

# The impact of boarding on campus on the social-emotional competence of left-behind children in rural western China

Shutao Wang<sup>1</sup> · Xuan Dong<sup>2</sup> · Yaqing Mao<sup>3</sup>

Received: 25 July 2016/Revised: 19 March 2017/Accepted: 17 April 2017/Published online: 2 May 2017  
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**Abstract** This study aimed to determine if boarding on campus benefited left-behind children's social-emotional competence (SEC). We developed a SEC scale for the Chinese context and culture using exploratory factor analysis, confirmatory factor analysis, and reliability analysis. Data were collected from 6638 school-aged children from 74 rural boarding schools in 11 provinces in western China. The results indicated that children's SEC was significantly affected by being left-behind, living on campus, and their cross-effects. Left-behind children had lower levels of SEC than those under parental guardianship. Children living on campus had fewer positive SEC skills than those who commuted between home and school. We also found that left-behind children living on campus had a higher negative SEC than left-behind children who were commuting every day. The SEC of left-behind but commuting children was higher than that of non-left-behind boarding school students. Food quality and caregivers' service attitudes also significantly affected children's SEC. Children who received good or medium quality food and good service from caregivers had higher SEC than those with poorer food and service. In conclusion, boarding on campus negatively affects left-behind children's SEC. This suggests that more attention should be directed to the negative effects of boarding on campus, and boarding

condition, and improving food quality and caregivers' service.

**Keywords** Social-emotional competence · Left-behind children · Boarding on campus · Boarding condition

## Introduction

In China, left-behind children is a term that refers to rural children who are cared for by one parent, grandparents, or others because one or both parents work away from home (Wen and Lin 2012). There are approximately 69.7 million left-behind children in China based on China's Sixth National Population Census, 61 million of them live in rural areas, accounting for 37.7% of all rural children and 21.88% of all children in China (Duan et al. 2013). Over the past decade, research on the social-emotional competence (SEC) of left-behind children has increased (Hu et al. 2014). Without parental custody, children are prone to academic, emotional, and psychological problems (Aguilera-Guzmán et al. 2004; Sun et al. 2015). According to Goleman (1995), traditionally conceptualized intelligence only contributes to 20–25% of an individual's success, with the remainder dependent on other factors such as emotional intelligence. Empirical research has demonstrated interrelationships between students' SEC and academic success, with many researchers sharing the view that fostering positive social and emotional development is critical in enhancing academic achievement (Greenberg et al. 2003; Zins et al. 2004; Hawkins et al. 2008; Jones et al. 2011). In addition, without communication with their parents, many left-behind children isolate themselves, and become timid, sentimental, or "world-wary," which, if prolonged, may cause serious problems for the children, their families, and

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✉ Yaqing Mao  
maoyaqing@bnu.edu.cn

<sup>1</sup> School of Public Police and Management, Tsinghua University, Beijing 100084, China

<sup>2</sup> Faculty of Education, East China Normal University, Shanghai 200062, China

<sup>3</sup> Faculty of Education, Beijing Normal University, Beijing 100875, China

society. Some scholars claimed that the boarding system was an effective way to address these problems (Liu 2005; Yan and Zhu 2006). Boarding schools also have advantages in terms of time, space, and personnel to help students develop independent living and social skills (Sheng 2000). Another study suggested that boarding school is a beneficial approach for left-behind and other disadvantaged children (Yang et al. 2011). However, most of these suggestions were derived from researchers' assumptions. More empirical support is needed to determine whether or not boarding on campus is an effective strategy to address the social and emotional issues of left-behind children. The lack of a culturally appropriate measurement scale has been a barrier to such research in China. This paper aims at developing a SEC measurement scale appropriate for the Chinese context and culture, and analyzing its structure, validity, and reliability as a suitable tool to measure the SEC of Chinese children, identifying whether boarding on campus benefited left-behind children's SEC, and investigating boarding condition in rural schools in western China and how the condition affecting children's SEC.

### SEC and cultural specificity

SEC stems from the definition of social and emotional learning (SEL). This is based on theoretical and empirical research conducted by the Collaborative of Academic and Social and Emotional Learning (CASEL), a leading organization to advance the development of academic, social, and emotional competence of all students in the USA. CASEL defines SEL as "the process of acquiring and effectively applying the knowledge, attitudes, and skills necessary to recognize and manage emotions; developing caring and concern for others; making responsible decisions; establishing positive relationships; and handling challenging situations adaptively" (Elias et al. 1997). SEC comprising skills and knowledge integrated across the emotional, cognitive, and behavioral development domains (Domitrovich et al. 2007) is the outcome of the social and emotional learning process and is defined as the ability to understand one's own and others' emotions and behaviors, solve problems successfully, and act appropriately in social situations such as home, school, and in the community (Elias et al. 1997).

Children's SEC is attracting increasing research attention. Empirical research has shown interrelationships between students' SEC and academic success, with positive social and emotional development considered central to academic achievement. Many studies have suggested that being "fluent" in social and emotional understanding and competence helps students construct positive relationships with teachers and peers and effectively self-

regulate their emotions and behaviors (Elias and Haynes 2008; Zins et al. 2007). In turn, this benefits students' academic achievement. By contrast, Catalano et al. (2004) suggested that children with underdeveloped SEC experience more challenges in social interactions with teachers and peers, leading to decreased classroom connectedness and contributing to poor academic performance.

SEC is context- and culture-specific, because people in different cultures have different ways of expressing and understanding emotion and behavior. For example, people in China usually show unobtrusive emotions due to their middlebrow culture (Cao et al. 2005). In contrast, American culture encourages individuality, and people are often given incentives to express their fears, disgust, and anger (Schimmack 1996). Recently, the Chinese Ministry of Education and UNICEF introduced and implemented programs to improve children's social and emotional learning in rural schools in western China. However, little is known about China's cultural specificity in terms of SEC, and how it affects Chinese children's SEC development. To a large extent, emotions and other relevant domains depend on how and where they are measured, meaning measurement methods may limit generalization of findings (Mayer et al. 2008). Therefore, a specific SEC structural model and measurement scale should be developed for use in Chinese populations.

### SEC of left-behind children and children boarding on campus

Students' SEC is significantly influenced by parents' care and company (Grusec 2011). Therefore, it is important to direct attention to groups without parental care. Two interrelated but often overlapping groups of students are often studied. One group is left-behind children, who are left behind by migrant-worker parents and cared for by grandparents or relatives (Liu et al. 2009). The parents of those children often have to leave home to seek job opportunities in cities and coastal areas in the east of China to improve the family's economic situation. Many children from such families live with relatives as their parents cannot care for them while working or cannot afford the living expenses in urban areas.

The second group is students boarding on campus, some of whom are also in the left-behind group. According to a 2013 government report (National Audit Office of the PRC 2013), 92,600 rural schools were closed from 2006 to 2011, of which 88,300 were primary schools and 4300 were secondary schools. This school consolidation resulted in many rural children having to attend boarding school. Many boarding schools in China use a military-camp-like management style, meaning boarding students experience

little life outside of school. Both left-behind children and boarding students have inadequate support from their parents, especially emotional support, which may affect their SEC development. However, there are insufficient empirical studies focused on these two groups, especially in China.

### Boarding on campus as a substitute for absent parents

There has been a debate as to whether boarding schools act as a substitute for absent parental care for left-behind children. Some Chinese scholars consider boarding school to be an effective way to address the lack of custody and care for left-behind children, and their poor education outcomes (Liu 2005; Yan and Zhu 2006). Boarding on campus means that those children can concentrate on their studies, have adequate time and motivation for learning, and develop positive learning habits in a good learning atmosphere (Sheng 2000). In addition, the collective life at boarding school may, to some extent, make up for the lack of parental affection and care. School rules and teachers' instruction also help ensure children's safety and health, develop independent living skills, establish good living and learning habits (Liu 2005), and mitigate the negative effect of parental absence on left-behind children (Yan and Zhu 2006). Other studies emphasized that the academic and student-first management and arrangements of boarding schools allow children to experience a varied life after class and foster good peer relationships (Yang 2013). Cultivating a student-first campus culture is important, and a varied boarding life allows students to express emotions, learn to cooperate, and deal with peer relationships in various activities (Yang 2013). Some international scholars also report that boarding schools can promote children's development and prepare them for a successful life (Duffell 2000). However, others have argued that being left in the care of total strangers is a frightening experience for any small child and may cause psychological trauma (Schaverien 2004). Boarding students may experience trouble communicating with their families and some of their behaviors may also be suppressed by boarding school condition (He 2003). In summary, the parental substitute role of boarding school requires that schools have complete, student-oriented facilities with varied activities and caring living arrangements to provide emotional support for left-behind children and create a pleasant boarding environment. However, boarding schools in rural western China that are in a beginning stage may not be able to provide good services and be an effective substitute for the absent parents of left-behind children.

## Methods

### Sampling

In total, 74 rural primary and secondary schools from 11 provinces in western China voluntarily participated in this study. Students in grades four, five, seven, and eight were investigated. Children in grades six and nine were busy preparing for their entrance examinations and those in lower grades did not board on campus. All students were invited to answer the questionnaire voluntarily; 8047 questionnaires were collected, of which 6638 were valid (82.49%). The number responses varied across provinces, depending on schools' willingness to participate in this study: Sichuan Province had the most participants ( $n = 1382$ , 20.8%) and Gansu Province had the least ( $n = 54$ , 0.8%) (Table 1).

Boys accounted for 48.0% (3185) of participants and girls for 50.1% (3326); 51.9% (3446) were primary school students and 48.1% (3192) were secondary school students. Overall, 45.1% (2997) of the sample were left-behind children and 54.9% (3641) were under parental guardianship. Of the total sample, 57.1% (3791) boarded on campus and 35.7% (2372) commuted between home and school. Left-behind children boarding on campus accounted for 33.73% (1960), left-behind children not boarding on campus for 16.45% (956), non-left-behind children boarding on campus for 27.83% (1617), and 21.98% (1277) were neither left-behind children nor boarding on campus. Some children did not report the above information. The average age of the children in the sample was  $12.66 \pm 2.25$  years.

### Measures

The SEC framework was based on the Chinese context and culture to avoid imposed etic (Berry 1980). The SEL structure, including self-awareness, self-management, social awareness, relationship skills, and responsible decision-making developed by CASEL (2005), was also referenced. Questions specific to the Chinese context and culture were based on student interviews, expert interviews, open-ended questionnaire investigation, and a review of the literature. After analyzing the collected data, 12 kinds of SEC were identified. Six of these (self-recognition, understanding others, self-control, reciprocity, cooperation, responsibilities) were similar to the descriptions in Western countries, while six ("Zizhizhiming," "Shendu," "Hanxu," "Chayanguanse," "Mianzi," and "Guanxi") were unique characteristics frequently found in descriptions of Chinese social-emotional competence. *Zizhizhiming* is related to being cognizant of oneself,

**Table 1** Distribution of participants by province

Provinces	Number of schools	Number of valid respondents	Percent
Ning Xia	7	753	11.3
Qing Hai	9	1053	15.9
Si Chuan	11	1382	20.8
Inner-Mongolia	6	439	6.6
Tibet	4	204	3.1
Gan Su	1	54	0.8
Yun Nan	9	723	10.9
Gui Zhou	11	833	12.5
Guang Xi	4	243	3.7
Xin Jiang	5	350	5.3
Chong Qing	7	604	9.1
Total	74	6638	100.0

someone with this characteristic usually has self-knowledge, especially about their limitations. *Shendu* is related to self-control, which reflects how someone behaves morally even when alone. *Hanxu*, a Chinese characteristic of expressing emotion refers to how someone implicitly expresses their emotions in an indirect way, which is regarded as mature and elegant. *Chayanguanse* is related to being cognizant of others' emotions and intentions, and determining the intentions and feelings of others by analyzing their words and expressions. *Mianzi* (face) has a high priority in Chinese interpersonal communication, and is defined as the recognition by others of an individual's social standing and position (Lockett 1988). Never making others lose *Mianzi* is regarded as important by Chinese in their communications. *Guanxi* (personal connections) is another prominent cultural characteristic, referring to a fundamental web of interpersonal relations (Buckley et al. 2006). This is often described as a personal connection between two people in which one has higher status and can perform a favor or exert influence on behalf of the other (e.g., connections between students and teachers). Based on these SEC domains, 39 questions were collected and analyzed. Two questions were removed because they had little relationship with the definition of SEC. Five questions were abandoned because of ambiguity, and four questions were combined into two questions because of similarity. Finally, an initial scale comprising 30 questions was developed and pre-tested with 632 students. Discrimination was tested by independent-sample *t* test, and two questions were removed as they did not meet the 0.05 significance level. This resulted in a scale comprising 28 questions.

### Structure of SEC

The sample was divided into two, with one used for exploratory factor analysis (EFA) and the other for confirmatory factor analysis (CFA). EFA is a technique used to

uncover the underlying structure of a relatively large set of variables (Norris and Lecavalier 2009), and is often used to identify core factors when developing a scale by integrating a battery of measured variables (Fabrigar et al. 1999). Although the SEL framework was referenced, the Chinese context and culture might change its structure. Therefore, a structure adapted for Chinese characteristics was explored. According to EFA, the Kaiser–Meyer–Olkin measure of sampling adequacy was 0.860 and the  $\chi^2$  value was 5074 ( $p < 0.001$ ), meaning that the sample was suitable for factor analysis. Five factors were extracted by principal component analysis, with the analysis of the item content resulting in naming these five factors self-cognition (SC), being cognizant of others (CO), self-management (SM), social skills (SS), and responsible decision-making (RD). This structure was similar to the CASEL framework, indicating that this framework had good cross-cultural adaptability. The factor loading is presented in Table 2.

SC refers to an individual's ability to accurately recognize their emotions and thoughts. This includes an individual's ability to accurately assess their advantages and limitations in learning and problem solving, and make sense of whether they are appreciative and respectful. For example, "I clearly understand my limitations in my academic work." CO assesses an individual's ability to accurately recognize and understand others' social emotions and thoughts, and especially to determine others' implicitly expressed intentions and feelings. For example, "Although my friends sometimes said nothing, I can still understand what they want." SM measures an individual's ability to effectively adjust their emotions, thoughts, and behaviors. This includes regulating stress and framing it as positive; behaving morally even when alone; controlling impulses to quarrel with, laugh at, and criticize others; and expressing dissatisfaction in an indirect and appropriate way. Examples of SM are "I never do anything bad, even if others don't know" and "I usually implicitly express my

**Table 2** Factor loading for social-emotional competence

	Self-cognition	Being cognizant of others	Self-management	Social skills	Responsible decision-making
C26	.705				
C27	.677				
C30	.637				
C25	.634				
C28	.618				
C11	.585				
C15	.403				
C18		.818			
C1		.709			
C7		.651			
C31		.606			
C29		.557			
C19			.637		
C23			.615		
C10			.572		
C21			.547		
C20			.538		
C22			.480		
C9				.726	
C4				.678	
C14				.669	
C6				.620	
C24				.501	
C12					.718
C3					.541
C5					.487
C16					.469
C8					.463

feelings facing others' mistakes." SS refers to an individual's ability to build and maintain close, positive relationships with others. This includes establishing good *guanxi* and communicating with others in a friendly manner, knowing how to cooperate with others and establishing reciprocity, knowing how to solve contradictions, and respecting others and not making others lose *mianzi*. For example, "I can establish close relationships with my teachers who will give me help" and "I won't expose others lying when they are boastful about their experience." RD reflects an individual's ability to make constructive and appropriate decisions and take responsibility for personal behaviors and social interactions. This includes considering ethical and moral principles, social customs, mainstream values, and the interests of others when making decisions. For example, "Family is usually my first consideration when I make a decision."

The objective of CFA was to test whether the data fit a hypothesized measurement model based on theory and/or

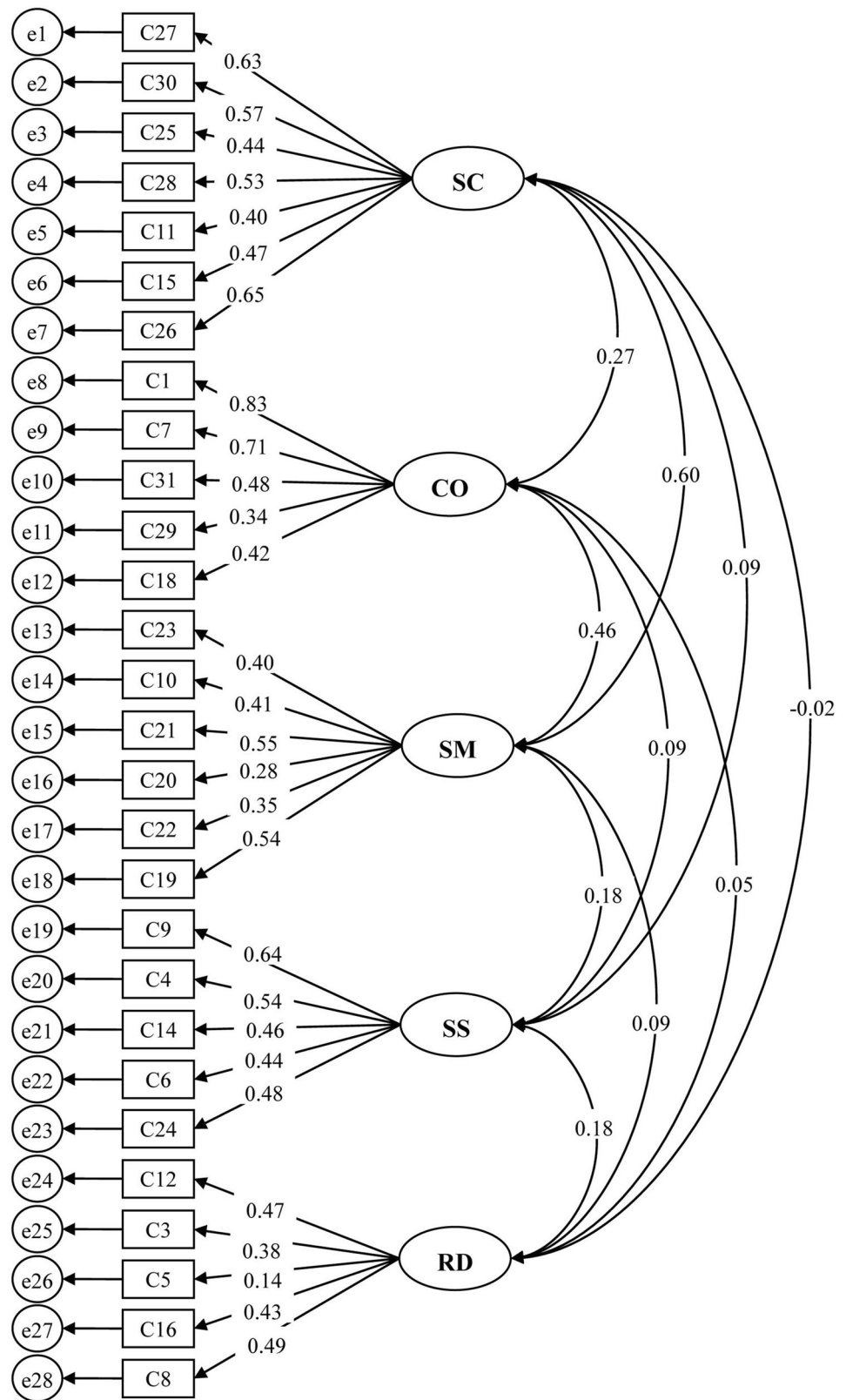
previous research (Preedy and Watson 2009). We also used CFA to test whether the data fit our proposed measurement model. Fit statistics ( $\chi^2/df = 1.736$ , RMSEA = 0.033, CFI = 0.913, TLI = 0.901) for the model supported the proposed structure. The structural model of SEC is presented in Fig. 1. The Cronbach's alpha reliability coefficients for SC, CO, SM, SS, RD, and total SEC were 0.767, 0.733, 0.673, 0.701, 0.648, and 0.831, respectively. The above analyses showed that the SEC scale had high validity and reliability, and satisfied the requirements for measurement.

## Results

Differences among the groups were examined with respect to SC, CO, SM, SS, RD, and total SEC. An independent *t* test was used to test the SEC and its five dimensions between the groups of left-behind and non-



**Fig. 1** Structural model of social-emotional competence. *SC* self-cognition, *CO* being cognizant of others, *SM* self-management, *SS* social skills, *RD* responsible decision-making



left-behind children. As shown in Table 3, significant differences were found for SS ( $t = 5.026, p < 0.001$ ), RD ( $t = 3.225, p < 0.01$ ), and total SEC ( $t = 2.303,$

$p < 0.05$ ). Non-left-behind children had higher levels of SS, RD, and total SEC than left-behind children. The two groups did not show significant differences in SC

**Table 3** Comparison of social-emotional competence dimensions between different groups

	N	Self-cognition		Cognizing others		Self-management		Social skill		Responsible decision		Social-emotional competence	
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
<b>Left/non-left-behind children</b>													
NLBC	3641	3.07	0.58	4.20	0.65	4.02	0.67	3.76	0.75	3.39	0.76	3.71	0.44
LBC	2997	3.06	0.59	4.17	0.68	4.00	0.70	3.66	0.77	3.32	0.79	3.68	0.46
t		0.079		1.602		0.919		5.026 <sup>c</sup>		3.225 <sup>b</sup>		2.303 <sup>a</sup>	
<b>Living on/off campus</b>													
NBC	2372	3.10	0.53	4.27	0.6	4.06	0.64	3.78	0.73	3.37	0.74	3.72	0.42
BC	3791	3.04	0.56	4.12	0.67	3.98	0.67	3.66	0.73	3.35	0.73	3.63	0.43
t		3.878 <sup>c</sup>		9.261 <sup>b</sup>		5.058 <sup>c</sup>		6.592 <sup>c</sup>		1.352		8.009 <sup>c</sup>	
<b>Left-behind children <sup>a</sup> boarding on campus</b>													
LB	1960	3.05	0.56	4.12	0.69	3.99	0.67	4.02	0.66	3.71	0.73	3.63	0.44
LNB	956	3.10	0.52	4.29	0.58	4.07	0.64	3.64	0.73	3.34	0.74	3.70	0.42
NLB	1617	3.04	0.56	4.14	0.65	3.98	0.66	3.74	0.74	3.32	0.79	3.64	0.43
NLNB	1277	3.09	0.54	4.28	0.59	4.06	0.64	3.69	0.72	3.36	0.73	3.73	0.42
F(3,6638)		4.177 <sup>b</sup>		26.987 <sup>c</sup>		6.556 <sup>c</sup>		18.006 <sup>c</sup>		2.988 <sup>a</sup>		19.683 <sup>c</sup>	
				LB<LNB		LB<LNB		LB<LNB				LB<LNB	
				LB<NLNB		LB<NLNB		LB<NLNB				LB<NLNB	
Post Hoc test		NLB<LNB		NLB<LNB		NLB<LNB						NLB<LNB	
								LNB<NLNB		LNB<NLNB			
								NLB<NLNB				NLB<NLNB	
<b>Food quality</b>													
Good	608	3.19	0.55	4.18	0.70	3.92	0.66	3.64	0.74	3.41	0.72	3.65	0.41
Medium	1777	3.11	0.55	4.20	0.68	4.00	0.69	3.66	0.74	3.37	0.75	3.66	0.46
Bad	1311	2.90	0.55	4.08	0.62	3.88	0.64	3.68	0.70	3.34	0.72	3.60	0.41
F(2,3696)		82.263 <sup>c</sup>		24.978 <sup>c</sup>		3.129 <sup>a</sup>		1.048		3.396 <sup>a</sup>		7.465 <sup>b</sup>	
Post Hoc test		Good>med								Good>bad		Good>bad	
		Good>bad		Good>bad						Good>bad		Good>bad	
		Med>bad		Med>bad		Med>bad						Med>bad	
<b>Service attitude of caregivers</b>													
Good	1620	3.25	0.51	4.23	0.69	4.08	0.67	3.73	0.74	3.42	0.75	3.74	0.44
Poor	2094	2.89	0.55	4.04	0.64	3.90	0.66	3.60	0.72	3.29	0.72	3.55	0.41
t		20.336 <sup>c</sup>		8.581 <sup>c</sup>		7.914 <sup>c</sup>		5.510 <sup>c</sup>		5.094 <sup>c</sup>		13.751 <sup>c</sup>	

LBC left-behind children, NLBC non-left-behind children, BC boarding on campus, NBC not boarding on campus, LB left-behind children and boarding on campus, LNB left-behind children not boarding on campus, NLB non-left-behind children boarding on campus, NLNB neither left-behind children nor boarding on campus, Med Medium, M mean, SD standard deviation

<sup>a</sup>  $p < 0.05$   
<sup>b</sup>  $p < 0.01$   
<sup>c</sup>  $p < 0.001$

( $t = 0.079, p > 0.05$ ), CO ( $t = 1.602, p > 0.05$ ), and SM ( $t = 0.919, p > 0.05$ ).

There were significant differences between children living on and off campus. Children not living on campus had a higher level of total SEC ( $t = 8.009, p < 0.001$ ) and four dimensions: SC ( $t = 3.878, p < 0.001$ ), CO ( $t = 9.261, p < 0.01$ ), SM ( $t = 5.058, p < 0.001$ ), and SS ( $t = 6.592, p < 0.001$ ). However, there was no significant

difference between the two groups in RD ( $t = 1.352, p > 0.05$ ) (Table 3).

The results of one-way analysis of variance (ANOVA) indicated that there were significant differences in total SEC ( $F_{3,6638} = 19.683, p < 0.001$ ) and all five dimensions: SC ( $F_{3,6638} = 4.117, p < 0.01$ ), CO ( $F_{3,6638} = 26.987, p < 0.001$ ), SM ( $F_{3,6638} = 6.556, p < 0.001$ ), SS ( $F_{3,6638} = 18.006, p < 0.001$ ), and RD

( $F_{3,6638} = 2.988, p < 0.05$ ). A post hoc test showed that left-behind children who were living on campus (LB) had lower SEC than left-behind children who were not living on campus (LNB), and children who were neither left-behind nor boarding on campus (NLNB). The LB group showed similar differences for CO, SM, and SS from the LNB and NLNB groups. The LNB group had a higher level of SEC than children who were not left-behind but were boarding on campus (NLB). Similar results were observed for SC, CO, and SM. These analyses suggest that boarding on campus was a more negative factor for SEC development than being left-behind. The SEC and SS of NLB students were lower than that of the NLNB group. Although there was no evidence that students in the LNB group had lower SEC than those in the NLNB group, there were significant differences in dimensions such as SS and RD.

We also examined the effects of boarding condition using two variables related on children's SEC: food quality and caregivers' service attitudes. We found that 14.45% of all students thought that the quality of food supplied at boarding school was good, 48.08% regarded it as medium, and 35.47% as bad. ANOVA results showed that among students with different evaluations of food quality, there were significant differences in total SEC ( $F_{2,3696} = 7.465, p < 0.01$ ), SC ( $F_{2,3696} = 82.263, p < 0.001$ ), CO ( $F_{2,3696} = 24.978, p < 0.001$ ), SM ( $F_{2,3696} = 3.129, p < 0.05$ ), and RD ( $F_{2,3696} = 3.396, p < 0.05$ ). A post hoc test showed students who thought the food was good or medium quality had higher levels of SEC, SC, and CO than those who thought the food was bad. Students who reported medium and good food quality also had better SM and RD than those who reported bad food quality. Caregivers' service attitude was also a significant factor affecting students' SEC. We found that 43.62% of all students reported they were treated well by their caregivers at boarding school, while 56.38% reported poor service. Students who reported good service had higher SEC ( $t = 13.751, p < 0.001$ ), SC ( $t = 20.336, p < 0.001$ ), CO ( $t = 8.581, p < 0.001$ ), SM ( $t = 7.914, p < 0.001$ ), SS ( $t = 5.510, p < 0.001$ ), and RD ( $t = 5.094, p < 0.001$ ) than those who reported poor service.

## Discussion

Being left-behind is a critical factor that significantly influences students' SEC in rural western China. This finding is supported by a previous study, which in Mexico found that left-behind children suffered abuse, neglect, and exploitation, and were regarded as abandoned by their caregivers, resulting in left-behind children facing emotional crises (Givaudan and Pick 2013). Parental care plays

a crucial role in children's social-emotional development, especially through the process of emotional interactions (Grusec 2011). For left-behind children, emotional interactions are lacking and their emotional needs are not fulfilled. This lack of emotional interactions may contribute to forming negative intergenerational relationships and reshaping personalities. Popularly labeled as potentially problem or risky groups, those children have suffered the underdeveloped intergenerational relationships and limited their social and emotional communication (Sandstrom and Coie 1999). Furthermore, such discrimination makes children feel difficult to develop a good enough self-concept, sense of security, and self-esteem, but suffer the anxiety, shyness, hostility, and other social-emotional disorders (Battaglia et al. 2004).

Boarding on campus is another factor that negatively affects children's SEC. Compared with students who boarded on campus, those who commuted between school and home had a relatively higher level of SEC. Children who were left-behind but not boarding on campus also had higher SEC than children who boarded on campus but were not left-behind. The negative effects of boarding school experience was also indicated by a previous study which found people who attended boarding school as children were more prone to have illicit drug and alcohol use disorder, and suicide thoughts and attempts, and those raised by boarding school attendees were more significantly likely to have general anxiety disorder, posttraumatic stress disorder (PTSD), and suicide thoughts compared to others (Evans-Campbell et al. 2012).

Good boarding conditions (e.g., food and service) may have a beneficial role for the emotional development of children whose parents are absent (Xiao et al. 2010). This was supported by our finding that students supplied with good or medium quality food and treated well by caregivers had higher levels of SEC. However, many students in our study reported the food quality was medium (48.08%) and bad (35.47%), and 56.38% reported getting poor service, which reflects poor boarding condition. Some boarding schools in rural western China do not have sufficient specialized caregivers providing care for children. In some cases, teachers manage students' accommodation after their classes because of the lack of specialized caregivers. Poor food and service may increase children's homesickness (Fisher et al. 1986) and make them feel lonely, helpless, and cause their malnutrition problems (Luo et al. 2009). To reduce unsafe practices, caregivers may also strictly control children's behavior, increasing the pressure on children. This pressure may affect children's SEC and lead to depression and anxiety. In addition, in many cases, the school budget is not sufficient to improve caregivers' pay levels, which may reduce their motivation to design and organize recreational activities to help



children express emotions and develop good relationships with their peers (Yang 2013).

It is doubtful that boarding on campus can be a substitute for the role of family. Family plays a crucial role in the formation of personality and children's emotional development. Family love and affection, especially parental care, has positive effects on children's self-concept, and can predict social adaptation and behavioral problems such as loneliness (Steinberg et al. 1989). In the absence of parental care, left-behind children get more emotional support from grandparents or relatives than from boarding schools with poor service. There are limitations in many of the Chinese studies that argued boarding is conducive to the emotional development of left-behind children. For example, some studies (Yan and Zhu 2006) lacked comparison between boarding and non-boarding left-behind children, meaning their conclusion that boarding reduces loneliness was not well grounded. Other studies were mainly theoretical and lacked empirical support (Liu 2005). Based on a sample of left-behind children in rural areas in western China, our study compared the SEC of boarding and non-boarding children, finding that the SEC, CO, SM, and SS of boarding children were significantly lower than non-boarding children. This suggests that boarding at school has a negative effect on young children, and where possible, left-behind children should be placed with relatives and commute between home and school.

For left-behind children, boarding on campus represents a second separation from family and has a negative effect on their SEC development. However, as more and more rural schools close because of the compulsory school consolidation policy, the distance between home and school means that many children are unable to commute and have to board at school. Boarding schools should therefore promote construction of facilities and improve their service and management. Although rural boarding schools have improved in recent years in China, many problems and deficiencies still exist, such as under-equipped dormitory and student canteen facilities, poor quality service, which cannot meet the needs of student development (Luo et al. 2009). These problems are particularly marked in underdeveloped areas in western China. As noted, boarding schools often do not have enough caregivers, meaning some teachers must also work as caregivers. These teachers take charge of students' daily life outside class time as well as teaching classes, and carry a heavy daily workload. There are no subsidies for this dual role, meaning they may lack enthusiasm for organizing student activities after class. Lack of planned and varied extra-curricular activities is not conducive to students' socioemotional behavior and school achievement (Metsäpelto and Pulkkinen 2012). An old-fashioned management style is another contributing factor. Many schools adopt the

traditional management mode and concept of "watching" students to ensure there is "no trouble" (Yang 2013), which results in a military-camp-like management style.

## Suggestions

In rural western China, children's SEC development should receive more attention in school education. For parents, school teachers, and other educational practitioners, concerns are anchored in factors that affect students' academic achievements and preventing the risk of drop-out (Caprara et al. 2000). Students' educational success requires positive cognizance of their own and others' emotions, which contributes to good relationships with classmates and positive perceptions of the support from teachers and school environment. It also requires children to have a high level of emotional self-management to resist temptation to give up when faced with difficulties, and control negative emotional reactions when encountering frustration and failure. Problems in persistence, distractibility, regulation, and emotional reactivity are commonly linked to poor school achievement (Bouffard et al. 2005). Social skills and responsible behaviors, such as sharing, cooperating, and helping others are also important and are positively correlated with academic achievement. Problem behaviors, such as starting fights and breaking rules are negatively related to success in academic development tasks. Therefore, students with high SEC can more easily obtain support from teachers and other staff members in school, which is crucial for academic success. Emerging evidence indicates that unlike cognitive intelligence, emotional skills can be taught and developed (Slaski and Cartwright 2002). Children of school age spend two-thirds of their waking time in school, and their social and emotional skills are affected by their education. Therefore, emotional and social development should be included in educational processes and quality assessment alongside development of cognitive ability.

Our findings suggest that schools in rural western China should provide more support for disadvantaged children, especially left-behind children. A general consensus is that teaching children how to read, write, and calculate is not sufficient for them to become mature future workers, leaders, and citizens (Cohen 2006). Greenberg et al. (2003) suggested that the broader mission of schools in the 21st century is educating students to be academically knowledgeable as well as responsible, caring, mature, and healthy members of society. Well-developed SEC is crucial to achieve this goal. However, another study indicated that more than 60% of left-behind children had poor academic performance, 60% had mental health problems, and 30% hated their parents (Tan 2011). Because of prolonged

separation from their parents, family support was missing or inadequate; in such cases, schools should take more responsibility for developing children's social-emotional skills, and offer related supportive programs. Children who underwent intervention through such supportive programs had higher emotional knowledge and skills, and were considered more socially competent and less socially withdrawn compared with their peers (Domitrovich et al. 2007). Other studies found that supportive programs were not only associated with significant improvements in students' social and emotional skills, but were also associated with a striking difference in their academic achievement; students enrolled in such programs performed significantly better in school and on standardized tests compared with non-participating students (Durlak et al. 2011).

Boarding schools in rural western China should employ more specialized caregivers and improve their food and other services to support children's SEC development. According to statistics released by the Chinese Ministry of Education in 2006, there are nearly 30 million students in primary and junior middle school boarding on campus, with the largest groups in western China, and especially in these western rural areas, 52% of all students were boarding on campus (Wan and Bai 2009). Good care, support, and service in rural boarding schools will help students learn to trust others, reduce defensive consciousness, experience social support, and get a sense of security about interactions (Kupermic et al. 2008). In contrast, poor attitudes and indifferent services create emotional and social barriers for children. Students' lives in boarding schools are often monotonous, as extra-curricular activities are generally inadequate and provided by teachers who have heavy workloads and low pay. Because of the shortage of caregivers, some teachers performing dual roles as caregivers outside of class time have responsibilities that extend to late night duties, as they have to check and take care of student dormitories. Therefore, government and schools should prioritize employment of more caregivers and support more training and subsidies for relevant faculty of rural boarding schools to improve their quality of service.

Given inadequate boarding facilities, shortage of caregivers, and poor services of rural boarding schools, boarding school may not be a positive environment for young children. Left-behind children may receive better care and emotional support from grandparents or relatives than from boarding school. However, there is a shortage of school buses and school bus routes are restricted, meaning some students live too far away to catch the bus to school. Families with a low economic status generally do not have a vehicle and cannot afford to rent houses near schools, meaning those children have to live on campus. Given the policy of rural school consolidation and resulting school

closures, strategies such as provision of more school buses to transport children commuting between home and school may be beneficial for all children, especially the vulnerable group of left-behind children.

**Acknowledgements** Funding was provided by National Natural Science Foundation of China (CN) (Grant No. 71173021) and Social Science Foundation of China (Grant No. CFA130154).

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