performing groups, children from the polarized parenting style cluster

Table 14 Differences on six-cluster groups of parenting style in terms of nine affective objectives attainment (N = 1527)

	Six-cluster parenting style group						
	Parental emotional warmth M (SD)	Parental rejection M (SD)	Parental over-protection M (SD)	Parental favoring M (SD)	Parental non-contact M (SD)	Polarized parenting style M (SD)	F
Confidence	8.55 (1.79)	7.81 (1.67)	7.54 (1.52)	8.46 (1.80)	7.73 (1.55)	7.48 (2.03)	18.54***
Independence	12.44 (1.84)	11.31 (1.97)	11.51 (1.90)	11.93 (1.77)	11.92 (1.80)	10.55 (2.35)	18.70***
Bravery	8.62 (1.47)	8.26 (1.61)	8.26 (1.50)	8.84 (1.40)	8.05 (1.29)	8.26 (1.44)	12.98***
Integrity	12.26 (1.77)	11.59 (1.90)	11.25 (1.71)	11.95 (1.79)	11.58 (1.64)	11.47 (2.39)	11.24***
Forgiveness	9.14 (1.56)	8.73 (1.46)	8.64 (1.57)	9.12 (1.56)	8.82 (1.50)	9.00 (1.54)	4.88***
Fairness	9.77 (1.40)	9.01 (1.58)	9.41 (1.51)	9.79 (1.47)	9.32 (1.36)	9.39 (1.54)	11.08***
Gratitude	13.30 (1.66)	12.14 (2.06)	12.00 (1.91)	13.36 (1.67)	12.30 (1.63)	12.05 (2.10)	34.03***
Love of learning	10.46 (1.89)	10.25 (1.79)	9.73 (1.72)	10.66 (1.93)	9.78 (1.85)	10.13 (1.89)	11.80***
Aesthetic	9.70 (1.61)	9.12 (1.77)	9.02 (1.65)	9.59 (1.68)	9.13 (1.62)	9.47 (1.73)	8.36***

Note. ***p<.001, **p<.01, *p<.05

scored lowest in confidence (M = 7.48, SD = 2.03) and independence (M = 10.55, SD = 2.35); those from the parental non-contact group scored lowest in bravery (M = 8.05, SD = 1.29); those from the parental rejection cluster scored lowest in fairness (M = 9.01, SD = 1.58); while those from the parental overprotection group rated the poorest in integrity (M = 11.25, SD = 1.71), forgiveness (M = 8.64, SD = 1.57), gratitude (M = 12.00, SD = 1.91), love of learning (M = 9.73, SD = 1.72), and aesthetics (M = 9.02, SD = 1.65). According to the general findings from the post hoc comparison shown in Table 15, children from the parental emotional warmth and favoring groups scored significantly higher than all other groups in all affective objectives, whereas students from the parental overprotection and polarized parenting style groups showed the lowest scores in most of the affective objectives.

Table 15 Post hoc comparison of students' affective objectives attainment on parenting style group (N = 1527)

	Post hoc comparison					
	1. Parental emotional warmth	2. Parental rejection	3. Parental over-protection	4. Parental favoring	5. Parental non-contact	6. Polarized parenting style
Confidence			1, 4 > 2, 3, 5, 6			
Independence			1, 4, 5 > 2, 3 > 6			
Bravery			4, 1 > 2, 3, 6 > 5			
Integrity			1, 4 > 2, 5, 6 > 3			
Forgiveness			1, 4 > 2, 3, 5, 6			
Fairness			4, 1, 3, 6, 5 > 2			
Gratitude			4, 1 > 5, 2, 6, 3			
Love learning			4, 1, 2, 6, 5 > 3			
Aesthetic			1, 4, 6, 3, 2 > 3			

Note. ***p<.001, **p<.01, *p<.05

4.3 Effects of classroom environments

4.3.1 Differences in perceptions of the classroom environment based on students' demographic characteristics

Mean scores. Table 16 presents the mean scores of students' perceptions of five variables in the classroom environment scale (relationship between teacher and student, relationship between student and student, discipline of the class, competition, and study burden). Among the five variables of the classroom environment, relationship between teacher and student was rated the highest (M = 30.91, SD = 6.59), followed by relationship between student and student (M = 28.59, SD = 5.59), discipline (M = 26.37, SD = 6.30), competition (M = 24.09, SD = 5.15), and study burden (M = 19.91, SD = 4.58). Observing from the crude statistics, I found that students are generally satisfied with teachers' and classmates' interactions. Competition and study burden scored relatively low compared to the other three variables. In general, the classroom environment perceived by students is healthy and harmonious in the research area.

Table 16 Means and standard deviations for perceived classroom environment (N=1563)

Variable	M	SD
1. S_T	30.91	6.59
2. S_S	28.59	5.59
3. Discipline	26.37	6.30
4. Competition	24.09	5.15
5. Burden	19.91	4.58

Note. S_T: relationship between teacher and student; S_S: relationship between student and student; Rage: 1-5; S_T, S_S and discipline: maximum score = 40; Competition and Burden: maximum score = 35.

Gender differences. As shown in Table 17, gender comparisons of classroom environment perceptions were conducted through the MANOVA test. Except for the relationship between student and teacher, four variables, i.e., relationship between student and student ($F_{1, 1561} = 0.20$, $p > 0.05$), discipline of the class ($F_{1, 1561} = 0.20$, $p > 0.05$), competition ($F_{1, 1561} = 1.82$, $p > 0.05$), and study burden ($F_{1, 1561} = 1.94$, $p > 0.05$), showed no significant differences between boys and girls. In terms of the relationship between student and teacher, females performed better than male students ($F_{1, 1561} = 3.94$, $p < 0.05$). The reason might have been because boys are more unmanageable and problematic compared to girls, especially in the adolescent period. The relationships between male student and student, discipline, competition, and study burden have average scores among the sample population. The finding is consistent with Long's (2009) study that gender differences are not obvious in students' perceptions of the classroom environment.

Grade differences: In comparing the students' ratings of the classroom environment among grade groups, the results showed that the relationship between student and teacher ($F_{2, 1560} = 43.86$, $p < 0.001$), relationship between student and student ($F_{2, 1560} = 8.49$, $p < 0.001$), discipline ($F_{2, 1560} = 21.11$, $p < 0.001$), and study burden ($F_{2, 1560} = 77.89$, $p < 0.001$) have significant differences (see Table 18).

Table 17 Gender differences on classroom environment perceptions (N=1563)

Variable	Male (n=787)		Female (n=776)		F
	X	SD	X	SD	
1. S_T	30.58	6.67	31.24	6.50	3.94*
2. S_S	28.61	5.54	28.57	5.63	0.20
3. Discipline	26.30	6.42	26.44	6.19	0.20
4. Competition	24.26	5.12	23.91	5.17	1.82
5. Burden	20.06	4.62	19.74	4.53	1.94

Note. ***p<.001, **p<.01, *p<.05

Table 18 Grade differences on classroom environment perceptions (N=1563)

Variable	Grade 7 (n=542)	Grade 8 (n=430)	Grade 9 (n=591)	F	Post hoc comparison
1. S_T	32.93 (5.95)	30.36 (6.62)	29.45 (6.68)	43.86***	7 > 8, 9
2. S_S	29.19 (5.70)	28.83 (5.62)	27.87 (5.39)	8.49***	7, 8 > 9
3. Discipline	26.69 (6.33)	27.64 (6.04)	25.15 (6.25)	21.11***	8 > 7, 9
4. Competition	24.19 (5.14)	24.19 (5.22)	23.91 (5.09)	0.54	
5. Burden	18.41 (4.58)	19.48 (4.38)	21.59 (4.15)	77.89***	9>7, 8

Note. ***p<.001, **p<.01, *p<.05

All of the top- and bottom-rated classroom environmental variables are represented differently among seventh-, eighth-, and ninth-grade students except for competition ($F_{2, 1560}$ = 0.54, $p > 0.05$). The post hoc findings revealed that seventh-grade students perform better than eighth- and ninth-grade students do in relationship between student and teacher, that seventh- and eighth-grade students perform better than ninth-grade students do in relationship between student and student, that eighth-grade students perform better in discipline, and that ninth-grade students feel more stressed than seventh- and eighth-grade students do in terms of study burden. Grade comparisons again revealed a significant difference in students' perceptions of the classroom environment. The results of this study support previous findings that younger students perceive their classroom environments as healthier than older students generally do (Qu, Zou, & Wang, 2004).

Differences in parental migration status: Table 19 depicts the differences in students' perceptions of the classroom environment according to parental migration status. Numbers 1, 2, 3, and 4 represent no-parent migration, mother-only migration, father-only migration, and both-parent migration, respectively. Significant differences were observed among the four groups in terms of the following three variables of classroom environment scales: relationship between student and teacher ($F_{3, 1559} = 3.60$, $p < 0.05$), competition ($F_{3, 1559} = 3.24$, $p < 0.05$), and study burden ($F_{3, 1559} = 3.55$, $p < 0.05$). In the post hoc comparison examination, students from mother-only migration families scored lowest in competition (M = 22.33, SD = 4.80) and relationship between student and teacher (M = 28.74, SD = 6.21), while students from the

Table 19 Differences on student's perceptions on classroom environment by various parental migration states (N=1563)

Variable	1. No-parent migration M (SD)	2. Mother-only migration M (SD)	3. Father-only migration M (SD)	4. Both-parent migration M (SD)	F	Post hoc comparison
1. S_T	30.72 (6.77)	28.74 (6.21)	31.97 (5.73)	30.76 (6.66)	3.60*	1, 3, 4 > 2
2. S_S	28.43 (5.57)	28.15 (5.52)	29.00 (5.66)	28.84 (5.57)	0.99	
3. Discipline	26.30 (6.29)	26.07 (6.31)	26.44 (6.32)	26.59 (6.35)	0.19	
4. Competition	23.88 (5.06)	22.33 (4.80)	24.54 (5.15)	24.62 (5.44)	3.24*	1, 3, 4 > 2
5. Burden	20.08 (4.66)	20.59 (3.80)	19.09 (4.30)	19.99 (4.54)	3.55*	1, 2, 4 > 3

Note. ***p<.001, **p<.01, *p<.05

father-only migration group scored poorest in study burden (M = 19.09, SD = 4.30). Children from mother-only migration families feel less competitive in school and have more problems in dealing with teachers, while children from father-only migration families feel less stressful in terms of study burden. It is worth mentioning that children from both-parent migration families showed no significantly higher or lower ratings for five classroom environmental variables. I conclude that rural students' perceptions of the classroom environment have significant differences according to grade and parental migration status, but not according to gender.

4.3.2 Classroom environments and students' affective objectives attainment

During this step of the data analysis, I utilized two aforementioned models to examine students' affective objectives attainment at both the student and class levels. After screening the data, I excluded six students from the analysis because of the missing data in the class column. Considering the long scale of the nine affective objectives, I classified them into a three-model structure and discussed them separately. Table 20 presents the effects of the classroom environmental variables on three affective objectives (confidence, independence, and bravery) under the fortitude factor. The student-level variables with regards to perceptions of the classroom environment predicted confidence better than the class-level variables did, and four variables showed a significant impact on the confidence outcome. Relationship between teacher and student ($T = 2.245$, $p < 0.05$), relationship between student and student

Table 20 Classroom environment and students' affective objectives attainment on Fortitude factor (N = 1557)

Dependent variable	Fixed effects				Random effects		
		Coefficient	Standard error	T		V	χ^2
Confidence	γ_{10}	0.081	0.036	2.245*	u_1	0.016	48.99
	γ_{20}	0.124	0.037	3.384**	u_2	0.016	47.67
	γ_{30}	0.106	0.038	2.799**	u_3	0.013	50.27
	γ_{40}	0.010	0.038	0.270	u_4	0.026	74.74**
	γ_{50}	-0.081	0.030	-2.741**	u_5	0.007	49.12
	γ_{01}	0.014	0.032	0.423			
	γ_{02}	-0.008	0.058	-0.139			
	γ_{03}	0.054	0.051	1.059			
	γ_{04}	-0.008	0.040	-0.196			
	γ_{05}	-0.032	0.040	-0.813			
Independent	γ_{10}	0.008	0.032	0.248	u_1	0.007	39.53
	γ_{20}	0.076	0.037	2.053*	u_2	0.013	51.93
	γ_{30}	0.063	0.043	1.463	u_3	0.024	53.40
	γ_{40}	0.040	0.033	1.231	u_4	0.011	46.28
	γ_{50}	-0.064	0.035	-1.810	u_5	0.021	57.33
	γ_{01}	-0.057	0.027	-2.064*			
	γ_{02}	0.010	0.039	0.258			
	γ_{03}	0.048	0.029	1.681			
	γ_{04}	-0.036	0.029	-1.236			
	γ_{05}	-0.052	0.021	-2.484*			
Bravery	γ_{10}	0.078	0.034	2.317*	u_1	0.010	49.00
	γ_{20}	0.079	0.037	2.110*	u_2	0.013	58.58
	γ_{30}	-0.014	0.036	-0.391	u_3	0.008	46.78
	γ_{40}	0.088	0.032	2.733**	u_4	0.009	52.22
	γ_{50}	0.042	0.035	1.206	u_5	0.017	68.71*
	γ_{01}	-0.041	0.026	-1.559			
	γ_{02}	-0.018	0.033	-0.545			
	γ_{03}	0.080	0.034	2.353*			
	γ_{04}	0.020	0.020	0.963			
	γ_{05}	-0.008	0.025	-0.332			

Note. ***p<.001, **p<.01, *p<.05; V: Variance component; γ_{10} - γ_{50}: effects based on the classroom environment predictor of individual-level; γ_{01} -γ_{05}: effects based on the classroom environment predictor of class-level; u_1 - u_5: examination of regression coefficient differences on classroom environment predictor based on individual level; u_1: relationship between student and teacher; u_2: relationship between student and student; u_3: discipline; u_4: competition; u_5: study burden.

(T = 3.384, p < 0.01), and discipline (T = 2.799, p < 0.01) positively predicted students' self-confidence, and study burden (T = -2.741, p < 0.01) showed a negative influence on self-confidence. After a comparison with the class-level variables, competition still showed a significant impact on confidence attainment at the student level, which suggests that other variables may have an impact on the confidence outcome (Chang & Hau, 2005). Harmonious interactions with the teacher, good relationships with classmates, and an orderly classroom environment could promote students' self-confidence, whereas a heavy study burden might cause the opposite effect. The difference between individual-level and class-level impacts on the independence outcome is not significant, in contrast to the difference between the impacts on the confidence outcome. At the student level, only the relationship with classmates has a positive influence (T = 2.053, p < 0.05). In contrast, relationship with the teacher at the class level may negatively predict students' independence development (T = -2.064, p < 0.01). An examination of the regression coefficient showed that the effects of each variable on the independence outcome are not different based on individual perceptions of the classroom environment, which suggests relatively high correlation across classes (Jiang, 2005). Three variables at the student level and one variable at the class level are positively related to the

bravery outcome: relationship between student and teacher ($T = 2.317$, $p < 0.05$), relationship among classmates ($T = 2.110$, $p < 0.05$), competition ($T = 2.733$, $p < 0.01$), and discipline ($T = 2.353$, $p < 0.05$). Study burden presented statistical difference between the student-level and class-level environmental variables. For each individual, better perceived relationships with teachers and classmates, as well as good class discipline, could allow students to become braver in their studies and lives. Across classes, those who have a more orderly and disciplinary classroom setting also have advantages in bravery development.

As shown in Table 21, student-level classroom environmental variables again have stronger relations with affective objectives attainment than class-level variables do with three affective objectives under the interpersonal factor. Three student-level variables positively predicted integrity: relationship between teacher and student ($T = 3.716$, $p < 0.001$), relationship between student and student ($T = 3.695$, $p < 0.001$), and competition ($T = 2.825$, $p < 0.01$). Students who rated the teacher and classmate relationship as good, and the class atmosphere as competitive tend to speak the truth more broadly and present oneself in a genuine way. With regards to the fairness objective, relationship between teacher and student ($T = 3.779$, $p < 0.001$) and competition ($T = 4.066$, $p < 0.001$) yielded a significant positive prediction at the student level. Analyses testing the perceived environmental variables in relation to forgiveness found that interactions with the teacher ($T = 4.202$, $p < 0.001$) and classmates ($T = 3.178$, $p < 0.01$) are significant positive predictors at the individual level. Study burden is closely related to the forgiveness objective at both the student level

Table 21 Classroom environment and students' affective objectives attainment on Interpersonal factor (N = 1557)

Dependent variable	Fixed effects				Random effects		
		Coefficient	Standard error	*T*		*V*	χ^2
Integrity	γ_{10}	0.137	0.037	3.716***	u_1	0.018	52.66
	γ_{20}	0.166	0.045	3.695***	u_2	0.040	72.12*
	γ_{30}	0.007	0.039	1.58	u_3	0.014	60.58
	γ_{40}	0.104	0.037	2.825**	u_4	0.022	63.07
	γ_{50}	0.019	0.034	0.558	u_5	0.019	63.87
	γ_{01}	-0.028	0.026	-1.061			
	γ_{02}	0.047	0.032	1.474			
	γ_{03}	0.009	0.032	0.246			
	γ_{04}	-0.023	0.030	-0.772			
	γ_{05}	-0.039	0.025	-1.522			
Fairness	γ_{10}	0.138	0.037	3.779***	u_1	0.012	57.16
	γ_{20}	0.061	0.044	1.392	u_2	0.034	77.15**
	γ_{30}	-0.085	0.034	-2.475	u_3	0.007	54.74
	γ_{40}	0.138	0.034	4.066***	u_4	0.012	58.44
	γ_{50}	0.039	0.028	1.370	u_5	0.003	57.91
	γ_{01}	-0.042	0.037	-1.130			
	γ_{02}	0.051	0.052	0.980			
	γ_{03}	0.026	0.038	0.681			
	γ_{04}	-0.016	0.027	-0.580			
	γ_{05}	0.010	0.029	0.358			
Forgiveness	γ_{10}	0.137	0.033	4.202***	u_1	0.002	38.63
	γ_{20}	0.136	0.043	3.178**	u_2	0.028	58.13
	γ_{30}	-0.043	0.047	-0.903	u_3	0.040	67.13*
	γ_{40}	0.059	0.034	1.711	u_4	0.012	50.07
	γ_{50}	0.098	0.027	3.663***	u_5	0.004	40.09
	γ_{01}	0.026	0.027	0.954			
	γ_{02}	0.058	0.034	1.714			
	γ_{03}	0.011	0.028	0.386			
	γ_{04}	-0.022	0.024	-0.911			
	γ_{05}	0.051	0.022	2.353*			

Note. ***p<.001, **p<.01, *p<.05; V: Variance component; γ_{10} - γ_{50}: effects based on the classroom environment predictor of individual-level; γ_{01} -γ_{05}: effects based on the classroom environment predictor of class-level; u_1 - u_5: examination of regression coefficient differences on classroom environment predictor based on individual level; u_1: relationship between student and teacher; u_2: relationship between student and student; u_3: discipline; u_4: competition; u_5: study burden.

(T = 3.663, p < 0.001) and the class level (T = 2.353, p < 0.05). Generally speaking, four variables of the classroom environmental scales (except discipline) have influences on students' affective objectives attainment to different extents. Better interactions between teacher and classmates, a competitive class environment, and lower study load could facilitate the outcomes of integrity, fairness, and forgiveness.

Table 22 depicts the impacts of classroom environmental variables on the affective objectives of gratitude, love of learning, and aesthetics under the vitality factor. As in the previous analyses, student-level perceived classroom predictors tend to have closer relationships with affective outcomes. Relationship between student and teacher (T = 7.757, p < 0.001), relationship between student and student (T = 3.526, p < 0.001), and competition (T = 3.277, p < 0.01) revealed significant impacts on the gratitude objective. All five variables showed no significant differences at the student level after a comparison with the class-level variables, which indicates high consistency across classes. Three variables at the individual level, that is, relationship between student and student (T = 2.846, p < 0.01), discipline of the class (T = 3.916, p < 0.001), and competition (T = 4.174, p < 0.001) are positively related to

Table 22 Classroom environment and students' affective objectives attainment on Vitality factor (N = 1557)

Dependent variable	Fixed effects				Random effects		
		Coefficient	Standard error	T		V	χ^2
Gratitude	γ_{10}	0.245	0.032	7.757***	u_1	0.006	49.32
	γ_{20}	0.135	0.038	3.526***	u_2	0.017	54.68
	γ_{30}	-0.033	0.042	-0.770	u_3	0.028	57.68
	γ_{40}	0.102	0.031	3.277**	u_4	0.010	52.10
	γ_{50}	0.007	0.026	0.284	u_5	0.002	41.93
	γ_{01}	-0.032	0.039	-0.807			
	γ_{02}	0.070	0.048	1.454			
	γ_{03}	0.038	0.053	0.717			
	γ_{04}	-0.065	0.038	-1.705			
	γ_{05}	0.004	0.030	0.146			
Learning	γ_{10}	0.045	0.035	1.285	u_1	0.017	49.15
	γ_{20}	0.107	0.038	2.846**	u_2	0.019	64.13*
	γ_{30}	0.130	0.033	3.916***	u_3	0.010	49.10
	γ_{40}	0.134	0.032	4.174***	u_4	0.010	57.50
	γ_{50}	0.026	0.029	0.886	u_5	0.009	55.08
	γ_{01}	-0.084	0.034	-2.476**			
	γ_{02}	0.013	0.067	0.195			
	γ_{03}	0.079	0.056	1.407			
	γ_{04}	0.053	0.035	1.515			
	γ_{05}	-0.069	0.036	-1.945			
Aesthetic	γ_{10}	0.088	0.037	2.420*	u_1	0.016	57.92
	γ_{20}	0.098	0.041	2.404*	u_2	0.022	55.33
	γ_{30}	-0.032	0.048	-0.653	u_3	0.045	71.34*
	γ_{40}	0.078	0.037	2.117*	u_4	0.017	53.26
	γ_{50}	0.063	0.026	2.433*	u_5	0.002	38.36
	γ_{01}	-0.022	0.026	-0.852			
	γ_{02}	0.035	0.041	0.842			
	γ_{03}	0.089	0.042	2.140*			
	γ_{04}	-0.009	0.038	-0.230			
	γ_{05}	0.008	0.029	0.280			

Note. ***p<.001, **p<.01, *p<.05; V: Variance component; γ_{10} - γ_{50}: effects based on the classroom environment predictor of individual-level; γ_{01} -γ_{05}: effects based on the classroom environment predictor of class-level; u_1 - u_5: examination of regression coefficient differences on classroom environment predictor based on individual level; u_1: relationship between student and teacher; u_2: relationship between student and student; u_3: discipline; u_4: competition; u_5: study burden.

the attainment of love of learning. However, interactions with the teacher at the class level (T = -2.476, $p < 0.01$) presented negative influences. Close teacher-student relationships might inhibit students' study motivations to some degree. In conclusion, the set of HLM analyses revealed significant differences in both student-level and class-level variable effects, and each affective objective showed diverse predictions from the classroom environmental scale. The sign of T value recommended an approval of the statement specified in hypothesis 3: students' affective objectives attainment could be influenced by the classroom environment at different levels.

4.4 Effects of students' demographic characteristics, parenting styles, and classroom environments

This last section describes the employment of a hierarchical regression design to estimate the impact of three sets of predictors on students' affective development. Specifically, this analysis examined the combined influences of rural students' demographic characteristics, parenting styles, and classroom environments on their affective objectives attainment.

Separate hierarchical regression models were used to examine the effects of the independent predictor variables on children's affective competence by three-factor model extracted from section 4.1.1. According to the assumption of the research framework, students' gender and age were entered first in each equation because they were the basic constructs of Bronfenbrenner's (1979) ecological model. Parental migration statuses, which were considered as the unique characteristic of the current research, were also included in the first step. Perceived parental rearing behaviors were entered in the second step, and classroom environmental variables were entered in the third. Table 23 summarizes the results of the hierarchical regression analysis on fortitude factor of affective objectives. Students' demographic variables (gender, age, and parental migration status) entered in Step 1 only account for 1.4% of the total variation in the affective objectives outcome. Gender (B = 0.399, $p < 0.05$) and age (B = -2.99, $p < 0.001$) were shown to have a significant contribution on fortitude in Step 1: as discussed in section 4.1.2, older students tend to perform better than younger students. Perceived parental rearing behaviors entered at Step 2 account for an additional 9.5% of the variation in the affective objectives outcome ($p < 0.001$), increasing the proportion of variance explained by the model to 9.2%. Perceived parental rejection (B = -0.065, $p < 0.001$) and overprotection (B = -0.037, $p < 0.05$) are negatively associated with fortitude attainment, while parental emotional warmth presented positive predictions (B = 0.107, $p < 0.001$).

Table 23 Summary of multiple linear regression analysis on fortitude factor (N = 1557)

Variable	Step 1	Step 2	Step 3
	B	B	B
Gender	.399*	.393*	0.386*
Age	-.299***	-.225***	-.143*
Parental migration states	-.031	-.023	-.085
Rejection		-.065***	-.046**
Emotional warmth		.107***	.080***
Overprotection		-.037*	-.034*
S_T			.024
S_S			.063**
Discipline			.021
Competition			.048*
Burden			-.028
Model Summary			
R^2	.014	.092	.123
ΔR^2	.015	.095	.129
F	8.148***	45.715***	11.905***

Note. ***p<.001, **p<.01, *p<.05; B*:* unstandardized regression coefficients. S_T: relationship between teacher and student; S_S: relationship between student and student.

Perceived classroom environment entered at Step 3 accounts for an additional 12.9% of the variation in students' affective objectives attainment ($p < 0.001$), with an association between better performed affective outcomes and a higher degree of perceived classmates' interactions (B = 0.063, $p < 0.01$) and competition (B = 0.048, $p < 0.05$). Relationship between teacher and student, discipline and study burden presented no statistical significance in predicting children's affective outcomes. The results are consistent with the analysis of a hierarchical linear model of classroom environmental variables at the student level in the

previous section. The three regression models are significant and account for a total of approximately 12.3% of the variance in children's affective outcomes. In all three models, gender, age, parental rejection, parental emotional warmth, parental overprotection, classmate's interactions, and competition contributed to changes in children's affective development after accounting for the initial levels of affective attainment.

Table 24 summarized the results of the hierarchical regression analysis on interpersonal strength factor. Student's demographic variables in Step 1 only accounted for 0.4% of the total variation in fortitude factor outcome. Age (B = -0.137, $p < 0.05$) was shown to have a significant contribution on interpersonal strength in Step 1. Perceived parental rearing behaviors entered at Step 2 explained an additional 6.0% of the variation of interpersonal strength outcome ($p < 0.001$), increasing the proportion of variance explained by the model to 5.6%. Perceived parental emotional warmth showed positive association in predicting children's fortitude attainment (B = 0.090, $p < 0.001$), while parental rejection presented negative predictions (B = -0.051, $p < 0.01$). Perceived classroom environment at Step 3 accounted for an additional 13.1% of the variation in student's affective attainment ($p < 0.001$), with a higher degree of perceived relationship between student and teacher (B = 0.062, $p < 0.001$), classmates' interaction (B = 0.098, $p < 0.001$), competition (B = 0.076, $p < 0.001$) and study burden (B = 0.060, $p < 0.01$) being positively associated with performed interpersonal strength outcome. Only discipline presented no statistical significance in predicting children's interpersonal strength outcome. The three regression models were

significant and explained a total of approximately 12.5% of the variance in children's affective outcome.

Table 24 Summary of multiple linear regression analysis on interpersonal strength factor (N = 1557)

Variable	Step 1	Step 2	Step 3
	B	B	B
Gender	-.286	-.343*	-.348*
Age	-.137*	-.071	-.030
Parental migration states	-.059	-.062	-.123
Rejection		-.051**	-.024
Emotional warmth		.090***	.055***
Overprotection		-.004	-.006
S_T			.062***
S_S			.098***
Discipline			-.022
Competition			.076***
Burden			.060**
Model Summary			
R^2	.004	.056	.125
ΔR^2	.006	.060	.131
F	2.980*	29.880***	25.482***

Note. ***p<.001, **p<.01, *p<.05; B*:* unstandardized regression coefficients. S_T: relationship between teacher and student; S_S: relationship between student and student.

Table 25 summarized the results of the hierarchical regression analysis on vitality factor. Student's demographic variables (gender, age and parental migration status) entered in Step 1 only accounted for 2.0% of the total variation in fortitude factor outcome. Age (B = -0.372,

Table 25 Summary of multiple linear regression analysis on vitality factor (N = 1557)

Variable	Step 1	Step 2	Step 3
	B	B	B
Gender	-.345	-.435*	-.446*
Age	-.372***	-.266***	-.205**
Parental migration states	.105	.102	.025
Rejection		-.091***	-.059**
Emotional warmth		.144***	.104***
Overprotection		-.003	-.004
S_T			.057***
S_S			.094***
Discipline			.013
Competition			.096***
Burden			.051*
Model Summary			
R^2	.020	.133	.207
ΔR^2	.022	.136	.213
F	11.485***	68.861***	30.103***

Note. ***p<.001, **p<.01, *p<.05; B*:* unstandardized regression coefficients. S_T: relationship between teacher and student; S_S: relationship between student and student.

$p < 0.001$) were shown to have a significant contribution on vitality in Step 1. Perceived parental rearing behaviors explained an additional 13.6% of the variation of affective outcome ($p < 0.001$), increasing the proportion of variance explained by the model to 13.3%. Perceived parental rejection (B = -0.091, $p < 0.001$) negatively associated with vitality attainment, while parental emotional warmth showed positive association (B = 0.144, $p < 0.001$). Perceived classroom environment accounted for an additional 21.3% of the variation in student's affective attainment ($p < 0.001$), with a higher degree of perceived relationship between

student and teacher (B = 0.057, $p < 0.001$), classmates' interaction (B = 0.094, $p < 0.001$), competition (B = 0.096, $p < 0.001$) and study burden (B = 0.051, $p < 0.05$) being positively associated with performed interpersonal strength outcome. Discipline presented no statistical significance in predicting children's vitality outcome. The three regression models were significant and explained a total of approximately 20.7% of the variance in children's affective outcome.

4.5 Discussion

4.5.1 Factor structure and students' affective objectives attainment

As curriculum reform has stressed the importance of affective objectives and set them as a goal to improve students' overall development, there is a need to understand both what affective objectives are and how to evaluate them. To address this issue, this study analyzed subject-specific curriculum standards (grades 7–9) and summarized the situation, stating that affective objectives under the Chinese concept are not purely affect-oriented, but intended to build students' character, strengths, and virtues. They include 16 affective objectives: creativity, open-mindedness, love of learning, bravery, integrity, kindness, forgiveness, citizenship, fairness, social intelligence, self-esteem, self-confidence, independence, aesthetic, gratitude and hope. For this reason, a 64-item self-report questionnaire measuring 16 affective objectives was developed based on the VIA Classification, which includes primary virtues, character, and strengths in cultures worldwide (Peterson & Seligman, 2004).

The primary aim of this section was first to explore the factor structure of the affective objectives under the Chinese New Curriculum Reform and second to examine rural students' affective attainments. Two main conclusions can be drawn from the results of the data analysis. First, for exploring a more effective factor grouping method to specify the 16 objectives, a second-order factor grouping analysis was performed, according to the procedure recommended by existing studies. In this process, the six-factor framework (Peterson and Seligman, 2004), and the five- (Ruch et al., 2010; Singh & Choubisa, 2010), four- (Brdar & Kashdan, 2010; Macdonald, Bore, & Muro, 2008), and three-factor models (Khumalo, Wissing, & Temane, 2008; Shryack, Steger, Krueger, & Kallie, 2010) were taken as references in the factor-exploring process. The exploratory factor analysis results showed that evidence for a statistically valid solution comprised nine affective objects in a three-factor model, including fortitude, interpersonal strengths, and vitality. Fortitude can signify an individual's qualities such as the affective objectives of bravery, self-confidence, and independence. Interpersonal strengths indicate positive cognition, affect, and actions through social interaction, and this category includes fairness, integrity, and forgiveness. Vitality mainly indicates positive qualities of perceiving the world and society, such as gratitude, love of learning, and aesthetic. The factor structure failed to confirm to the original 6-virtue framework reported by Peterson and Seligman (2004).

This is not the first study to find evidence for a three-factor solution of character strengths. The Chinese virtues questionnaire put forth by Duan et al. (2012) has some

similarities to my results, as it includes attributes of interpersonal strengths (kindness, teamwork, fairness, love, authenticity, leadership, forgiveness, and gratitude), vitality (humor, curiosity, zest, creativity, perspective, hope, social, beauty, bravery, and belief), and cautiousness (judgment, prudence, regulation, perseverance, love of learning, and modesty). However, the unique nature of affective objectives under the Chinese education concept means that this study would be different from other character strength studies, for numerous reasons.

First of all, the number of 16 affective objectives is 8 elements less than the original 24 character strengths. As mentioned before, the 16 affective objectives were summarized from the subject-specific curriculum standards, and there were some character strengths that were not included in the Chinese culture and education concept. For instance, religiousness and humor in the original strengths concept were not regarded as targets of students' affective development. Guan et al. (2009) also excluded these two strengths in their study of developing Chinese primary and secondary students' positive psychological qualities. Second, there was an unexpected number of missing affective objectives after the EFA process, which might be due to the relatively strong connection between the original 16 affective objectives. For example, item 18, "I always raise different opinions during class discussion," is categorized under the objective open-mindedness but had a stronger connection to love of learning. Item 59, "I'm afraid to learn the subjects that I'm not good at," is categorized under the factor bravery but could also be interpreted as self-confidence. Third, there were three

affective objectives (self-confidence, self-esteem, and independence) added that not included in the character strengths framework. Self-esteem and independence, for instance, were two important affective objectives under the moral character building class, as stated in the curriculum standards "Love your life, develop self-esteem and independence, and form a diligent and optimistic attitude" (Ministry of Education, 2011b). The newly added affective objectives might also influence the originally defined 6-virtue framework of character strengths and virtues. Fourth, some affective objectives in the Chinese education concept have other special meanings comparing to original 24 character strengths. Taking citizenship for example, it is defined as a feeling of identification with and sense of obligation to a common good that includes the self but the stretches beyond one's own self-interest by Peterson and Seligman (2004). However, through analyzing the subject curriculum standards of Moral Character Building (CMOE, 2011b), the Chinese concept also added basic social moral behaviors like "protect our environment, comply public orders" presented in self-designed item 24 ("I never leave litter in public place") and item 54 ("I rarely queue when I am taking a bus"). These two items didn't show strong connection with citizenship objective by factor analysis. Further studies could try to reclassify social moral behaviors into another affective objective or redesign the item contents under citizenship. Upon examination with CFA analysis, the results showed good validity and reliability indicators when the three-factor model was applied. The findings demonstrated that a structured questionnaire for nine

affective objectives could serve as a promising assessment tool for investigating the affective characteristics of future lower secondary school students.

For examining rural lower secondary students' affective objectives attainments, the objectives that were best attained were gratitude, independence, and integrity, while the three lowest-rated objectives were forgiveness, bravery, and confidence. Among the best-performing objectives, gratitude was essentially the same as reported in previous studies (e.g., Furman & Lester, 2012; Littman-Ovadia & Lavy, 2012; Ruch et al., 2013). However, the findings did not show aesthetic and love of learning as the highest-rated objectives, which is a departure from previous studies. Thus, rural students may have relatively low aesthetic sense and study motivation because of the limited study resources in their remote area. There were gender differences for 6 of the affective objectives: confidence, independence, bravery, fairness, love of learning, and aesthetic. Male students reported higher confidence, bravery, and love of learning, whereas female students reported higher independence, fairness, and aesthetic. Similar to the previous character strength study, female students had a higher score on aesthetic while male students were higher on bravery (Furnham & Lester, 2012; Mao & Gao, 2013). The traditional cultures of rural China, which place strong preference for sons over daughters, may cause female students to be more independent and have a greater desire for fairness than male students. This could also be interpreted that male students feel more confident and love studying probably because rural parents tend to pay more attention to boys rather than girls. Thus it can be seen that even though affective objectives are specified as

important education targets in the school settings, children's individual characters vitally influenced by other factors beyond school, such as parenting style (Duan et al., 2012).

Of the nine objectives measured with comparison of different student year groups, seven affective objectives showed statistical differences (confidence, independence, bravery, integrity, gratitude, love of learning, and aesthetic objectives). Forgiveness and fairness had no significant changes among grade groups and no affective objectives were increased with the increase in the grade. Five objectives' (confidence, independence, integrity, love of learning, and aesthetic) ratings declined with increasing grade, whereas seventh- and ninth-grade students rated slightly higher than eighth-grade students on bravery and gratitude. This finding was different with Yu and colleagues' study, in which they found bravery, integrity, and aesthetic stayed at the same level in middle school students (Yu et al., 2009), whereas consistent with Park and Peterson's (2006) findings on US samples that fifth graders scored higher than eighth graders for most scales on student's character strengths. The declining trend in students' affective attainments may reveal a potential negative influence from family, school, and society (Lu & Wang, 1999). The results argued that rural students' affective development may not meet the policy statements of educational aims for the "all-around development of all individual learners" (Zhou & Zhu, 2006). Not consistent with previous studies (Wang & Wu, 2003; Steinhausen et al., 1980), there were no significant differences on student's affective objectives attainment by four patterns of parental migration status: no-parent migration, mother-only migration, father-only migration and both-parent migration.

Therefore, there is a need to clarify the reason of the discrepancy in current research by exploring parenting style in next section and detailed discussion will be conducted in the whole picture (see section 4.5.4).

4.5.2 Impacts of parenting style patterns on students' affective objectives attainment

The main purpose of this section was to classify patterns of parental rearing behaviors existing in western rural China and to examine the differences on students' affective objectives attainment according to the derived clusters. In the first approach, means of six parenting style variables, and correlations between parenting style variables and three-factor model of affective objectives were examined. It was found that the highest rated parenting rearing behaviors perceived by students were father and mother emotional warmth, and the lowest scored variables were father and mother rejection. On these two variables, mother was scored higher than father, as found by Mckinney and Renk (2008) that mothers are expected to spend more time on children while fathers are tend to be the providers and disciplinarians. The correlation test showed that there was a strong connection between parenting style and their affective objectives attainment. Both perceived father/mother rejection and father/mother overprotection negatively predicted fortitude, interpersonal strength and vitality, and perceived father/mother emotional warmth was a positive predictor of three models of affective objectives. The results confirm previous findings that negative parenting rearing techniques (parental rejection and parental overprotection) and positive parenting style

(parental emotional warmth) are closely related to youth character strengths and virtues (Duan, et al., 2012).

The second approach utilized in this study was to apply hierarchical cluster analysis to the perceived parenting style ratings. Six distinctive categories of parenting style were identified using cluster analysis, which did not corresponded to the original three-variable model of father/mother rejection, father/mother emotional warmth and father/mother overprotection proposed by Jiang (2010). The emerged parental emotional warmth cluster was characterized by relative high ratings for father/mother emotional warmth and low ratings on father/mother rejection and father/mother overprotection. Parental rejection group was scored relatively high on father/mother rejection and low on father/mother emotional warmth and father/mother overprotection. Parental overprotection showed high ratings on father/mother overprotection and low ratings on father/mother rejection and father/mother emotional warmth. Parental favoring was characterized by high level on father/mother emotional warmth and father/mother overprotection, and poor on father/mother rejection. All six parenting style variables performed lowly on parental non-contact and highly on polarized parenting style (except father/mother emotional warmth). Except three clusters of father/mother rejection, emotional warmth and overprotection, there were three types of parenting rearing patterns newly obtained beyond the original questionnaire scales. They were parental favoring, non-contact and polarized parenting style, which bearing the special and unique culture concept of western rural China. For instance, parental favoring, which is

characterized by high level of love, affection and caring with firm enforcement of rules and standards, ranked second with 368 students among total samples. In the comparative studies on mother's parenting styles between European American mothers and Chinese American mothers, Chinese American mother's parenting styles have been interpreted as more dominating and controlling than European American mothers (Chao, 2000). As Yang (1981) interpreted, the socialization practice is harsh and parent-centered and children are supposed to be submissive to their parents in the traditional Asian culture. These differences suggested that initial defined parenting rearing patterns defined by western scholars have culture-specific meanings for Chinese parents (Xu et al., 2005). Even though this study utilized the classification of parenting pattern variables different from Baumrind's (1971), the results have similarly proved with Chao's (2000) conclusion that Chinese parenting styles cannot be classified into the exact parental rearing techniques proposed by western researchers. Without expectation, the other newly derived cluster of parental non-contact (n = 320) also had taken a large number among the whole sample and among which 214 students come from no-parent migration families. This data indicated that parental migration states were not the main cause affecting the less interaction between parents and children in western rural area, and there were still numbers of rural parents lacking the awareness on intimate parent-child activity. Another reason of the less impact may be considered as the special migration pattern of the research area, which is mentioned in Chapter three, that most of the migrant workers' working destinations were inside Gansu province. Thus, the frequency of visiting home may ease the

damages caused by parents' out working. Polarized parenting group, even though only has taken 4% of the whole sample size, should not be neglected. It presented the extraordinary high level of rejection and overprotection behaved by both parents, or only by one side of parents on each variable. Among the obtained parenting style clusters, parental emotional warmth was the most common, followed by parental favoring, parental non-contact, parental overprotection, parental rejection and polarized parenting style. The findings showed that about half of the rural students reported parents' rearing behaviors as full of love and affection, encouraging the verbal give-and-take, sometimes over-caring with firm enforcement of rules and standards. Chao (1994) has argued that this kind of parenting style with "governing" as well as love was express as *"guan"* in Chinese, which fulfills the Chinese parents' child-rearing responsibilities. In the early Spring and Autumn Period of mainland China, the key philosopher Confucius and Mencius represented a way of training their children to fit within the traditional moral code of benevolence, righteousness, propriety, wisdom and trustworthiness and modern Chinese parents still retain a strong adherence to this value. Thus, authoritative and authoritarian parenting styles are intertwined with the Chinese value system and both will be expressed in varying degrees based on a family's particular circumstances (Xu, 2005). However, around another half of students rated parenting styles as lacks of emotional warmth, less communicating, little verbal give-and-take or even verbal abuse and physical punishment. It reveals the information that rural parents' child-rearing pattern still has some degrees of undesirable or even misbehaviors.

Differences in student's affective objectives attainment were investigated for these groups, and it was found that all nine affective objectives (confidence, independence, bravery, integrity, forgiveness, fairness, gratitude, love of learning and aesthetic) did differ significantly between the six parental style groups as hypothesized. Parental emotional warmth and parental favoring group showed highest scores on nine affective objectives. Regarding the lowest performed groups, parental overprotection presented the poorest ratings on five affective objectives: integrity, forgiveness, gratitude, love of learning and aesthetic. Polarized parenting style group was rated lowest on confidence and independence. Parental rejection and non-contact showed poorest on fairness and bravery respectively. It was worth noting that in the current study, parental non-contact group only performed lowest on bravery and had the average scores on other affective objectives, whereas parental overprotection turned out to be the worst parenting pattern comparing to other groups. It indicated that fearful, harsh, over strict and controlling parenting rearing techniques might have the more negative influences on children's affective development than non-contact parenting behaviors. That may be caused by the particular period of adolescence that transition during this period from the highly dependent and controlled stage of childhood into a stage marked by an increasing sense of self-exploration and autonomy (Wentzel & Battle, 2001). Thus, the less flexible child-rearing way may cause psychological inversion of adolescence and worsen their misbehaviors. The second lowest rated parenting group, polarized parenting style, was similarly characterized by high level on parental overprotection. In Yue and colleagues' (1993)

research, overprotection parenting style did not show significant negative impacts on children's psychological health and personality development. They argued that Chinese culture was belonging to collectivism and children who growing up in this environment were easier used to the over-controlling rearing behaviors comparing to western adolescents. However, China has experienced the rapid economic transformation during the last ten years. Influences from western society, to a great extent, have changed the material and spiritual culture needs of Chinese people. Children are eager for the freedom on their own decisions and activities. Findings of this study will sound the gong on the excessive protection child-rearing behaviors which Chinese parents might not pay attention to. Another reason caused the results different from previous research may be because this research focused on rural parent's parenting style. As found by Li (2001), parenting style was influenced by various factors, such as parent's gender, education background, rural, urban and etc. Even the same parental rearing technique, it may also present in different ways according to the targets. In a word, parents may adopt specific parenting practices appropriate to their culture, and raise their children with culturally favorable behaviors (Liu & Guo, 2010). Comparing to the non-significant parental migration states impacts examined in last section, parental rearing practices had great influences on student's affective objectives attainment. It transmits the information that what kind of parent-child interaction pattern is more important in shaping children's development rather than whether their parents are migrant workers or not. At least

in this research, parental migration states showed no negative influences on children's affective outcomes.

To our best understanding, this is the first empirical study to examine parenting styles using cluster analysis in rural China. Duan (2012) raised that no researches have been found related to the family environment influences on children's character strengths development so far, so this study would give the important evidence for further study on the relationship between parenting style and children's affective development. Data derived from the present sample of Chinese rural children would supplement the measure's cross-culture stability and should whether or not previously defined dimensions of s-EMBU-c could apply to different areas in China.

4.5.3 Impacts of classroom environments on students' affective objectives attainment

This study is distinctive in that it involves the use of the HLM model to measure students' perceptions of the classroom environment at both the individual and the class levels. This study provides methodological improvements compared to the prior research, as it employed two units of analysis (students and the class). The first objective of this section aimed to examine the differences in students' perceptions of the classroom environment according to demographic characteristics. Means of the five perceived classroom environments showed that relationship with the teacher was rated the highest, and study

burden was scored as the lowest variable by students. The crude statistics show that rural students are generally satisfied with teacher-student interactions. Meanwhile, study burden is not heavy for students in the research area. After assessing the differences in the five perceived classroom environmental variables according to students' demographic characteristics, findings revealed that there are significant differences according to grade and parental migration status, but not according to gender. The younger the students are, the better they perceive the relationship with teacher and classmates, and ninth-grade students scored highest in study burden than seventh- and eighth-grade students did. These findings are consistent with Xu and colleagues' (2012) study on classroom environment. The increased trend of study burden may be caused by the pressure of the senior high school entrance examination when students enter the ninth grade. Meanwhile, it forces teachers to "govern" students on concentrating on studying. Middle-school students will experience the transition from complete compliance with school rules to critical judgment toward teachers. This has negative impacts on teacher-student relationships and class discipline (Xu et al., 2012). Regarding parental migration status differences, students from mother-only migration families rated poorest in relationship with teacher and competition, and those from father-only migration families scored lowest in study burden. This finding suggests that children left by both parents do not evidently perform poorer in perceptions of the classroom environment. As Wen and Lin (2012) argued, children left by migrant mothers are the most disadvantaged in terms of health behaviors and school engagement compared to children from both-parent

migration and father-only migration families. Normally, mothers are expected to spend more time caring for children and showing affection, while fathers are expected to be providers and disciplinarians (McKinney & Renk, 2008). A lack of maternal monitoring and caring might damage children's development and cause risky behaviors in life and study. The finding that mother-only migration tends to have more negative effects than both-parent migration on students' perceptions of the classroom environment is not as expected. In the present study, mother-only migration is the least common type of migrant families in western rural areas—a pattern reported elsewhere as well (Lee & Park, 2010). Thus, it is possible that, due to personality or other contingencies, fathers who stay at home while their wives work in cities may be less able or motivated to assume a breadwinner role in the family and are less equipped with psychosocial resources to provide quality parenting (Wen & Lin, 2012).

The second objective of this section was to compare the classroom environmental perceptions at both the student and the class levels. Empirical analysis of the classroom environmental impacts on children's psychological development has not been abundant. Most studies have tended to be small scale, focusing only on the academic outcomes. The findings showed that classroom environmental variables at the student level better predicted students' affective objectives attainment than class-level variables did, which concurs with the findings of previous research (Pan, Zhao, Yao, & Wang, 2012). At the student level, relationship with teacher, classmates' friendships, and competition appear to be the most influential factors on affective objectives attainment. Teachers who are reasonable and fair tend to have intimate

interactions with students and form a positive classroom atmosphere, which are beneficial to students' personality development. Analysis from this study showed that harmonious interactions with classmates positively predicted almost all of the affective objectives except for fairness. Close relationships among classmates are a constituent part of middle-school students' social lives (Pan, Zhao, Yao, & Wang, 2012). Love, care, and companionship from classmates could provide strong psychological support and help to students. Competition is another important factor contributing to affective development. As found by Jiang (2005) and Qu (2004), a competitive classroom environment also effectively inhibits students' academic procrastination. However, their results do not coincide with Johnson and colleague's (1974) evidence that tense competition might cause problems in emotional and social adaptation. Dorman and Adams (2004) also argued that teachers who create an environment characterized by competition and conflict will not optimize academic efficiency. The discrepancy may be because of the relatively lower rating of competition compared to those of the other four classroom environmental variables in the current research. In other words, moderate competition is essential as a motivating factor for positive child development, whereas excessive competition produces some harmful impacts. Furthermore, certain affective objectives in the special Chinese concept might require the competitive quality. For instance, bravery was given the personality characteristics as not shrinking from challenge and difficulties. In that sense, moderate competition could enhance such strong human qualities. At the class level, relationship with teacher and class discipline turned out to be the two main

factors contributing to students' affective objectives attainment. This finding suggests that an orderly classroom with firm disciplines and effective teacher management could directly or indirectly help improve students' affective development. Relationship with teacher, nevertheless, seems to produce an opposite prediction for two affective objectives, that is, independence and love of learning. The discrepancy in perceived teacher interactions between the class and the student levels is interesting. It may be due to the unique academic climates in the research context. Normally, rural teachers in China are characterized by a more authoritative style, and students are obedient to the school rules, following a traditional norm in terms of beliefs and attitudes (Chen, Wang, & Wang, 2009). In contrast, the present study exhibited a high level of positive teacher-student associations with the outcomes compared to the level of the associations of other classroom environmental variables. The finding that rural teachers are more like friends and easier to contact may explain why students slack in their studies. In addition, low ratings of competition might also cause a decline in the academic motivation to get good grades, follow school rules, and value school. Thus, it is quite important to keep a balance among high levels of harmony, genuine teacher support, student cohesiveness, competition, and orderly disciplines to enhance positive child development.

4.5.4 Combined impacts of students' demographic characteristics, parenting styles, and classroom environments on students' affective objectives attainment

Another aim of this section was to investigate the extent to which rural students' characteristics in three main contexts (demographic characteristics, perceived parenting styles, and classroom environments) can predict their affective objectives attainment. A hierarchical regression model was employed to identify the unique proportion of variance attributed to each context. Findings showed that children's affective outcomes in each of the three models appear to hold unique proportions of variance, and the final model confirmed that the explained variance in students' affective development is accumulated from the prior two models.

Consistent with the analysis in previous sections, age (grade) was found to be negatively associated with affective outcomes in three-factor models. Although gender showed differences in the performances of six affective objectives, as discussed in section 4.1.2, the hierarchical regression model of demographics indicated that gender is not a main predictor in determining students' affective objectives acquisition in interpersonal strength and vitality factor. The reason may be because of the different levels of affective attainment between male students and female students. As discussed before, male students rated themselves statistically higher in confidence, bravery, and love of learning, whereas female students rated themselves statistically higher in independence, fairness, and aesthetics. The discrepancy in affective performance is a result of both gender differences and traditional

Chinese rural cultures (Fu, 2014). When testing affective objectives as a whole, the function of lower-rated objectives may cancel that of the higher-rated ones. Thus, the non-significant result cannot confirm that gender does not play an important role in children's early social and behavioral development (Maccoby, 1990). Parental migration status again showed no obvious impacts on children's affective outcomes for several reasons. First, the prevalent destinations of migrant workers in the current study are inside the Gansu province. Most of them can visit home monthly or approximately every half a year. The frequency of visiting home would ease the negative effects caused by parents' working away from their homes. Second, the prior analysis found that 320 students are from parental non-contact families, among which 214 students are from non-migration families. This finding indicates that there are a number of rural parents, whether migrant or non-migrant, who are unaware of the positive effects of intimate parent-child activity. Third, it seems that the kind of parent-child bonding and communication fostered is more significant than parental physical absence (Wen & Lin, 2012). Therefore, the findings in the current study are contrary to the statement that family household moves increase children's emotional and behavior problems (Jiang, 2005; Zhou, 2005). That age is related most closely to children's affective outcomes highlights the importance of nurturing students' character building according to different ages. The older the students are, the poorer they perform in affective assessment. Similar evidence on character strength from US samples can also be observed in Park and Peterson's (2006) study. The declining trend may reveal a potential negative influence from family, school, and society (Lu

& Wang, 1999). Parents and teachers should pay special attention to children's needs in different age groups.

In the same vein, parental rearing behaviors turned out to be strongly associated with children's affective outcomes in three-factor model, as expected. Perceived parenting styles reflected children's perceptions of their relationships with parents and the overall home atmosphere. Parenting style was identified as a substantial determinant of children's affective outcomes by demonstrating the individual demographic contribution in terms of both the standardized regression coefficient and the R^2 change. The finding aligns with prior research underlining the prominent role of parenting styles in adolescents' development (Dehart, Pelham, & Tennen, 2006; Duan et al., 2012; Zheng, 2009; Zeng, 2010). In order to correspond with the research framework assumption, original three-factor parenting style variables (parental rejection, parental emotional warmth, and parental overprotection) were examined in the second model of hierarchical regression. Parental rejection and emotional warmth were found to significantly predict adolescents' affective development, whereas parental overprotection showed low associations. There were no significant impacts of parental overprotection on interpersonal strength and vitality factor, but only slightly negatively related to fortitude factor. This interpretation derives from the results of the cluster analysis of parenting styles in section 4.2.2. Six parental rearing patterns were extracted from the hierarchical cluster analysis: parental emotional warmth, parental rejection, parental overprotection, parental favoring, parental non-contact, and polarized parenting style. Unlike

variables of rejection and emotional warmth, which are purely correlated with the negative parenting variables (parental rejection and polarized parenting style) and the positive parenting variables (parental emotional warmth and parental favoring), respectively, overprotection partially contributed to parental overprotection, parental favoring, and polarized parenting style. The negative and positive functions of the overprotection variables may decrease their significant impacts on affective outcomes. Further, parenting style variables initially defined by western scholars have culturally specific meanings for Chinese parents (Xu et al., 2005). In the Asian culture, the socialization practice is parent-centered, and children are supposed to be submissive to their parents (Yang, 1981). Originally negatively defined overprotection variables may have a complex and unique meaning in the Chinese perspective. Consistent with prior studies, the other two parenting style variables (rejection and emotional warmth) respectively presented negative and positive associations with adolescents' affective objectives attainment (Fang, Xiong, & Guo, 2003; Xue, Yu, Sun, & Jia, 1998). This suggests that family atmosphere should be characterized by comfort, encouragement, lenience, love, and care. On the other hand, punishment, over-control, abuse, rejection, overprotection, and negligence are harmful for children's development.

In terms of the impacts of classroom environmental variables, relationship with teacher, classmates' interactions, competition and study burden positively predicted students' affective objectives attainment in three factors, over and above those attributed to gender, age, parental migration status, and perceived parenting styles. Even though this finding is modest, it

corroborates that of previous research suggesting that a maximum of 15% of variance in "subjective health complaints" is explained by both family and school factors throughout adolescent years (Petanidou et al., 2013). The current study focused on students' perceptions of teacher-student relationship, student-student relationship, discipline, competition, and study burden as proposed by Jiang (2004). The general classroom environment in the rural areas is characterized by a high level of teacher and classmates' relationship, and a relatively low level of competition and study burden (see section 4.3.1). In the previous hierarchical linear model analysis of the classroom environment, findings at the student level also suggested that intimate and harmonious relationships with teacher and classmates are beneficial for students' affective development, as suggested in other studies as well (Pan, Zhao, Yao, & Wang, 2012). It is worth noting the finding on competition in the current research, that is, its significant positive impact, as it is contrary to previous findings reported by Johnson et al. (1974) that competition may be harmful for students' emotional and social adaptation. It is important to mention that the degree of competition is the determinant of various dependent variables rather than competition itself. Therefore, moderate competition is an essential motivating factor for positive child development, whereas excessive competition produces harmful impacts. The finding further suggests that more supportive and moderately competitive classroom environments may offer adolescents a secure and harmonious place wherein social networks can be established to foster their healthy development.

CHAPTER FIVE

CONCLUSIONS, IMPLICATIONS, AND FURTHER RESEARCH

5.1 Conclusions

This study adds to the scarce empirical studies on affective objectives, which have been stressed as the most important and challenging issue related to the New Curriculum Reform for improving students' overall development. It also contributes to the literature on children's affective objectives attainment across different cultural settings. It simultaneously tested the effects of a host of psychological, social, and environmental factors on adolescents' affective development, guided by the ecological model and the positive psychology theory (Bronfenbrenner, 1979; Peterson & Seligman, 2004). Each of the life domains was examined (i.e., individual, family, and school) to determine what is crucial in achieving students' affective outcomes and especially what parenting style and classroom environment benefit students in specific settings of western rural China. Overall, the results of the current analyses point to a number of conclusions.

First, this study examined students' affective objectives attainment by clarifying the understanding of affective objectives and how to evaluate them. In comparison to the complete theories and studies of the affective domain in foreign countries, most Chinese literature has been written based on theoretical description, or has lacked an empirical

analysis of affective objectives based on the new curriculum requirement. This study analyzed subject-specific curriculum standards (grades 7–9) and summarized the situation, defining affective objectives under the Chinese perspective as not purely affect-oriented, but intended to build students' character, strengths, and virtues. There are 16 affective objectives: creativity, open-mindedness, love of learning, bravery, integrity, kindness, forgiveness, citizenship, fairness, social intelligence, self-esteem, self-confidence, independence, aesthetics, gratitude, and hope. To measure these 16 affective objectives, a 64-item self-designed questionnaire was developed based on the VIA Classification, which includes primary virtues and character strengths in cultures worldwide (Peterson & Seligman, 2004). After testing the validity and reliability of the questionnaire, evidence showed a statistically valid solution comprising nine affective objects in a three-factor model, consisting of fortitude, interpersonal strengths, and vitality. Fortitude can signify an individual's qualities such as the affective objectives of bravery, self-confidence, and independence. Interpersonal strengths indicate positive cognition, affect, and actions through social interaction, and this category includes fairness, integrity, and forgiveness. Vitality mainly indicates positive qualities of perceiving the world and society, such as gratitude, love of learning, and aesthetics. This more effective factor-grouping method is based on the recommendations of existing studies: the six-factor framework (Peterson and Seligman, 2004) and the five- (Ruch et al., 2010; Singh & Choubisa, 2010), four- (Brdar & Kashdan, 2010; Macdonald, Bore, & Muro, 2008), and three-factor models (Khumalo, Wissing, & Temane, 2008; Shryack, Steger, Krueger, & Kallie, 2010)

failed to confirm the original 6-virtue framework developed by Peterson and Seligman (2004). The questionnaire, capturing students' affective development in the Chinese perspective, is expected to provide a promising measurement tool for future curriculum evaluation purposes.

Second, the current research focused on examining western rural students' affective attainment, especially addressing the issue of left-behind children. Despite the increasing recognition of the left-behind children issue in Chinese developmental literature, empirical analysis exploring the role of parental migration in developmental outcomes among left-behind children has not been abundant (Wen & Lin, 2012). After examining the affective objectives attainment of rural lower secondary students, I found that the objectives with the best performances are gratitude, independence, and integrity, while the three lowest-rated objectives are forgiveness, bravery, and confidence. Gender differences for the following six affective objectives were obtained: confidence, independence, bravery, fairness, love of learning, and aesthetics. Male students reported higher confidence, bravery, and love of learning, whereas female students reported higher independence, fairness, and aesthetics. Of the nine objectives measured in comparison to different student year groups, seven affective objectives showed statistical differences (confidence, independence, bravery, integrity, gratitude, love of learning, and aesthetics). The ratings of five objectives (confidence, independence, integrity, love of learning, and aesthetics) declined with increasing grade, whereas seventh- and ninth-grade students rated slightly higher than eighth-grade students did in bravery and gratitude. The declining trend in students' affective objectives attainment

revealed a potential negative influence from family, school, and society (Lu & Wang, 1999). However, parental migration status showed no obvious impacts on children's affective outcomes, which is not consistent with previous findings (Wang & Wu, 2003; Steinhausen et al., 1980).

Third, this study presented a more in-depth investigation and analysis of the different types of parenting styles and their impacts on rural children's affective development based on data from a large-scale sampling. The results showed six distinctive categories of parenting styles using hierarchical cluster analysis, which does not correspond to the three-variable model of father/mother rejection, father/mother emotional warmth, and father/mother overprotection originally proposed by Jiang (2010). The newly extracted three parenting styles (parental favoring, parental non-contact, and polarized parenting style) bare the special and unique cultural meanings of western rural China, suggesting that parenting rearing patterns defined by western scholars have culturally specific meanings for Chinese parents (Xu et al., 2005). Parental non-contact group unexpectedly represents a large number among the whole sample, among which most come from no-parent migration families. This indicates that parental migration is not the main reason causing the low interaction between parents and children. Rural parents' child-rearing patterns revealed that a number of rural parents still have some degree of undesirable or even improper behaviors, such as lacking an awareness of the importance of intimate parent-child activity. As hypothesized, all nine affective objectives differ significantly among the six parental style groups with regards to students' affective

development. Parental emotional warmth and parental favoring showed the highest scores in nine affective objectives. Parental overprotection turned out to be the worst parenting pattern compared to the other groups, which indicates that fearful, harsh, over-strict, and controlling parental rearing techniques might produce more negative influences on children's affective development. Compared to the non-significant impacts from parental migration status examined in the last section, the impact of parental rearing practices on students' affective outcomes is significant. This finding suggests that the kind of parent-child interaction pattern that is present is more important in shaping children's development than whether the parents are migrant workers or not. To the best of our understanding, this is the first empirical study to examine parenting styles in rural China using cluster analysis. The evidence is crucial for further research to explore the reasons behind children's problematic behavior or for future comparative studies on rural areas.

Fourth, the findings from this study highlight the evidence that the effect of the classroom environment is important and different according to the student level or the class level. Findings revealed that there are significant differences in students' perceptions of the classroom environment according to grade and parental migration status, but not according to gender. The younger the students are, the better they perceive their relationships with teacher and classmates. Ninth-grade students scored the highest in study burden than seventh- and eighth-grade students did. Students from mother-only migration families rated the poorest in relationship with teacher and competition, and those from father-only migration families

scored the lowest in study burden. Classroom environmental variables at the student level better predicted students' affective objectives attainment than class-level variables did, which concurs with the findings of previous research (Pan, Zhao, Yao, & Wang, 2012). At the student level, relationship with teacher, classmates' friendships, and competition appear to be the most influential factors on affective objectives attainment, and relationship with teacher and class discipline turned out to be the two main factors at the class level. This evidence suggests that it is quite important to keep a balance among high levels of harmony, genuine teacher support, student cohesiveness, competition, and orderly disciplines to enhance positive child development.

Finally, the combined impacts of students' demographic characteristics, parenting styles, and classroom environments were investigated to assess the extent to which rural students' characteristics in three main contexts predict their affective objectives attainment. Consistent with the hypothesis, findings showed that each of the three contexts appear to hold unique proportions of variance, and the final model confirmed that the explained variance in students' affective development is accumulated from the prior two models. This proves the statements that parents and schools need to cooperate, that a linkage between schools and families is needed to promote a child's success (Deslandes et al., 1997), and that interactions among individuals, parenting styles, and classroom environments are pivotal for children's development.

5.2 Implications and future research

This study has important implications for educators and parental rearing practices. First, by defining the concept of affective objectives, this study enhances teachers' awareness of the need to foster students' creativity, open-mindedness, love of learning, bravery, integrity, kindness, forgiveness, fairness, social intelligence, self-confidence, independence, aesthetics, gratitude, and hope in the teaching practice. The design of a reliable and valid assessment tool of affective objectives assessment would help teachers to conduct summative evaluations of the curriculum. Second, this study informs teachers that there are differences in promoting students' affective outcomes by gender and age, and special attention should be paid to older students' needs because pressure will be increased due to the senior high school entrance examination when students enter the ninth grade. Normally, teachers are forced to "govern" students on concentrating on studying. Students will experience the transition from complete compliance with school rules to critical judgment toward teachers, and this would produce harmful impacts on teacher-student relationships. Third, the findings from this study with regards to the significance of multiple social and psychological factors lend empirical support to the ecological model and positive psychology of child development ((Bronfenbrenner, 1979; Peterson & Seligman, 2004). These frameworks, albeit well recognized in theory and empirically corroborated to some extent in Western societies, have not been adequately operated in Chinese settings. To enhance our understanding of the determinants of positive child development in China, further work should continue to employ these frameworks as

theoretical guides for an empirical exploration of how distant or proximate factors of multiple life domains jointly shape trajectories of youth adjustment and which processes are underlying these social influences. Moreover, research is warranted to investigate the sources of the evident disadvantages of rural children in several aspects of affective objectives attainment, especially as it is a growing problem with the rapid increase of rural children with poor educational and social resources, whose parents lack the awareness of the importance of intimate parent-child activity.

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APPENDIXES

Appendix A: A questionnaire survey (English version)

Dear student,

This is a psychological investigation. It's not a test, and there is no right or wrong answers. What we want is your opinion, so try to answer the question that is most appropriate to you. Your answer will not be seen by anyone else. Thank you very much for your cooperation!

General Information

1. Name of school_____ 2. Class_____

3. Gender _____ 4. Age _____

5. Whom do you usually live with?

(1) Parents (2) Father (3) Mother (4) Grandparents (5) Siblings

(6) Relatives (7) Self (8) Others_____

6. Your father's occupation

(1) Manager (2) Farmer

(3) Staff (4) Migrant worker

(5) Intellectual (teacher, doctor, engineer etc.) (6) Others_____

7. Your mother's occupation

(1) Manager (2) Farmer

(3) Staff (4) Migrant worker

(5) Intellectual (teacher, doctor, engineer etc.) (6) Others_____

8. Are you the only child in your family?

(1) Yes. (2) No, I'm the eldest. (3) No, I'm in the middle. (4) No，I'm the youngest.

*Attention：If both of your parents or one of your parents are/is migrant worker(s), please continue to answer question 9 and 10.

9. Which city is your father or mother work in? _____

10. How often does your father or mother come home?

Father: (1) Monthly (2) Around half a year (3) Yearly (4) Above one year

Mother: (1) Monthly (2) Around half a year (3) Yearly (4) Above one year

My Affection Questionnaire

Instruction: My affection questionnaire includes 64 items. There are four answers under each question. Please give your opinion by ticking the number in each line to show that you agree with the statement.

1 = Very much unlike me 2 = Unlike me 3 = Like me 4 = Very much like me

	Item				
1	There are always a lot of ideas in my mind.	1	2	3	4
2	I often get very excited when I learn new knowledge.	1	2	3	4
3	I don't help others if they don't ask.	1	2	3	4
4	Even though I don't agree with the group decision, I go along with it.	1	2	3	4
5	I beg people in order to settle affairs.	1	2	3	4
6	When I reading literature, I can feel the beauty of the words.	1	2	3	4
7	I always recall the good things in life when I am upset.	1	2	3	4
8	I always raise different opinion during class discussion.	1	2	3	4
9	I always think ways to overcome the difficulties.	1	2	3	4
10	It's difficult for me to be reconciled with friend if we have a quarrel.	1	2	3	4
11	I ask everyone to follow the same rules, even friends.	1	2	3	4
12	I always complete homework through asking other people questions.	1	2	3	4
13	I let family and friends feel my love for them through actions.	1	2	3	4
14	I like doing things through methods that have not been tried before.	1	2	3	4
15	I don't like doing homework.	1	2	3	4
16	I seek revenge if somebody hurts me.	1	2	3	4
17	I often quarrel with my family because of trivialities.	1	2	3	4
18	I feel satisfied with my appearance.	1	2	3	4
19	I don't trouble others to help me do things that I can finish alone.	1	2	3	4
20	I don't own an ideal.	1	2	3	4

	Item				
21	I am not good at discovering new methods to solve math problems.	1	2	3	4
22	I have the courage to do the right thing even when it is not popular.	1	2	3	4
23	I feel very happy to help others.	1	2	3	4
24	I never leave litter in public place.	1	2	3	4
25	I feel angry if classmates give me the nickname and mock at me.	1	2	3	4
26	Seeing pretty pictures or listening to beautiful music makes me feel better.	1	2	3	4
27	I feel difficult to accept different beliefs even if there are evidences.	1	2	3	4
28	I lie in order to achieve my purpose.	1	2	3	4
29	I forgive people who apologize to me even they have done bad things.	1	2	3	4
30	I don't feel arrogant for teacher's praise, and discouraged for their criticism.	1	2	3	4
31	My family usually helps me to wash clothes and clean bedroom at home.	1	2	3	4
32	I think I need to work harder to repay teacher.	1	2	3	4
33	I always take other's suggestion without thinking.	1	2	3	4
34	I defend my friends against an injustice when they are bullied.	1	2	3	4
35	I always admit the mistake I made.	1	2	3	4
36	I rarely say "thank you", "I'm sorry" etc.	1	2	3	4
37	I believe I can handle things in a difficult situation.	1	2	3	4
38	I have no interest in music, art and dance.	1	2	3	4
39	I often read some literary works in my spare time.	1	2	3	4
40	I always keep my promise that I have made to others.	1	2	3	4
41	I give people a second chance when they apologize.	1	2	3	4
42	I think teacher should treat fairly between good and poor students.	1	2	3	4
43	I feel indifferent if the teacher criticizes me in public.	1	2	3	4
44	I always study under the supervision of the family.	1	2	3	4
45	I believe I will have a good future.	1	2	3	4
46	The teacher always appraises my essay's content that is creative.	1	2	3	4
47	I hide my true feelings in order to cater to others	1	2	3	4

	Item				
48	I think anybody who's in trouble should be helped and cared.	1	2	3	4
49	I often have no intention of making my friends unhappy.	1	2	3	4
50	I have confidence to learn the subjects well that I'm not good at.	1	2	3	4
51	I feel very happy to have my mom and dad.	1	2	3	4
52	I always ask interesting questions in the process of learning.	1	2	3	4
53	I never tell others secrets that my friends tell me.	1	2	3	4
54	I rarely queue when I am taking a bus.	1	2	3	4
55	I protect good friends in spite of unfair.	1	2	3	4
56	I always feel that I can't do anything.	1	2	3	4
57	There are many people who I need to repay in my life.	1	2	3	4
58	I think what the teacher say is right and should not be questioned.	1	2	3	4
59	I'm afraid to learn the subjects that I'm not good at.	1	2	3	4
60	I think that giving is more important than receiving.	1	2	3	4
61	I think that cleanser should also be respected.	1	2	3	4
62	I absolutely do not allow others to attack me with abusive words.	1	2	3	4
63	When I see beautiful scenery, I can't help but stop to admire it.	1	2	3	4
64	When people see the negative side of things, I can always find the positive side.	1	2	3	4

My Class Questionnaire

Instruction: My class questionnaire includes 38 items. There are five answers under each question. Please give your opinion by ticking the number in each line to show that you agree with the statement.

1=Never 2=Seldom 3=Sometimes 4=Often 5=Most of time

	Item					
1	Classmates like homeroom teacher.	1	2	3	4	5
2	If someone has something on his/her mind, other students care about him/her.	1	2	3	4	5
3	Our class is lack of order.	1	2	3	4	5
4	There is intense competition among students in our class.	1	2	3	4	5
5	We don't have too much homework.	1	2	3	4	5
6	Our homeroom teacher is reasonable.	1	2	3	4	5
7	There is lack of love between classmates.	1	2	3	4	5
8	Our classroom is noisy.	1	2	3	4	5
9	Our classmates compete with each other on study overtly and covertly.	1	2	3	4	5
10	Teachers give a lot of homework.	1	2	3	4	5
11	Our homeroom teacher is very kind.	1	2	3	4	5
12	Our class is very united.	1	2	3	4	5
13	Teachers spend a lot of time to maintain order.	1	2	3	4	5
14	Our class has an intense competition atmosphere.	1	2	3	4	5
15	We have additional or supplementary class.	1	2	3	4	5
16	Our homeroom teacher is an amiable person.	1	2	3	4	5
17	Classmates who have difficulties get other's care and help.	1	2	3	4	5
18	Our class is a very orderly.	1	2	3	4	5
19	Everyone is afraid of falling behind in the study.	1	2	3	4	5
20	We have a lot of tests and exams.	1	2	3	4	5

21	Homeroom teacher really take care of the students.	1	2	3	4	5
22	Many students harm to others for their own sake.	1	2	3	4	5
23	Classmates can keep classroom discipline.	1	2	3	4	5
24	Everyone doesn't dare relax in order to be more than others.	1	2	3	4	5
25	We rarely have free time to play.	1	2	3	4	5
26	We can trust homeroom teacher.	1	2	3	4	5
27	Classmates support and encourage with each other.	1	2	3	4	5
28	Our classroom has a better order compare to other classroom.	1	2	3	4	5
29	It seems that everyone in this classroom wants to be better than others.	1	2	3	4	5
30	Classmates feel a great pressure of study.	1	2	3	4	5
31	The homeroom teacher encourages students.	1	2	3	4	5
32	Classmates can tell truth of their heart with each other.	1	2	3	4	5
33	Our classroom is very tidy.	1	2	3	4	5
34	Teachers use various ways to make students to compete.	1	2	3	4	5
35	We feel a very heavy burden on our homework.	1	2	3	4	5
36	The homeroom teacher gives consideration to our self-esteem.	1	2	3	4	5
37	We think of ways to come up with ideas together for the class.	1	2	3	4	5
38	Classmates concentrate on the class.	1	2	3	4	5

My Family Questionnaire

Instruction: My family questionnaire includes 21 items. There are four answers under each question. Please give your opinion by ticking the number in each line to show that you agree with the statement.

1=Never 2=Seldom 3=Often 4=Most of time

	Item				
1	Father was sour or angry with me without letting me know the cause.	1	2	3	4
	Mother was sour or angry with me without letting me know the cause.	1	2	3	4
2	Father praises me.	1	2	3	4
	Mother praises me.	1	2	3	4
3	I wished father would worry less about what I was doing.	1	2	3	4
	I wished mother would worry less about what I was doing.	1	2	3	4
4	Father gave me more corporal punishment than I deserved.	1	2	3	4
	Mother gave me more corporal punishment than I deserved.	1	2	3	4
5	When I came home, I then had to account for what I had been doing to my father.	1	2	3	4
	When I came home, I then had to account for what I had been doing to my mother.	1	2	3	4
6	I think that father tried to make my adolescence stimulating, interesting, and instructive.	1	2	3	4
	I think that mother tried to make my adolescence stimulating, interesting, and instructive.	1	2	3	4
7	Father criticized me how lazy and useless I was in front of others.	1	2	3	4
	Mother criticized me how lazy and useless I was in front of others.	1	2	3	4
8	Father forbade me to do things other children were allowed to do because they were afraid that something might happen to me.	1	2	3	4
	Mother forbade me to do things other children were allowed to do because they were afraid that something might happen to me.	1	2	3	4

9	Father tried to encourage me and made me become a leader.	1	2	3	4
	Mother tried to encourage me and made me become a leader.	1	2	3	4
10	I think that father's anxiety that something might happen to me was exaggerated.	1	2	3	4
	I think that mother's anxiety that something might happen to me was exaggerated.	1	2	3	4
11	If things went badly for me, I then felt that father tried to comfort and encourage me.	1	2	3	4
	If things went badly for me, I then felt that mother tried to comfort and encourage me.	1	2	3	4
12	I was treated as the "black sheep" or "scapegoat" of the family by father.	1	2	3	4
	I was treated as the "black sheep" or "scapegoat" of the family by mother.	1	2	3	4
13	Father showed with words and gestures that they liked me.	1	2	3	4
	Mother showed with words and gestures that they liked me.	1	2	3	4
14	Father treated me in such a way that I felt ashamed.	1	2	3	4
	Mother treated me in such a way that I felt ashamed.	1	2	3	4
15	I was allowed to go where I liked without my father caring too much.	1	2	3	4
	I was allowed to go where I liked without my mother caring too much.	1	2	3	4
16	I felt that father interfered with everything I did.	1	2	3	4
	I felt that mother interfered with everything I did.	1	2	3	4
17	I felt that warmth and tenderness existed between me and father.	1	2	3	4
	I felt that warmth and tenderness existed between me and mother.	1	2	3	4
18	Father has a strict restriction on what I should and should not do.	1	2	3	4
	Mother has a strict restriction on what I should and should not do.	1	2	3	4
19	Father would punish me hard, even for trifles (small offenses).	1	2	3	4
	Mother would punish me hard, even for trifles (small offenses).	1	2	3	4
20	Father wanted to decide how I should be dressed or how I should look.	1	2	3	4
	Mother wanted to decide how I should be dressed or how I should look.	1	2	3	4
21	I felt that father were proud when I succeeded in something I had undertaken.	1	2	3	4

	I felt that mother were proud when I succeeded in something I had undertaken.	1	2	3	4

Appendix B: A questionnaire survey (Chinese language version)

亲爱的同学：

你好！这份问卷调查一共有三部分组成：我的家庭、我的班级和我的情感。我会对你所填写的内容绝对保密。除了研究人员以外，不会有其他人接触到你所填写的内容。每部分问卷前会有提示告诉你怎样回答问题。

特别提醒：每题只能选择一个选项，不可以多选和漏选。并注意不要看错行，也不要丢题。非常感谢你的合作！

基本信息：

1. 你的性别_____　　2. 你的年龄_____

3. 你所在的年级_____　　4. 你所在的班级_____

5. 你平时和谁一起生活？

（1）父母　（2）父亲　（3）母亲　（4）爷爷奶奶或外公外婆　（5）兄弟姐妹

（6）叔叔、姨妈、姑姑等亲戚家　（7）自己　（8）其他_____

6. 你父亲的职业：

（1）管理人员　　（2）农民

（3）员工　　（4）农民工

（5）知识人员（教师，医生，工程师等）　（6）其他_____

7. 你母亲的职业：

（1）管理人员　　（2）农民

（3）员工　　（4）农民工

（5）知识人员（教师，医生，工程师等）　（6）其他_____

8. 是否独生

（1）是　（2）否，排行老大　（3）否，排行中间　（4）否，排行最小

✧ 注意：如果你的父母有一人在外出打工，请继续填写 9 和 10 题。

9. 父亲（或母亲）外出打工的城市_____

10. 父亲（或母亲）外出打工多久回趟家？

（1）一个月左右　（2）半年左右　（3）一年左右　（4）一年以上

一、我的情感

说明：“我的情感”共有 64 条陈述，回答有四个选项，答案没有对与错之分，请就每项描述，选出最适合你的答案，在数字上打“✓”即可。

序号	题项	非常不像我	不像我	像我	非常像我
1	我的头脑里总有许多千奇百怪的想法。	1	2	3	4
2	每当学到新的知识，我总是非常兴奋。	1	2	3	4
3	如果没有要求，我通常不会主动帮助别人。	1	2	3	4
4	一旦团队形成了决定，即使不愿意我也会执行。	1	2	3	4
5	为了办成事情，我会去祈求别人。	1	2	3	4
6	阅读文学作品时，我能体会到字里行间的美感。	1	2	3	4
7	情绪低落时，我总能回想生活中美好的事物。	1	2	3	4
8	课堂讨论时，我经常发表不同的观点。	1	2	3	4
9	不论遇到多困难的事情，我总会想办法去克服。	1	2	3	4
10	如果朋友跟我吵了架，我很难再与他和好如初。	1	2	3	4
11	我要求每个人都遵守同样的规则，即使朋友也不例外。	1	2	3	4
12	我总是要经过询问别人才能够完成作业。	1	2	3	4
13	我会通过行动让家人和朋友感受我对他们的爱。	1	2	3	4
14	我总喜欢尝试用以前没有尝试过的方法做事情。	1	2	3	4
15	我不喜欢做作业。	1	2	3	4
16	如果有人伤害了我，我也会找机会伤害他。	1	2	3	4
17	我常常和家人为了小事情而吵架。	1	2	3	4

序号	题项	非常不像我	不像我	像我	非常像我
18	我对自己的外貌感到满意。	1	2	3	4
19	能自己完成的事情，我不会麻烦别人。	1	2	3	4
20	我没有自己追求的理想。	1	2	3	4
21	做题时，我不太善于发现新的解题思路。	1	2	3	4
22	即使有很多反对的声音，我也会做我觉得正确的事。	1	2	3	4
23	我觉得能够帮助别人是件非常快乐的事情。	1	2	3	4
24	我从来不随地乱扔纸屑。	1	2	3	4
25	如果同学给我起外号，嘲笑我，我会非常生气。	1	2	3	4
26	看到或听到美妙的美术、音乐作品，我会心情舒畅。	1	2	3	4
27	即使有证据，我也很难接受与自己不同的想法。	1	2	3	4
28	为了达到自己的目的，我会撒谎。	1	2	3	4
29	我认为犯了再大错误的人，只要真心道歉都该原谅。	1	2	3	4
30	我不会因为老师的表扬而骄傲，批评而气馁。	1	2	3	4
31	在家里，都是家人帮我洗衣服、整理房间。	1	2	3	4
32	我觉得我要更加努力的学习才能报答老师的恩惠。	1	2	3	4
33	我时常不经思考而接受别人的建议。	1	2	3	4
34	当朋友受到欺负，我会帮他们打抱不平。	1	2	3	4
35	犯了错误，我都会主动承认。	1	2	3	4
36	我很少向别人说“谢谢”，“不好意思”等用语。	1	2	3	4
37	当遇到困难时，我相信自己有能力能处理好。	1	2	3	4
38	我对音乐，美术，舞蹈都没有兴趣。	1	2	3	4
39	课余时间，我经常阅读一些文学作品。	1	2	3	4
40	承诺答应别人的事情，我一向都会做得到。	1	2	3	4
41	当别人说对不起时，我会再给他们一次机会。	1	2	3	4

序号	题项	非常不像我	不像我	像我	非常像我
42	我觉得老师应该平等对待成绩好和成绩不好的同学。	1	2	3	4
43	如果老师当众批评了我，我也觉得无所谓。	1	2	3	4
44	我总是在家人的督促下学习。	1	2	3	4
45	我相信我会有一个美好的未来。	1	2	3	4
46	写作文时，经常被老师评价内容有创意。	1	2	3	4
47	我会为了迎合别人而掩饰自己真实的想法。	1	2	3	4
48	我认为任何有困难的人都应得到帮助和关怀。	1	2	3	4
49	和朋友一起时，经常无意惹他们不开心。	1	2	3	4
50	我有信心学好自己不擅长的科目。	1	2	3	4
51	我觉得拥有爸爸妈妈是件幸福的事情。	1	2	3	4
52	我总能提出自己在学习中感兴趣的问题。	1	2	3	4
53	朋友告诉我的秘密，我从不会告诉别人。	1	2	3	4
54	我坐公交车时很少排队。	1	2	3	4
55	尽管会不公平，我也会袒护关系好的朋友。	1	2	3	4
56	我常感到自己什么事都做不好。	1	2	3	4
57	生命中有很多人需要我今后好好报答。	1	2	3	4
58	我认为老师所讲的内容都是对的，不应该受到质疑。	1	2	3	4
59	我很害怕学自己不擅长的科目。	1	2	3	4
60	我觉得给予比索取更加重要。	1	2	3	4
61	我认为清洁工人也应该同样受到尊重。	1	2	3	4
62	我绝对不允许别人带有侮辱性的语言攻击我。	1	2	3	4
63	见到优美的风景时，我会忍不住停下来欣赏一会。	1	2	3	4
64	当别人看到事物消极的一面时，我总能发现积极的一面。	1	2	3	4

二、我的班级

说明：“我的班级”共有 38 条陈述，回答有五个选项，答案没有对与错之分，请就每项描述，选出最适合你的答案，在数字上打“✓”即可。

序号	题项	从不	偶尔	有时	经常	总是
1	同学们喜欢班主任。	1	2	3	4	5
2	如果谁有心事，别的同学会关心他 / 她。	1	2	3	4	5
3	我们班的课堂比较乱。	1	2	3	4	5
4	同学之间竞争激烈。	1	2	3	4	5
5	我们的家庭作业不多。	1	2	3	4	5
6	我们的班主任比较通情达理。	1	2	3	4	5
7	同学之间缺乏友爱。	1	2	3	4	5
8	我们班的课堂比较吵闹。	1	2	3	4	5
9	在学习上，大家明里暗里都在跟别人较量。	1	2	3	4	5
10	老师布置很多作业。	1	2	3	4	5
11	我们的班主任亲切和蔼。	1	2	3	4	5
12	我们班比较团结。	1	2	3	4	5
13	老师要花不少时间维持课堂秩序。	1	2	3	4	5
14	我们班上的竞争气氛浓厚。	1	2	3	4	5
15	班上额外增加课或补课。	1	2	3	4	5
16	班主任是个容易亲近的人。	1	2	3	4	5
17	有困难的同学会得到别人的关心和帮助。	1	2	3	4	5
18	我们班的课堂很有秩序。	1	2	3	4	5
19	大家都害怕在学习上落后。	1	2	3	4	5
20	我们有很多考试和测验。	1	2	3	4	5
21	班主任真心地关心同学。	1	2	3	4	5
22	不少同学为了自己而损害别人。	1	2	3	4	5
23	同学们能遵守课堂纪律。	1	2	3	4	5

序号	题项	从不	偶尔	有时	经常	总是
24	为了不被别人超过，在学习上谁也不敢松懈。	1	2	3	4	5
25	我们很少有空闲去玩。	1	2	3	4	5
26	我们可以信任班主任。	1	2	3	4	5
27	同学之间相互支持和鼓励。	1	2	3	4	5
28	跟别的班比，我们班秩序比较好。	1	2	3	4	5
29	这个班上似乎每个人都想要胜过别人。	1	2	3	4	5
30	同学们感到学习压力大。	1	2	3	4	5
31	班主任鼓励同学。	1	2	3	4	5
32	同学之间可以说真心话。	1	2	3	4	5
33	我们教室很整齐。	1	2	3	4	5
34	老师们用各种办法使同学相互竞争。	1	2	3	4	5
35	我们班上功课负担相当重。	1	2	3	4	5
36	班主任比较顾及同学的自尊心。	1	2	3	4	5
37	对班上的事情，大家会一起出主意想办法。	1	2	3	4	5
38	上课时同学们安静，专心听讲。	1	2	3	4	5

三、我的家庭

说明：“我的家庭”共有 21 条陈述，回答有四个选项，答案没有对与错之分，请就每项描述，选出最适合你的答案，在数字上打“✓”即可。如果父母离异，可以只回答父亲或母亲一栏。

序号	题项	从不	偶尔	经常	总是
1	父亲常常在我不知道原因的情况下对我大发脾气。	1	2	3	4
	母亲常常在我不知道原因的情况下对我大发脾气。	1	2	3	4
2	父亲总会赞美我。	1	2	3	4
	母亲总会赞美我。	1	2	3	4
3	我希望父亲对我正在做的事情不要过分担心。	1	2	3	4
	我希望母亲对我正在做的事情不要过分担心。	1	2	3	4
4	父亲对我的惩罚往往超过我应受的程度。	1	2	3	4
	母亲对我的惩罚往往超过我应受的程度	1	2	3	4
5	父亲要求我回到家里必须得向他说明我在外面做了什么事。	1	2	3	4
	母亲要求我回到家里必须得向她说明我在外面做了什么事。	1	2	3	4
6	我觉得父亲尽量使我的青少年时期的生活更有意义和丰富多彩。	1	2	3	4
	我觉得母亲尽量使我的青少年时期的生活更有意义和丰富多彩。	1	2	3	4
7	父亲经常当着别人的面批评我无用。	1	2	3	4
	母亲经常当着别人的面批评我无用。	1	2	3	4
8	父亲不允许我做一些其他孩子可以做的事情，因为他害怕我会出事。	1	2	3	4
	母亲不允许我做一些其他孩子可以做的事情，因为她害怕我会出事。	1	2	3	4
9	父亲总是试图鼓励我，使我成为佼佼者。	1	2	3	4
	母亲总是试图鼓励我，使我成为佼佼者。	1	2	3	4
10	我觉得父亲对我可能出事的担心是夸大的。	1	2	3	4

序号	题项	从不	偶尔	经常	总是
	我觉得母亲对我可能出事的担心是夸大的。	1	2	3	4
11	当遇到不顺心的事时，我能感到父亲在尽量鼓励我。	1	2	3	4
	当遇到不顺心的事时，我能感到母亲在尽量鼓励我。	1	2	3	4
12	我在家里往往被父亲当作“害群之马”或“替罪羊”。	1	2	3	4
	我在家里往往被母亲当作“害群之马”或“替罪羊”。	1	2	3	4
13	我能通过父亲的言谈或表情感受到他很喜欢我。	1	2	3	4
	我能通过母亲的言谈或表情感受到她很喜欢我。	1	2	3	4
14	父亲常以一种使我很难堪的方式对待我。	1	2	3	4
	母亲常以一种使我很难堪的方式对待我。	1	2	3	4
15	父亲经常允许我到喜欢去的地方，而他又不会过分担心。	1	2	3	4
	母亲经常允许我到喜欢去的地方，而她又不会过分担心。	1	2	3	4
16	我觉得父亲干涉我做的任何一件事。	1	2	3	4
	我觉得母亲干涉我做的任何一件事。	1	2	3	4
17	我觉得与父亲之间存在一种温暖、体贴和亲热的感觉。	1	2	3	4
	我觉得与母亲之间存在一种温暖、体贴和亲热的感觉。	1	2	3	4
18	父亲对我该做什么，不该做什么有严格的限制。	1	2	3	4
	母亲对我该做什么，不该做什么有严格的限制。	1	2	3	4
19	即使是很小的过错，父亲也惩罚我。	1	2	3	4
	即使是很小的过错，母亲也惩罚我。	1	2	3	4
20	父亲总是左右我该穿什么衣服或该打扮成什么样子。	1	2	3	4
	母亲总是左右我该穿什么衣服或该打扮成什么样子。	1	2	3	4
21	当我做的事情取得成功时，我觉得父亲很为我自豪。	1	2	3	4
	当我做的事情取得成功时，我觉得母亲很为我自豪。	1	2	3	4

Appendix C: Description of variables

Variables	Description/metric	Measure
Student demographic characteristics		
Gender	0 = female 1 = male	Nominal
Age		Scale
Parental migration states	1 = No-parent migration 2 = Mother-only migration 3 = Father-only migration 4 = Both-parent migration	Nominal
Parental migration states (Multiple linear regression)	1 = No-parent migration 2 = Single-parent migration 3 = Both-parent migration	Ordinal
Affective objectives attainment (9 variables)		
Confidence	Three items	Scale 4-point Likert scale
Independence	Four items	Scale 4-point Likert scale
Bravery	Three items	Scale 4-point Likert scale
Integrity	Four items	Scale 4-point Likert scale
Fairness	Three items	Scale 4-point Likert scale
Forgiveness	Three items	Scale 4-point Likert scale
Gratitude	Four items	Scale 4-point Likert scale
Love of learning	Four items	Scale 4-point Likert scale
Aesthetic	Three items	Scale 4-point Likert scale
Parenting styles (3 variables)		

Father/mother rejection	Six items	Scale 4-point Likert scale
Father/mother emotional warmth	Seven items	Scale 4-point Likert scale
Father/mother overprotection	Eight items	Scale 4-point Likert scale
Classroom environments (5 variables)		
Relationship between teacher and student	Eight items	Scale 5-point Likert scale
Relationship between student and student	Eight items	Scale 5-point Likert scale
Discipline of the class	Eight items	Scale 5-point Likert scale
Competition	Seven items	Scale 5-point Likert scale
Study burden	Seven items	Scale 5-point Likert scale