OPEN ACCESS
EURASIA Journal of Mathematics Science and Technology Education
ISSN: 1305-8223 (online) 1305-8215 (print)
2017 13(10):6609-6618
DOI: 10.12973/ejmste/78175

Family Environment Impact on School Readiness of Children in China - Based on the Survey of Wuchuan Autonomous County, Guizhou

Junjun Xie
Hainan Medical University, CHINA
Yongtao Gan
School of Education, South-Central University for Nationalities, CHINA

Received 18 March 2017 ▪ Revised 13 July 2017 ▪ Accepted 3 September 2017

ABSTRACT
In recent years, school readiness of children has become a hotspot issue in studies. School readiness refers to various key features and basic conditions required by children in the formal education. The study on school readiness plays an important value on early identification and timely intervention of potential development risks. To reflect family influence factors on children's school readiness, this paper compiles a set of evaluation tools with locally targeted school readiness of children in accordance with characteristics of children, combines them with SRTB-CV, and selects a total of 288 children in Wuchuan Autonomous County, Guizhou, China to carry out an individual test. The study compiles a measuring tool suitable for evaluating school readiness of Chinese children, conducts system inspection and profound analysis of family influence factors for school readiness of children, and proposes constructive recommendations on carrying out family education practices for school readiness of children.

Keywords: school readiness, cognitive development, family environment, influence factors

INTRODUCTION

School readiness refers to various key features or basic conditions required by children in the formal education (Gredler, 2000). According to the ecological model of children's school readiness proposed by NEGP (Emig, Moore & Scarupa, 2001), school readiness should include at least the following three aspects: children for readiness, schools for readiness, family and community support. Five important development areas are contained in children for readiness, including body and sports development, emotional and social development, learning styles, language development, cognitive development, and general knowledge base. The level of school readiness is an important indicator to predict children's adaptation to the future school. Foreign researches find that social economic status is one of the key factors impacting school readiness of children, but our minority areas relatively lag behind for a long time. Research shows that children who live in low socioeconomic status will have higher development risks in sociality and emotion, and the difference between them and children who live in high socioeconomic status will gradually increase (Roberts & Sobhan, 1992). Children who are raised in different socioeconomic status have an obvious difference in acquiring language input of parents. For example, children who live in low socioeconomic status only have a quarter of language input compared to children who live in high socioeconomic status (Hart & Risley, 1992). Family socioeconomic status has a large relation with health condition of children, cognitive and

Correspondence: Yongtao Gan, Associate professor, *School of Education, South-Central University for Nationalities, China, Tel: (0086)13164627076.*
ganyt@foxmail.com

Contribution of this paper to the literature

- This paper reconsiders the measurement tool of school readiness of children.
- The analysis explores the theoretical assumptions for the dimension and its constituent elements of school readiness of children and considers later empirical data.
- This paper explores the impact of family environment variables on the different level of school readiness of children and the favorable reasons for promoting the development of school readiness of children.
- This paper can provide theoretical reference and practical guidance for the family education practice of children's school readiness.

social emotional development. Moreover, the influence will be lasting from the childhood to adulthood (Dodge, Pettit & Bates, 1994). Teachers have lower expectations and more passive consciousness of children who live in low socioeconomic status than children who live in high socioeconomic status (Philip, 2007). Studies on school readiness are just starting. This paper breaks through the limitation of research on "Ready For Primary School" compared to the literature. Also, the author of this paper had an adventurous and innovatory study about children's school readiness, and developed the Test Box suitable for Chinese children. The author also puts up a series of systematical survey and deep analysis, and also brings forward constructive points for carrying out family education practice for promoting children's school readiness. The results of this research provide a theoretical basis and practical guidance to evaluate children's school readiness in China, and have important theoretical value and realistic significance.

The study mainly uses five-domain model of children's school readiness proposed by NEGP for reference to design a test structure and content. Utilizing the recent children's school readiness tests developed for foreign countries, this study compiles a measuring tool to evaluate the school readiness of Chinese children between the ages of 4 to 7. This measuring tool is used to judge whether the development in five domains of learning styles, cognition and general knowledge, language, emotion and sociality, and movement skills for preprimary children (4-7 years old) can reach the school readiness status, which the children in this age group should be equipped with. By combining Bacbarach and Baumeiste's influential study of family environment (parent factor) on school readiness of children, a research framework of family environment influence factors and school readiness of children is confirmed (Verne & Alfred, 1993). This study verifies the following research hypotheses through empirical analysis:

Hypothesis 1: Characteristic variables such as age, occupation, educational background, reading habits and specialties, etc., have a significant influence on school readiness of children.

Hypothesis 2: Family cultural resources such as books, intelligence toys, multimedia resources, etc., have a significant influence on school readiness of children.

Hypothesis 3: Complete families or single parent families, core families or extended families, and types of guardians, etc., and related variables have a significant influence on school readiness of children.

THE RESEARCH METHOD

Research Objects and Data Collection

This questionnaire consists of children and parents. Respondents of the child questionnaire are senior kindergartens. Respondents of the parent questionnaire are parents of respondents in the child questionnaire. The questionnaire is matched correspondingly. The study adopts a method of a questionnaire. The investigation can be divided into two steps: The first step is to test the initial questionnaire. The collected data are mainly used for item analysis and exploratory factor analysis of the questionnaire. The second step is to test the survey range. The collected data is used for analysis of reliability and validity and hypothesis testing. The survey range extracts 8

Table 1. Family Basic Situation

Factors	Types	N	Percentages	Factors	Types	N	Percentages
Age	Below 20	0	0	Nationality	Han Nationality	248	85.7
	20-30	17	5.8		Minorities	41	14.3
	31-40	209	72.5	Occupation	Housekeeping	5	1.7
	41-50	50	17.5		Manufacturing industry	7	2.5
	Above 51	12	4.2		Catering industry	9	3.3
Educational background	Primary school or below	9	2.5		Construction industry	36	12.5
	Junior high school	26	9.2		Transportation	7	2.5
	Senior high school/technical secondary school	58	20		Entertainment	31	10.8
	Undergraduate / junior college	162	55.8		Wholesale and retail industry	34	11.7
	College or above	44	12.5		Public institutions	159	55.0

kindergartens by using a random sampling method. A total of 288 children participate in this survey. Age range of all samples is from 5.34 years old to 6.89 years old. Basic family situation of these children is shown in **Table 1**.

The Research Tool

This questionnaire consists of children and parents. Respondents of the child questionnaire are senior kindergartens. Respondents of the parent questionnaire are parents of respondents in the child questionnaire. The questionnaire is matched correspondingly. The study adopts a method of a questionnaire. The investigation can be divided into two steps: The first step is to test the initial questionnaire. The collected data are mainly used for item analysis and exploratory factor analysis of the questionnaire. The second step is to test the survey range. The collected data is used for analysis of reliability and validity and hypothesis testing. The survey range extracts 8 kindergartens by using a random sampling method. A total of 288 children participate in this survey. Age range of all samples is from 5.34 years old to 6.89 years old. Basic family situation of these children is shown in **Table 1**.

School readiness of children

School Readiness Test Battery (SRTB) is a measuring tool compiled for studying school readiness of children. The purpose is to identify whether the development in five domains, including learning styles, cognition and general knowledge, emotion and sociality, language ability, and sports skills, reach the school readiness status that should be equipped by children in this age for preprimary children (4-7 years old) (J'Lene & Daryl, 2005).

The compilation of child questionnaire adopts Likert Scale, and its reference count scoring is "5 very satisfied", "4 satisfied", "3 ordinary", "2 dissatisfied", and "1 very dissatisfied". Indicators of measuring school readiness include: sports skills, emotional and social ability, basic knowledge situation, painting, and language competence. Dimensionality in each item contains 10 questions on average. There are a total of 42 questions. Our trained teachers carry out a standardized individual test on respondents about 20 minutes in an undisturbed room.

Family environment of children

Trial version of SRHOME: The compilation of this questionnaire refers to Moss' Family Environment Scale (FES) and HOME compiled by Galdwe et al. The questionnaire includes characteristics of fosterers, family cultural resources, family structure, and status features. The questionnaire contains 29 questions. International consistency reliability is 0.88. SRHOME questionnaire is granted to parents by a class teacher of kindergartens, and parents are asked to return on the second day.

Table 2. Fitting Index of Two Models

	X^2	d_f	X^2/d_f	GFI	AGFI	NFI	CFI	TLI	RMSEA
Model 1: Single-Factor Model	2017.415	1288	1.566	0.84	0.84	0.422	0.655	0.640	0.37
Model 2: Two-Order Factor Model	1789.738	1263	1.495	0.921	0.921	0.933	0.923	0.919	0.035

All questionnaire data were in April 2016. All data were statistically analyzed using SPSS21.0. Before formal analysis, reverse questions have already been processed with reverse scoring, so these questions can be contrasted directly through dimensional scoring.

THE RESEARCH RESULT AND ANALYSIS

Evaluation of Children's School Readiness

Reliability analysis

The researcher analyzes 289 received questionnaire data of children and gives feedback in line with respondents. According to the specific item concerning school readiness of children in the questionnaire, the child questionnaire will ultimately conduct reliability analysis. The data display that Cronbach's Alpha coefficients of all items in school readiness of children are between 0.622-0.825. Generally speaking, $\alpha>0.080$ refers to excellent internal consistency. α is between 0.60-0.80, indicating good internal consistency. If $\alpha<0.60$, it indicates that internal consistency is extremely bad. Split-half coefficients concerning family environment in the questionnaire are between 0.615-0.825. It is thus clear that internal consistency reliability of the questionnaire is relatively good. It also indicates that feedback of this questionnaire has certain reliability.

Structural analysis of validity

When testing validity of the measuring test, two hypothesis models are firstly constructed. Hypothesis 1 is a single-factor model. The hypothesis thinks that questions measured in this test have the same features; namely, the test inspects general ability level of children. According to the concept of children's school readiness defined by NEGP, the hypothesis model 2 is constructed. This model is a two-order factor model. The hypothesis thinks that test questionnaires inspect different aspects of children's school readiness (Britto, Brooks & Griffin, 2006).

Amos 21.0 is adopted to conduct confirmatory factor analysis of the above model. According to Modification Index (MI) in Amos' result output, the model is modified. Fitting index of two models is shown in **Table 2**.

Generally speaking, when fitting index of GFI, AGFI, NFI, CFI and TLI, etc., is higher than 0.9, and RMSEA is lower than 0.05, the model receives good fitting. GFI index reaches above 0.8, so the model is acceptable. It can be observed from **Table 2** that RMSEA index has good fitting in two models. GFI index is located in an acceptable range, while the fitting of the other index is not ideal. Comparing the fitting indices of the two models, the fitting of two-two factor model is superior to single-factor model.

Statistical results of five dimensions in school readiness of children

By the survey on children's school readiness performed on kindergarten children in Wuchuan Autonomous County, Guizhou, it was found that the average score of respondents' school readiness is 4.17. Standard deviation is 0.59. Attitude of most of teachers is 4.1 and is about "good" in each dimensional index. Average score of five dimensions in children's school readiness includes (**Table 3**): overall situation of children's school readiness, learning styles, cognition and general knowledge, language, emotion and sociality, and sports skills, respectively.

Table 3. Average Score of Five Dimensions in Children's School Readiness

Dimensions	N	Mean	Standard Deviation
TSRCV	289	4.17	0.59
TSRCV_A	289	4.15	0.67
TSRCV_C	289	4.03	0.43
TSRCV_L	289	4.23	0.59
TSRCV_S	289	3.89	0.66
TSRCV_M	289	4.57	0.61

Notes: ACLSM test includes learning styles, cognition and general knowledge, language, emotion and sociality, and movement skills

Table 4. The Partial Correlation Coefficient of Parents' Age in Total Score of Children's School Readiness and Dimensional Score

	TSRCV	TSRCV_A	TSRCV_C	TSRCV_L	TSRCV_S	TSRCV_M
Father's age	-.1189*	-.1221*	-.0679	-.0458	-.0597	-.0429
Valid samples	106	106	106	106	106	106
Mother's age	-.1287*	-.0860	-.1106	-.0511	-.0769	-.0147
Valid samples	158	158	158	158	158	158

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

It is thus clear that the highest score of children in Wuchuan Autonomous County is sports skills and it reaches "excellence". Language and emotional development is relatively high. However, learning styles, cognition and general knowledge are relatively low. Social development ability of children is low. Thus, we need to attach importance to cognitive development, improvement of learning styles and social development ability of children in minority areas. Social development of children will impact interaction and communication between children and teachers, peer children and families or the crowds, and affect the development of children's habit and good characteristics. If learning styles, cognitive ability and general knowledge of children can be improved, it will promote entire admission level of children and improve effective education.

Influences of Parent Characteristic Variables on School Readiness of Children

Influences of fosterers' characteristics on school readiness of children can be analyzed from several aspects, including age, occupation, educational degree, reading habits and specialties, etc.

Influences of parents' age on school readiness of children

The partial correlation coefficient of parents' age in total score of children's school readiness and dimensional score is shown in **Table 4**.

It can be observed from **Table 4** that father's age presents negative correlation with total score of children's school readiness and testing score of learning styles. Mother's age present negative correlation with total score of children's school readiness. In addition, mother's age presents significant negative correlation with dimensional score of cognitive and general knowledge. According to related analysis, the relation between parents' age and school readiness of children can be analyzed. Dispersion degree of young parents' total score of school readiness is larger, while dispersion degree of elder parents' total score of school readiness is smaller.

Influences of parents' occupation on school readiness of children

By using a one-way analysis of variance, we can inspect influences of father's occupation on school readiness of children. The result shows that influences of father's occupation on total score of children's school readiness reach the margin significantly (F-2.77, df-=3, $p<0.05$). In the "cognitive development domain", F-1.911 ($p<0.05$), the effect of "manufacturing industry", "entertainment", "public institutions", etc., is lower than the other

Table 5. The Partial Correlation of Reading Habits on School Readiness of Children

	TSRCV	TSRCV_A	TSRCV_C	TSRCV_L	TSRCV_S	TSRCV_M
Book reading	.1567**	.1489**	.1412	.0931	.633	-.0528
Valid samples	285	285	285	285	285	285
Magazine reading	.1342**	.1035	.0937	.0914	.0767	-.0356
Valid samples	285	285	285	285	285	285

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

industries. In "language development domain", F=0.934 (P=0.000<0.001), the effect of "manufacturing industry", "entertainment" and "wholesale and retail industry" is lower than the other industries.

By using a one-way analysis of variance, we inspect influences of mother's occupation on school readiness of children. The result shows that influences of mother's occupation on school readiness of children are weaker than influences of father's occupation on school readiness of children. Only in cognitive and general knowledge domain, influences of mother's occupation come close to significance (F=2.36, df-=3, P.073). For children whose mother work in public institutions and entertainment industry, dimensional score of cognition and general knowledge is slightly higher than the other industries. As for other industries, influences of mother's occupation are not significant.

Influences of parents' educational background on school readiness of children

By using a one-way analysis of variance, we inspect the influences of parents' educational background on total score of children's school readiness. Though the total score of school readiness has the tendency to rise with the increase of parents' educational background, influences of parents' educational background on total score of children's school readiness reach no significance level (mother F=3.18, df=2, P>.11; father F=0.88, df=2, P>.43). There is no interaction effect either (F=2.84, df=2, P<.44).

We further inspect the influences of parents' educational background on each dimension of children's school readiness. The result shows that influences of mother's educational background come close to significance (F=2.83, df=2, p=.06). Influences of parents' educational background are significant in cognition and general knowledge of children (mother F=4.11, df=2, p<.05; father F=3.58, df=2, P<.05). However, in other dimensions, there are no significant influences.

Influences of reading habits on school readiness of children

It can be observed from **Table 5** that influences of book reading habits on total score of children's school readiness, learning styles, cognition and general knowledge reach the significance level, and influences of magazine reading habits on total score of children's school readiness also reach the significance level. However, considering that there is a correlation between reading habits and educational background, the correlation between reading habits and school readiness may be co-variation relation caused by educational background. Therefore, educational background is added to the control variable to further analyze the partial correlation of reading habits on school readiness of children. The result considers parents' specialties as independent variables and dimensional score of children's school readiness as dependent variables.

By using analysis of variance, we inspect the correspondence between parents' specialties and school readiness of children in each domain. The result shows that painting and calligraphy specialties of parents play a significant influence on learning styles of children (painting: F=9.77, df=1, P<.01; calligraphy: F=5.99, df=1, P<.05). Dance specialty of parents has no significant influences on sports skills (F=26.27, df=1). Moreover, the partial correlation between the number of specialties and learning styles of children reaches the significance level (P=.052). Thus, specialties play a positive influence on school readiness of children.

Specialties of parents are regarded as independent variables. Dimensions tested by school readiness of children are considered as dependent variables. By using analysis of variance, we inspect the correspondence

Table 6. Family Cultural Resources impact on School Readiness of Children

	Book Resources	Intelligence Toys	Multimedia Resources
TSRCV	-1.916	-1.497	-0.733
TSRCV_A	-2.844**	2.989**	-0.627
TSRCV_C	-3.577***	-0.428	3.75***
TSRCV_L	-1.916	-0.647	3.34***
TSRCV_S	0.899	0.433	0.645
TSRCV_M	-0.012	-2.243*	-0.028

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

between specialties and school readiness of children in each domain. The result shows that painting and calligraphy specialties play obvious significance on learning styles of children (painting: F=8.88, df=1, p<0.01; calligraphy: F6.33, df=1, P<.05), and dance specialties don't have significant influences on sports skills of children (F=225, 75, df=1, p<0.001.)

Influences of Family Cultural Resources on School Readiness of Children

Influences of family cultural resources on school readiness of children are analyzed from family book resources, intelligence toys and multimedia resources, respectively.

Influences of book resources on school readiness of children

Nearly 78% of families own over 20 children's books. Thus, in the further analysis, these 20 books are regarded as limitations to recode the variable, dividing them into above 20 books and 20 books or below, which are considered as independent variables. Total score of children's school readiness and various dimensions are deemed as dependent variables. The individual sample t test is conducted. Influences of book resources on learning styles of children's school readiness, cognition and general dimension reach the significance level. Influences on total score of school readiness and language reach the marginal significance. Influences of emotional and social development and sports skills are not significant.

Influences of intelligence toys on school readiness of children

According to questionnaire data analysis, intelligence toys are sensitive spots for about 5 resources. Moreover, its influences on sports skills are different from its influences on other dimensions. As a result, this variable should be coded above 5/5 due to the grouping limitation. Independent sample t test is applied to inspect influences of the number of intelligence toys on school readiness of children. The result shows that the number of intelligence toys plays a remarkable positive influence on learning styles of children. However, negative influences on sports skills reach the marginal significance. Combined with the analysis results in **Table 3**, it can be assumed that when the number of intelligence toys are over 5, it plays a positive influence on learning styles (flexibility solved in this situation), but plays a negative influence on sports skill. Thus, this will defer the development of motor skills.

Influences of multimedia resources on school readiness of children

First of all, frequency analysis is conducted on the number of multimedia resources. To avoid influences from statistical results on sample data grouping, groups of size 5 or below should be combined with groups of size 5-10 into groups of size 10 or below. By using a one-way analysis of variance, we inspect influences of multimedia resources on school readiness of children. The result shows that the number of multimedia resources plays a significantly positive influence on cognition and general knowledge and language development, but plays no significance influences on other aspects. **Table 6** displays influences of multimedia resources on school readiness of children. In sports skills, the mode of action is similar to the above-mentioned intelligence toys, and has a certain negative influence but it reaches no significance level.

Table 7. The Statistical Result Analysis of Family Structure and Children's School Readiness

Name	Types		TSRCV	TSRCV_A	TSRCV_C	TSRCV_L	TSRCV_S	TSRCV_M
Family types	Core families	Mean	4.172	4.17	4.02	4.33	3.86	4.43
		Standard deviation	0.587	0.536	0.482	0.555	0.521	0.567
	Extended families	Mean	4.177	4.14	4.04	4.23	3.92	4.58
		Standard deviation	0.552	0.571	0.578	0.452	0.654	0.55
	F values		0.78	0.25	0.69	0.31	0.17	0.41
Types of guardians	Old guardians	Mean	4.076	4.11	4.01	4.2	3.76	4.38
		Standard deviation	0.543	0.457	0.586	0.592	0.435	0.573
	Father's guardians	Mean	4.171	4.05	4.03	4.08	3.92	4.62
		Standard deviation	0.549	0.566	0.534	0.588	0.587	0.553
	Mother's guardians	Mean	4.18	4.18	4.07	4.26	4.01	4.47
		Standard deviation	0.578	0.672	0.493	0.546	0.521	0.623
	Parents' guardians	Mean	4.192	4.16	4.02	4.28	3.92	4.58
		Standard deviation	0.593	0.536	0.488	0.68	0.573	0.556
	F values		0.57	0.22	0.72	9.38***	0.33	3.256***

Influences of Family Structural Variable on School Readiness of Children

Family structural variable includes two types: core families or extended families (three-generation structure), and types of guardians. The statistical result of family structure and children's school readiness is shown in **Table 7**.

The status difference of children's school readiness in core families and extended families

The sample group contains 160 core families (parents and child (children)) and 118 expended families (Parents, children and older men). By using independent sample t test, it was found that there is no significant difference between children in these two families for total score of children's school readiness. Even if educational background is controlled, we find no significant tendency in these two families by carrying out analysis of covariance. The occurrence of such a result may be caused by insufficient sample quantity, so statistical test efficiency is lower. Such tendency will further be tested in the future sample study.

Influences of types of guardians on school readiness of children

The types of guardians can be divided into "old guardians", "mother's guardians", "father's guardians, and "parents' guardians". **Table 7** describes the status of guardian types in total score of children's school readiness in various domains. It can be observed from **Table 7** that old guardians have the lowest development level on the sports skills. Language development level of old guardians is the lowest, but is the highest in action development. Development of mother's guardians is relatively balanced in sports skills in all domains. By using analysis of variance to test, it was found that the judged difference between language and sports skills is obvious. Difference in other domains reaches no significance level.

CONCLUSIONS

This study has explicitly developed a SRTB. School readiness of children is an important development task that runs through 0-6 years old. The purpose of compiling SRTB is to evaluate various development levels of all kinds of ability for children and their school readiness. In order to test with pertinence, the compiled measuring tool is only suitable for 4-7 years old children. Younger children are not suitable for this test. Meanwhile, test

performance of children can't be regarded as the basis of admission. The explanation on testing performance should concentrate on the degree of possible developmental risks and required assistant types after children's enrollment. By comparing with the model table, kindergarteners and primary school teachers should give more attention to children having lower SRTB performance levels.

Based on a theoretical model of school readiness proposed by NEGP, the compilation process in each subtest should select items with different dimensions as much as possible. As for specific testing tasks, the proposed test incorporates research achievements of children development in recent years such as flexible task, wrong belief task, etc. These have been excluded from previously proposed tests. Thus, theoretical foundation and structural design of the proposed test embodies the leading edge of children's psychology study. The proposed test gives priority to picture selective tasks, and assists with question-answer tasks and actual operation. The requirements for language ability are relatively lower. The proposed test applies colorful pictures, has stronger enjoyment and attracts children. The total number of test items is few, requires less time, operates conveniently, and is easy to generalize.

The analysis of testing psychometrics index shows that the discrimination of the test item and difficult index are relatively ideal. The proposed test has relatively stable test-retest reliability, good split-half reliability, and internal consistency reliability. By analyzing test reliability, good construct validity can be found.

Influences of Family Environment on School Readiness of Children

First of all, sample selection in the study has a certain limitation. In the result, some environmental variables may play a role on middle class. Roles and functions of some variances may be different. For example, the study finds that influences of book resources on learning styles, cognition and general knowledge reach the significance level and also play a positive influence on the total score of school readiness and language development: "Parents going out with children for walking or playing" present significant positive correlation on children's emotional and social development. In the middle class or above families, parents' educational background will play an influence on school readiness of children through categories of book resources, reading time and reading habits of child. Moreover, parents' occupation and educational background also impacts it. As for quality of "parents going out with children for walking or playing", parents in middle (or above) class may communicate with children more significantly and positively in the process of walking and playing with children and play a positive influence on emotional and social development.

Sports competitions and movies, etc., activities, children independence, and father's participation in some aspects, etc., family upbringing activities play a significant influence on school readiness of children.

Secondly, the function of subsystems in the questionnaire can't be combined with specific domains as predicted. Therefore, in the result analysis, the division of subsystems in the questionnaire is disorganized. Beginning with specific family environment factors, the result is analyzed and discussed. The result shows that in family resource systems, occupation, educational background, age and specialties, etc., have a significant influence on school readiness of children.

Thirdly, the function of some variables in a family environment is two-ways. The result shows that parent-child reading, intelligence toys, and multimedia resources play a positive influence on cognitive level and language development, but hinder the development of sports skills. Therefore, in practice, parent-child reading activities should cooperate with sports skills to promote activities.

ACKNOWLEDGEMENT

This study was financed by Education Youth Project, Chinese National Social Science Fund (Number: CMA120169) and Chinese National Social Science Fund "Hainan Minority Areas Education Immigration Research" (Number: 13CMZ063).

REFERENCES

Bacharach, V., & Baumeister, A. (1993). Direct and indirect effects of maternal intelligence, maternal age, income, and home environment intelligence of preterm, low birth weight children. *Journal of Applied Developmental Psychology, 36*, 375. doi:10.1016/S0193-3973(99)80045-8

Britto, P. R., Brooks-Gunn, J., & Griffin, T. M. (2006). Maternal Reading and Teaching Patterns: Associations with School Readiness in Low-income African American Families. *Reading Research Quarterly, 41*, 68-89.

Carlton, M. P., & Wmsier, A. (1999). School readiness: The need for a paradigm shift School. *Psychology Review, 28*, 338-352.

Carran, D. L., & Scott, K. G. (1992). Risk assessment in preschool children： Research implication for the early detection of educational handicaps. *Topics in Early Childhood Special Education, 12*, 196-211.

Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Socialization mediators of the relation between socioeconomic status and child conduct problems. *Child Development, 65*, 649-665. doi:10.1111/j.1467-8624.1994

Emig, C. E. (2000). School readiness: helping communities get children ready for school and schools ready for children. Child trends research brief. *Child Development, 10*, 1-8.

Gai, X-S., & Zhang, X-K. (2005). Theoretical Model and Intervention Way of Children's School Readiness. *Advances in Psychological Science, 13*, 38-42.

George, J. L., & Greenfield, D. B. (2005). Examination of a structured problem-solving flexibility task for assessing approaches to learning in young children: Relation to teacher ratings and children's achievement. *Journal of Applied Developmental Psychology*, *26*(1), 69-84. doi:10.1016/j.appdev.2004.10.006

Gredler, G. R. (2000). Early childhood education- assess merit and intervention: What the future holds. *Psychology in the Schools, 37*, 73-79.

Hart, B., & Risley, T. R. (1992). American parenting of language - learning children: Persisting differences in family-child interactions observed in natural home environments. *Developmental Psychology, 28*, 1096-1105. doi:10.1037/0012-1649.28.6.1096

Katims, D. S., & Pierce, P. L. (1995). Literacy-rich environments and the transition of young children with special needs. Topics in Early Childhood Special l Education. *International Journal of Computational Geometry & Applications, 9*, 1-27. doi:10.1142/S021819599900008XKatims

Lewit, E. M, & Baker, S. (1995). School Readiness: The future of child. *Critical Issues for Children and Youths, 5*, 128-139.

Roberts, R. E., & Sobhan, M. (1992). Symptoms of depression in adolescence: A comparison of Anglo, African, and Hispanic Americans. *J. Youth Adolesc, 21*, 639-651. doi:10.1007/BF01538736

Philip, D. C. (2007). Does full-day kindergarten matter? Evidence from the first two years of schooling. *Economics of Education Review, 26*, 67-82.