Validity and Reliability of The Role of Social Support from Social Organisations on the Resilience of Rural Left-behind Children - A Pilot Study

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Abstract

This paper presents a preliminary finding from a rigorous empirical study. The study aims to assess the reliability and validity of the variables of a data collection instrument, specifically focusing on the role of social support from social organisations on the resilience of left-behind children in rural China. The study's methodology, which includes a small sample data analysis, a quantitative research approach, and the use of SPSS v24 and AMOS v24 for statistical analysis, ensures the validity and reliability of the findings. 98 participants from first to third grade of junior high school were administered a paper questionnaire. Descriptive statistical analysis and validation factor analysis were conducted on this measurement tool. After modifying the model, the final aggregated validity average variance extracted, combined reliability, and discriminant validity of this measurement tool met the conditions between the variables. The findings suggest that the instrument is reliable, valid, and suitable.

Keywords
Social organisation, social support, left-behind children, resilience; pilot study

Introduction

In rural China, there exists a significant issue of children being left behind as their parents migrate for work, resulting in inadequate care for these vulnerable children. These "left-behind children" are in dire need of support and attention. Despite a 7.7% percent decrease in their numbers compared to 2018, there are still 6.436 million

left-behind children in rural areas, per the 2020 data from the Chinese Ministry of Civil Affairs (Ministry Of Civil Affairs of China, 2021). It is imperative to address these children's persisting social problems, as highlighted by recent research (Liu, 2021). Scholarly studies have shed light on these children's challenges, such as a lack of opportunities to explore the world outside their villages and the resulting psychological isolation, low self-efficacy, and diminished stress resistance (Xu, 2020). Furthermore, the impact of the parenting style and the nature of social support on the resilience levels of these children cannot be overlooked (Tong, 2019a). It is crucial to recognise the urgent need for comprehensive support and intervention to address the welfare and development of these left-behind children.

The problem of imbalance in the resilience of left-behind children in rural areas is getting more and more attention from some social organisations specialising in charity work, and they are doing their best to provide support and care services for left-behind children in rural areas. The state has also issued corresponding policies to support the work of social organisations. For example, in 2016, the *Opinions on Strengthening the Care and Protection of left-behind children in Rural Areas* began to emphasise the critical role of social participation in the protection of children in distress, requiring the active incubation and cultivation of relevant social organisations, such as accelerating the incubation and cultivation of professional social work service organisations, public charity social organisations, voluntary service organisations, and civil affairs departments.

These vital organisations must be backed to deliver essential services for left-behind children in rural areas. This includes providing professional guidance, counselling, and support for behavioural and social integration issues. Reaching urban and rural communities, schools, and families with these services is crucial. Emphasising the role of market mechanisms and assisting social organisations and caring enterprises in arranging care services for rural left-behind children is imperative. Leveraging schools and integrated community service facilities can significantly enhance the delivery of these services. Furthermore, finance and taxation departments must implement tax relief policies as mandated by the law (State Council of the People of China, 2016).

In 2019, the *Opinions on Further Improving the Care and Service System for Left Behind Children in Rural Areas and Children in Difficult Situations* further clarified the content of government purchase of child welfare services, fostered and incubated social organisations to participate in the care and protection of left-behind children in rural areas, and strengthened the guidance and support for social organisations and other social forces. The promulgation of these child welfare policies is an essential milestone in the development of China’s child welfare policy, indicating that

China's child welfare construction is becoming increasingly mature, and that increasing attention is being paid to guiding social organisations to participate in the care and protection of left behind-children in rural areas and the protection of children in distress.

The year 2021 is projected to surge in the number of social organisations in China, with estimates exceeding 900,000. These organisations are instrumental in driving social and economic development, energizing social initiatives, fostering innovation in social governance, and expanding international engagement. They serve as a valuable complement to administrative and market mechanisms (Li & Liang, 2022; Zhang et al., 2022). Among the myriad social organisations, a segment actively extends social support to left-behind children in urban and rural areas, preserving their resilience.

Nonetheless, there exists a gap in the existing literature on the impact of social support from these organisations on the resilience of left-behind children, as research tends to focus on the origin of resilience in these children (Cheng, 2022; Shi, 2020; Tong, 2019a). To delve into the role of social support provided by these organisations on the resilience of left-behind children, this study designed a questionnaire for assessment. The research instrument underwent rigorous testing to ensure its reliability and validity. This contributes practical insights for future in-depth inquiries into the influence of social support from these organisations on the resilience of left-behind children.

Literature Review

Left-behind children

Left-behind children are affected mainly by the absence of fathers, mothers, or both, and they are passive recipients of immigration changes (Asis, 2006). The term "left-behind children" was first used in Chinese academic circles in 1994, referring to parents who went abroad to study or work, leaving their children at home (Zhou & Duan, 2006). However, the modern sense of "left-behind children" emerged in the 1990s due to the "migrant workers' tide," where many rural labourers moved to urban areas, leaving their children behind in the countryside due to practical reasons (Li, 2022). According to the State Council of the People's Republic of China (2016), left-behind children are defined as children under the age of 16 who cannot live with their parents because they are all migrant workers, or one is a migrant worker and the other is incapable of guardianship (Liu & Yang, 2022). There is a consensus that children with at least one parent as a migrant worker are considered left-behind children, and they usually lack sufficient parental care due to

prolonged separation from their parents (Mao et al., 2020).

Problem face by left-behind children

Rural left-behind children under the dual symbolic clamp of rural and left-behind face uneven development of survival, psychological, learning, behavioural and other abilities due to most policies being macro-oriented and inadequate in operation (Li, 2022; Zhu & Bo, 2020). Some scholars point out that parental migration influences left-behind children's physical health (Fellmeth et al., 2018) and mental health (Antia et al., 2020). Mental health problems such as cognitive bias, behavioural disorders, and personality disorders are common among left-behind children in rural areas (Jiang, 2022). A parenting model that emphasises survival over-development can also lead to an identity crisis and attachment alienation among left-behind children, which is not conducive to their resilience, while in terms of learning, it is prone to problems such as dropping out of school and poor academic performance (Tong, 2019b). On the behavioural side, left-behind children are more likely to experience peer bullying (Tan et al., 2018). It is crucial that we address these issues urgently. Encountering violent bullying will reduce the resilience level of left-behind children (Heap, 2020), and due to the lack of parental guidance and companionship, coupled with their young age and insufficient psychological maturity, they cannot cope with difficulties, that is, the level of resilience not high (Liu, 2021).

Social support needed by left-behind children

Left-behind children, a group that is often overlooked, require social support in three key areas: objective, subjective, and utilisation of support. Objective support involves tangible resources such as social assistance and support networks. Subjective support pertains to emotional support and the feeling of being understood or supported by others. The utilisation of support refers to the ability of individuals to apply the support they receive to their daily lives (Xiao & Yang, 1987; Ye et al., 2017). These forms of social support significantly impact left-behind children's emotional, self, academic, interpersonal, and behavioural adjustment (Cui & Xiao, 2022). Scholars have categorised social support into actual and perceived support and argue that perceived social support has a more profound effect on children's mental health than actual social support (Malecki & Demaray, 2003; Chen & Wei, 2013). Perceived social support has been found to positively influence social anxiety levels and physical activity. Therefore, it is imperative to enhance social support for

left-behind children, especially in rural areas, through mental health education and school physical education (Ren & Li, 2020). The current research on social organisations' support for left-behind children predominantly focuses on education management and assistance, such as providing financial aid, material donations, and psychological care (Wang et al., 2018).

Impact of social support on left-behind children

The social support that rural left-behind children receive is not just a theoretical concept, but a practical tool that positively impacts their resilience (Chen & Zhang, 2013). This finding is not only significant academically but also has practical implications. It aligns with the social support theory, which emphasises that the more extensive an individual's social support network is, the better they can deal with difficulties encountered in adversity (Liu, 2021). Similarly, social support plays a vital role in the positive development of children, and access to adequate and effective social support is an effective way to reduce the adverse effects of economic poverty (Li et al., 2019). The main effects model of the social support mechanism further supports this, suggesting that enhanced social support can improve individual health and that a solid social support system can reduce the risk of isolation and depression when individuals are under stress or in distress (Rueger et al., 2016).

Regarding the impact of social support on the social adjustment of left-behind children, the social support system has influenced the social adjustment of left-behind children through two theoretical models. One is the primary effect model, which means that social support has a general gain effect and helps maintain individuals' good emotional experiences and physical and psychological conditions regardless of whether they encounter stressful events; the second is the buffer effect model, which means that when individuals are under stress, social support can effectively mitigate their negative psychological states and thus play a protective role (Cui & Xiao, 2022).

Theoretical framework

Social Support Theory

Social support theory has roots in social ethology, and has been researched since the 1970s. Social support refers to the information that makes an individual feel cared for, loved, respected, and valued or gives them a sense of belonging to a social network that cares for each other (Cobb, 1976). It involves the connections between an individual, a group, and society, through which the individual receives

material, informational, and spiritual support (Shao, 2021). Social support is dependent on three conditions: first, the individual has established supportive relationships with family, community, and others; second, there is a mutual exchange of support and practical help among participants; third, the person receiving support perceives it as helpful, which is crucial for obtaining support (Hupcey, 1998).

The types of social support are classified as material support, emotional support (intimate interaction), behavioural support, offering advice, information, or guidance, and positive social interaction (Barrera & Ainlay, 1983; Li & Chen, 2015). There are formal and informal sources of social support. The formal sources include government, community, social organisations, and other structured organisations. In contrast, the informal sources include family members (i.e., relatives), colleagues, friends, neighbours, and other personal relationships based on blood, industry, and geography (Qiu et al., 1998; Tang, 2017). Therefore, social support theory is used to comprehend the various formal types of social support provided by social organisations for rural left-behind children, including material, psychological, information, behavioural, and social interaction support.

Resilience Theory

Resilience, in the context of at-risk children, refers to the ability of these individuals to adapt positively to unfavourable environments (Sattler & Font, 2018). In the 1970s, psychologists found that some children in these populations were resilient and developed well even in high-risk situations (Wolin & Wolin, 1993). The concept of resilience, as applied to these populations, is derived from the phenomenological findings of individuals in risk and adversity; that is, in the same adversity, some individuals in these populations do not have the mental disorders or behavioural problems that people expect, and they develop well or even better (Garmezy, 1984; Ungar et al., 2012).

Richardson's body-mind dynamic equilibrium model, when applied to these populations, points out that the process of resilience is the process of disintegration and reconstruction to reach a new equilibrium when the internal physiological, psychological, and spiritual equilibrium (body-mind equilibrium state) of an individual is disrupted by external contingencies or adversities (Richardson, 2002). Similarly, Shi (2020) applied this body-mind dynamic equilibrium model to study the level of resilience of left-behind children raised in intergenerational rural areas, such as the study of their physiological adaptation, psychological adaptation, academic adaptation, and life adaptation.

Some scholars have emphasised the need for research on resilience to focus on the interaction between the individual and the environment in addition to the individual himself (Rutter, 1989; Werner, 1995). That is, the influence of environmental factors on the child's resilience has been emphasised (Yoleri, 2020). This shift in research direction laid the foundation for resilience prevention and intervention. Resilience theory, when applied to these populations, was introduced to China after the 1990s and quickly gained widespread acceptance. It has become a frequently used concept in the social sciences of management, education, psychology, and social work, especially when dealing with vulnerable groups such as at-risk children population (Tong et al., 2021). Therefore, resilience theory, when applied to these populations, is used to understand that when left-behind children face the dilemma of left-behind and lack parental care, some social support interventions can help them improve their resilience level in terms of physiological, psychological, academic, behavioural, and social adaptation.

Methods

Research approach and design

This article embarks on a meticulous preliminary study, designed to aid the researcher in testing the reliability and validity of the measured items. The research process is characterised by its adoption of a quantitative research approach. The first step involves the formulation of a hypothesis that “social support from social organisations has a positive and significant impact on the resilience of left-behind children in rural China”. This is followed by the identification of dependent and independent variables, and the design of a questionnaire based on these variables. The second step sees the questionnaire undergo thorough revision and improvement by experts, and pass an ethical review to determine the scope and sample of the pilot study. In the third step, the questionnaire is distributed to collect pilot data. Finally, the reliability and validity of the measurement are meticulously tested based on the results of the pilot data analysis, and suggestions for further research are provided.

Location of the study

The urgency of the situation in Guangxi, China, cannot be overstated. The economic development in this region is relatively backward, with many deep poverty counties and a significant number of left-behind children who urgently need support before complete poverty eradication in 2020. According to data from the Ministry of

Civil Affairs of Guangxi, by the end of 2020, there were 316,000 left-behind children in rural areas of Guangxi. Among them, 295,560 are aged 6-16, accounting for 93.3 percent. This data underscores the pressing need for action.

Sampling size and technique

The pilot study, which was smaller in scale compared to the main study, served a different primary purpose, not centred around hypothesis testing. Therefore, the sample size was not a significant factor (In, 2017). However, some studies do recommend a sample size of more than 30 per group (Browne, 1995). For the main study, data was collected from 98 samples between April 1 and June 30, 2022, using a multistage sampling method, as below:

1. Two counties, namely Donglan and Bama, were randomly selected from Hechi City with the most significant number of left-behind children.
2. The selection of the study's locations was conducted in a random and unbiased manner. One city, Qinzhou City, was chosen at random from a pool of other cities and counties with a higher number of left-behind children. From Qinzhou City, Qinbei District was randomly selected. Subsequently, three towns, namely Donglan Town, Nashe Township, and Xiaodong Town, were also chosen at random from these three counties.
3. One school was randomly selected from each of these three towns, and 40 questionnaires were distributed to each school.

The participants in this study are approximately 13 to 15 years old. In addition to the questionnaire, the survey materials include a consent form and participant information form. This study primarily focuses on rural left-behind children whose parents are working outside the home. As the participants are under 18, their guardians are required to fill in the consent form for them to participate in the survey. It is important to note that participation in the research is voluntary, and the information provided is strictly for research purposes. To ensure privacy, anonymity or coding measures were implemented when publishing papers. Furthermore, all left-behind children who complete the questionnaire received stationery rewards.

Data collection

Ninety-eight completed and qualified questionnaires were collected from the original 120 questionnaires distributed in the study, representing a return rate of 81.67 percent. In the questionnaire survey, the valuable perspectives of left-behind children and their guardians were sought and agreed upon in a spirit of collaboration and shared purpose before data collection. Data collection adopts closed-scale

records, and at the same time, factual information in digital form is collected from census and statistical yearbooks.

Instrumentation and data analyses

The social support of social organisations was measured as the independent variable, and the level of resilience of rural left-behind children after receiving social support from social organisations was measured as the dependent variable. The study assessed all items using a five-point Likert scale, which was developed through a rigorous process. This process involved a comprehensive review of social support theory and resilience theory, as well as an examination of the actual situation of left-behind children in rural China. The scale was then divided into two parts, the first part for social support from social organisations and the second part for the level of resilience of left-behind children after receiving social support from social organisations. The above two parts of the scale were compiled concerning the classification of social support by social support theory (Barrera & Ainlay, 1983; Li & Chen, 2015), and some items of the resilience scale were modified (Shi, 2020).

According to the classification of social support, the social support provided by social organisations for rural left-behind children was divided into five dimensions, namely, Material Support (MaS), Mental Support (MLS), Information Support (IS), Behaviour Support (BS), Social Interaction Support (SIS) and other five latent variables, containing a total of 15 measurement items. Correspondingly, the level of resilience of rural left-behind children after receiving social support from social organisations was also classified into five dimensions, namely, five latent variables, including Physiologic Adaptation (PhA), Psychological Adaptation (PsA), Academic Adaptation (AA), Behavioural Adaptation (BA), and Social Adaptation (SA), containing a total of 20 measurement items.

Data from the 98 questionnaires were analysed descriptively using statistical software for social sciences, SPSS, and structural equation modelling using AMOS. The reliability and validity of the measurement instrument and the interactions between the observed variables were analysed based on the data results to provide a viable basis for the forthcoming in-depth study.

Ethical approval

Before the pilot study, this research was approved by the Research Ethics Committee of the University of Malaya, with the reference number UM. TNC2. UMREC-1391. As the survey object is left-behind children under the age of 18, it is necessary to obtain the written consent of their guardians and, at the same time,

issue the Participant Information Form to the participants. This form allows participants to understand the detailed information of this research and clarifies their right to participate voluntarily and withdraw at any time, respecting their autonomy. The personal privacy information of the participants will be protected.

Results and Discussion

Table 1 Characteristics of the Respondents

Demographic Variables	Categories	Frequency	Percentage
Gender	Male	49	50
	Female	49	50
Age	12years	2	2
	13years	22	22.4
	14years	33	33.7
	15years	36	36.7
	Other	5	5.1
Grade	Grade 7	40	40.8
	Grade 8	30	30.6
	Grade 9	28	28.6
Frequency of receiving support from social organizations	Never	3	3.1
	Rarely	33	33.7
	Sometimes	58	59.2
	Often	4	4.1
Guardian (taking care of daily life)	Mother	30	30.6
	Father	32	32.7
	Brothers and sisters	2	2
	Grandparents/Maternal grandparents	26	26.5
	Other relatives	8	8.2
The length of time parents or one of them go out to work	Less than 1 year	34	34.7
	1-3 years	25	25.5
	More than 3 years	39	39.8

(n=98)

Table 1 shows a descriptive analysis of the demographic characteristics of the participants. The results show that among the participants in this study, boy and girl participants account for just half, that is, 49(50.0%), which is similar to the research results of Liu Qiying (2021) and Xu Yunqi (2020). It is worth noting that the age of participants in our study is primarily between 12 and 16 years old. Specifically, we have two participants at 12 years old (2.0%), 22 at 13 years old (22.4%), 33 at 14 years old (33.7%), 36 at 15 years old (36.7%), and the remaining five at 16 years old (5.1%). Given that our study focuses on left-behind children from Grade 7 to

Grade 9 of junior high school, the age distribution is concentrated between 13 and 15 years old. This finding indicates that the participants in higher grades, such as grade 8 and grade 9, are more prevalent than those in lower grades. Importantly, these older participants demonstrate a strong understanding and subjective consciousness of the questionnaire, which enhances the scientific and practical value of our research. Furthermore, this research result is in line with the findings of Xu Yunqi (2020), further validating the credibility and relevance of our study.

Regarding the frequency of receiving social organisation support, three children (3.1%) never received it, 33 children (33.7%) rarely received it, 58 children (59.2%) sometimes received it, and four children (4.1%) often received it. This study shows that 96.9 percent of the 98 participants have received support from social organisations to varying degrees, and significantly more than half of them have received support from time to time, which can provide the information needed for this study.

In terms of taking care of guardians in daily life, 30 (30.6%) guardians are mothers, 32 (32.7%) guardians are fathers, 2 (2%) are siblings as guardians, 26 (26.5%) guardians are grandparents or maternal grandparents, and 8(8.2%) guardians are other relatives. This result differs from many other scholars' research results (i.e., Feng et al., 2017; Shi et al., 2016). The researchers believe that one of the main reasons is that the problem of left-behind children is getting more and more attention from the state. The state has gradually increased its encouragement and support for young people to return to their hometowns to start businesses or take measures to provide nearby jobs for parents of left-behind children (Ministry of Human Resources and Social Security of the People's Republic of China, 2019; Ning & Zhou, 2022).

Due to the publicity and support of the policy, more and more parents gradually pay attention to the family care for left-behind children and choose to leave one parent to take care of the children at home. Therefore, the data on fathers and mothers as guardians here are equivalent, indicating that at least one father or mother will stay at home to accompany their children as they grow up, and the care of grandparents tends to decrease. This shift in guardian demographics is significant as it reflects a change in the traditional roles and responsibilities within the family, with more fathers taking on caregiving roles.

The time that rural left-behind children have been without their parents can be reflected in the time the parents have spent working away from home. A higher number of left-behind children have parents who have been working for more than three years (39.8%), followed by those whose parents have been working for less than one year (34.7%) and those whose parents have been working away for

between one and three years (25.5%). However, the difference between the three groups is not significant. This suggests that a greater number of left-behind children have been without their parents for more than three years.

The pilot study focused on collecting data from a small group of participants and analysing these data to test the reliability and validity of the measurement instrument for the upcoming study (Nasiru & Abu Bakar, 2022). In this study, we applied AMOS v24 software to perform factor and path analysis on the data and construct structural equation modelling. Structural equation modelling (SEM) is also called covariance structure modelling (CSM) and linear structural equation (LSE). Karl G. Joreskog, a Swiss statistician and psychometrician, put forward a preliminary algorithm in the early 1970s. It belongs to advanced statistical methods and is widely used in social sciences (Hijazi et al., 2016; Vickers & Elkin, 2006). AMOS v24 software is used to test the constructed equation model, estimate the parameters of the initial structural model, and perform model fitting, model evaluation, and model modification, respectively (Xiong & Liu, 2017). Structural equation modelling has high requirements for sample size, and the inconsistency of sample size will also affect the degree of model fit (Fang et al., 2018). This study is limited by the small sample size of the pilot study, but the analysis results show that the fitness of each indicator is reasonable.

There are numerous statistical indicators for structural equation models. To test the overall fit of the model, the study selected the CMIN/DF (cardinality of freedom ratio), GFI (goodness of fit index), CFI (comparative fit index), NFI (normed fit index), IFI (incremental fit index), TLI (Tucker-Lewis index), and RMSEA (root mean squared error of approximation) metrics. By convention, CMIN/DF should be at least below five benchmarks and preferably below 3 or 2; RMSEA should be at least below 0.8 benchmarks; the fitting range of GFI, NFI, IFI, TLI, CFI and PGFI needs to be between 0 and 1 benchmarks (Hair et al., 2014a; Elizar et al., 2017), a reasonable fit for PGFI is more significant than 0.5 benchmarks (Fang et al., 2018), a reasonable fit for the GFI is greater than or equal to 0.7 benchmarks, a reasonable fit for the other indices is greater than or equal to 0.80 benchmarks, and a good fit is greater than or equal to 0.9 benchmarks (Xiong & Liu, 2017). The model can be said to be a good fit if it meets the criteria of the three standard measures (Elizar et al., 2017). The data in Table 2 show that all the fitted indicators after model correction meet the statistical requirements; that is, they have exceeded the criteria of the three standard measurements, so the fitness is reasonable.

Table 2 Model fit indices

Measurement	Value	Cut-off values based	Reasonable fit	Conclusion
CMIN/DF	1.484	< 5	< 5	Fit
RMSEA	0.071	< 0.08	< 0.08	Fit
GFI	0.724	0 to 1	≥ 0.07	Fit
CFI	0.894	0 to 1	≥ 0.08	Fit
IFI	0.898	0 to 1	≥ 0.08	Fit
TLI	0.877	0 to 1	≥ 0.08	Fit
PGFI	0.586	0 to 1	>0.5	Fit

Our findings, as presented in Table 3, underscore the robustness of the model examining the role of social support from social organisations on the resilience of left-behind children in rural China. The reliability and validity tests, with each value of the combined reliability CR surpassing 0.7 (Hair et al., 2014a), provide a strong foundation for our research. A combination reliability CR above 0.6 indicates a good internal quality of the structural model (Liang, 2017). Moreover, the average variance extracted (AVE) of each construct, exceeding 0.50, supports the convergent validity of our model. This is evident in the AVE values for convergent validity of both models, which are significantly higher than 0.5 (Wu, 2010).

The researcher, using Hair's (2014) criteria and a factor analysis approach (Chen et al., 2016; Evans et al., 2019; Hair et al., 2014b), diligently sought to establish the discriminant validity of this study's measurement efforts. A comprehensive series of validation procedures was conducted, examining the differential validity of the latent variables of social support (material support, moral support, information support, behavioural support, and social interaction support) within the study's social organizations, and the level of resilience (physical adaptation, psychological adaptation, academic adaptation, behavioural adaptation, and social adaptation) of the left-behind children after receiving social support from these organizations (see Table 3).

The proposed original measurement model was rigorously tested against ten other alternative measurement models. As demonstrated in Table 4, the data overwhelmingly supported the original model (X^2 = 757.071, df = 510, RMSEA = 0.071, CFI = 0.894, IFI = 0.898). The standardised loadings of all indicators for their specific structures were significant at the 0.001 level. The cardinality tests and model fit indices unequivocally showed that the fit of the other alternative models was significantly lower than that of the original model. Therefore, the study's results, which indicate good discriminant validity of the measurement instruments, are of significant importance in the field of social sciences and psychology.

Table 3 Convergent validity and combined reliability

Path			Estimate	S.E.	C.R.	P	AVE	CR
MaS2	<---	MaS	0.782				0.577	0.732
MaS1	<---	MaS	0.737	0.178	5.785	***		
MeS5	<---	MeS	0.808					
MeS4	<---	MeS	0.733	0.118	7.874	***		
MeS3	<---	MeS	0.788	0.105	8.652	***	0.615	0.888
MeS2	<---	MeS	0.708	0.103	7.535	***		
MeS1	<---	MeS	0.873	0.109	9.971	***		
IS2	<---	IS	0.841				0.606	0.754
IS1	<---	IS	0.711	0.154	5.902	***		
BS3	<---	BS	0.862					
BS2	<---	BS	0.826	0.086	9.78	***	0.652	0.848
BS1	<---	BS	0.728	0.099	8.147	***		
SIS3	<---	SIS	0.895					
SIS2	<---	SIS	0.775	0.083	9.248	***	0.622	0.830
SIS1	<---	SIS	0.681	0.086	7.589	***		
PhA1	<---	PhA	0.759					
PhA2	<---	PhA	0.803	0.134	8.247	***	0.663	0.887
PhA3	<---	PhA	0.83	0.13	8.561	***		
PhA4	<---	PhA	0.862	0.121	8.947	***		
PsA1	<---	PsA	0.782					
PsA2	<---	PsA	0.701	0.083	8.952	***		
PsA3	<---	PsA	0.716	0.128	7.465	***		
PsA4	<---	PsA	0.753	0.12	7.933	***	0.555	0.897
PsA5	<---	PsA	0.864	0.118	9.418	***		
PsA6	<---	PsA	0.641	0.127	6.552	***		
PsA7	<---	PsA	0.739	0.135	7.201	***		
AA1	<---	AA	0.739					
AA2	<---	AA	0.893	0.134	8.033	***	0.617	0.827
AA3	<---	AA	0.712	0.151	6.719	***		
BA1	<---	BA	0.692					
BA2	<---	BA	0.703	0.1	9.065	***	0.592	0.811
BA3	<---	BA	0.896	0.184	7.832	***		
SA1	<---	SA	0.818					
SA2	<---	SA	0.756	0.118	8.333	***	0.678	0.863
SA3	<---	SA	0.89	0.116	10.435	***		

Note. ***$p < 0.001$.

Table 4 Results of the Discriminant Validity

No.	Models	X^2	df	X^2/df	CFI	IFI	RMSEA	Model Comparison	ΔX^2	Δdf
1	Original Model	757.071	510	1.484	0.894	0.898	0.071			
2	Nine-factor model I	816.402	520	1.57	0.873	0.877	0.077	2 vs 1	59.331***	10
3	Nine-factor model II	830.383	520	1.597	0.867	0.871	0.078	3 vs 1	73.312***	10
4	Eight-factor model	880.722	528	1.668	0.849	0.853	0.083	4 vs 1	123.651***	18
5	Seven-factor model	955.099	535	1.785	0.820	0.825	0.090	5 vs 1	198.028***	25
6	Six-factor model	1020.343	541	1.886	0.795	0.800	0.096	6 vs 1	263.272***	31
7	Five-factor model	997.390	546	1.827	0.807	0.811	0.092	7 vs 1	240.319***	36
8	Foure-factor model	1071.982	550	1.949	0.777	0.781	0.099	8 vs 1	314.911***	40
9	Three-factor model	1152.244	553	2.084	0.744	0.748	0.106	9 vs 1	395.173***	43
10	Two-factor model	1202.818	555	2.167	0.723	0.728	0.110	10 vs 1	445.747***	45
11	One-factor model	1292.654	556	2.325	0.685	0.690	0.117	11 vs 1	535.583***	46

Note: ***P<0.001
Nine-factor model I: Mas+Mes,IS,BS,SIS,PhA,PsA,AA,BA,SA;
Nine-factor model II: Mas,Mes+IS,BS,SIS,PhA,PsA,AA,BA,SA;
Eight-factor model : Mas+Mes+IS,BS,SIS,PhA,PsA,AA,BA,SA;
Seven-factor model IV: Mas+Mes+IS+BS,SIS,PhA,PsA,AA,BA,SA;
Six-factor model: Mas+Mes+IS+BS+SIS,PhA,PsA,AA,BA,SA;
Five-factor model: Mas+Mes,IS+BS,SIS+PhA,PsA+AA,BA+SA;
Four-factor model: Mas+Mes+IS+BS,SIS+PhA,PsA+AA,BA+SA;
Three-factor model: Mas+Mes+IS+BS+SIS+PhA,PsA+AA,BA+SA;
Two-factor model: Mas+Mes+IS+BS+SIS,PhA+PsA+AA+BA+SA;
One-factor model: Mas+Mes+IS+BS+SIS+PhA+PsA+AA+BA+SA.

Conclusions and Limitations

As previously stated, the main objective of this pilot study was to assess the reliability and validity of the measurement instrument for the role of social support from social organisations on the resilience of left-behind children in rural China. The aim was to validate the feasibility of these latent variables for future research applications. The pilot study's results have successfully met these objectives. The descriptive analysis of participant demographics indicated that the age of the participants and their receipt of social support from social organisations met the conditions for the main study. The social support of social organisations as the independent variable, the level of resilience of rural left-behind children as the dependent variable, and the ten latent variables they contain all passed the reliability and validity tests. The test results confirmed that each convergent validity's average variance extracted AVE value was more significant than the benchmark of 0.5, and the CR value of each combined reliability was higher than the benchmark of 0.7.

Moreover, after the discriminant validity was tested using factor analysis, the proposed original measurement model was significantly higher than the other ten alternative measurement models in terms of cardinality value test and model fit index, indicating good discriminant validity. Therefore, based on the findings of this study, the reliability and validity of the measurement instruments were met, which facilitated the continuation of the main study at a later stage. However, although the pilot study has passed the reliability and validity tests, there are still some limitations in the current study, mainly that some left-behind children do not know much about the content of social support from social organisations, so they tend to choose answers that do not fit the actual situation when filling out the questionnaire. Therefore, the researchers must explain the specific content and purpose of the survey to the left-behind children in detail during the survey to obtain objective and accurate results.

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