

A Study on the Effect of Parenting Self-efficacy of Parents with Children Aged 3-6 on Parent-child Relationship

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Received: 16- June -2023

Revised: 11- July -2023

Accepted: 07- August -2023

Abstract.

A large number of studies have clarified that parenting self-efficacy is inextricably linked to parents, parent-child relationships and children's well-being. The existing studies have mainly focused on the effects of parenting self-efficacy on parenting behaviors or how parenting behaviors affect parent-child relationships, less comprehensive studies have explored the effects of parenting self-efficacy on parent-child relationships in preschool-age children. To fill this gap, we investigated the effects of parenting self-efficacy on parent-child relationship based on ecosystem theory among 1435 parents of young children aged 3-6 years in mainland China. We used descriptive statistics, ANOVA tests, correlation analysis, and regression analysis to identify that parenting self-efficacy of parents with children aged 3-6 differed significantly by parental role, number of children owned, and educational background. Our results show that the showing affection dimension, promoting communication dimensions of parenting self-efficacy of parents with children aged 3-6 negatively predicted parent-child conflict, engaging play and establishing discipline positively predicted parent-child conflict. In contrast, showing affection, facilitating routines and promoting communication positively predicted parent-child closeness. Besides, parental education background and the number of children raised in the family negatively predicted parent-child conflict. We also found that Finally, how to enhance parenting self-efficacy from the perspective of family functioning, administrative policies, and social services was discussed.

Key words: Parenting efficacy, parent-child relationship, 3-6 years old children, Chinese parents

Introduction

Children's development is closely linked to their internal and external environment, such as the physical, emotional and social environment. Parents are integral to shaping this environment. Parents, as the most important nurturers and caregivers in the early stages of a child's life, are the supporters and creators of these multidimensional environments during the child's development, and play a decisive role in their later academic and life success. Parental behavior plays an important role in children's psychosocial development (Waldfoegel & Washbrook, 2011; OECD, 2017). Parents' judgments about their own parenting abilities likewise influence the environment and various relationships with which they are closely associated. Parenting self-efficacy, as an alternative expression of self-judgment, it refers to parents' judgments about their ability regarding how to successfully complete various tasks related to parenting, and it can be understood as a belief in parents' confidence in their ability to successfully perform tasks in terms of how to care their children and how to nurture them (de Montigny & Lacharité, 2005; Jones & Prinz, 2005). Bandura (1997) emphasizes this judgment as a parental confidence that when a person caring for the child, he or she carries a belief in the task about parenting and that, in general, parenting self-efficacy allows parents to believe in their own capability to raise their children, spare no effort to support their children, devote their lives to being a companion, a listener and a helper and to successfully overcome a variety of parenting challenges thereby promoting the child's development (Coleman & Karraker, 2000). Parental self-efficacy is closely related to children's adjustment. On the one hand it has a direct impact on children's adjustment, and on the other hand it acts on children's adjustment mediated by parental behaviors and practices (Jones & Prinz, 2005). Although the role of parenting self-efficacy may vary depending on parent, child, and cultural background factors, It remains a non-negligible risk factor in predicting parenting ability and child development throughout the intricacies of the parent-child relationship.

Seetharaman et al.'s (2022) study noted that parenting self-efficacy of parents of infants and toddlers is associated with different elements of parenting, social, family, and child; therefore, further research is warranted to better understand the association between self-efficacy and parent and child outcomes by

comparing levels of parenting self-efficacy across dimensions. The study conducted by Salo et al. (2022) identified that parental self-efficacy plays a positive role in the improvement of relational well-being for all family members. Positive parenting styles (e.g., supportive and responsive) and a tendency to accept and participate in children's lives have been shown to be significantly related to higher levels of parenting self-efficacy (Ardelt & Eccles, 2001). As Coleman and Karraker's (2000) study clarified that mothers with higher parenting self-efficacy tend to have more sociable school-age children. Meanwhile, Trecca et al. (2022) investigated in a community sample of 1455 Danish parents (Of which 76.7% were mothers) of children aged 3-5 years (49% girls) and found a direct parallel connection between parenting self-efficacy and children's outcome, it shows that more parenting self-efficacy being associated with more pro-social behavior, as well as fewer ADHD, behavior issues, and emotional difficulties. Moreover, parenting self-efficacy also showed a significant role in the parent-child relationship. Parenting efficacy is a significant predictor of the father-child relationship (SALTALI, 2020). Higher parenting self-efficacy is found among mothers with low mood swings and stable emotions and children who are more socially adept, as well as among mothers with higher educational attainment, higher household income, and who report more parenting experience (Coleman & Karraker, 2000). Previous study has established that parenting self-efficacy has an impact on parent-child relationships, so what specific effects do the dimensions of parenting self-efficacy have on parent-child relationships? What are the differences in the effects of the reciprocal variables on parent-child relationships? Our study aims to clarify the different dimensions of parenting self-efficacy to explore the effects on different dimensions of parent-child relationships, respectively.

It is well known that relationships shape development and how relationships interact effectively and dynamically is directly related to the continuity of intergenerational transmission and the achievement of family functioning (Cantor et al., 2019; Osher et al., 2020). Thus, deepening our understanding of the family level regarding parent-child relationships has far-reaching implications for the well-being of both the individual and the family. Cantoret al's (2019) research points out that developmentally positive relationships are the basis for healthy development and play a decisive role in facilitating children to build personal pathways to social adjustment and individual development. As for young children aged 3-6 years, the parent-child relationship has the priority in their relationships in which they are experiencing and has a critical impact on children's emotional functioning and regulatory development, academic performance, cognition, social skills, and communication (Boutelle et al., 2009; Field et al., 2007; Lanjekar et al., 2022). Improved quality of parent-child relationship contributes to mothers' self-parenting efficacy (Zhang et al., 2016). Du and Zuo's (2021) study demonstrated that parent-child relationship significantly predicted parenting self-efficacy of parents with children aged 3-6 years in China, especially for families with one child versus families with two children, and differences in parent-child relationship conflict also showed significance. The fact that parent-child relationships are associated with parenting self-efficacy has been empirically demonstrated, but many studies have confirmed that their influence is mutual and reciprocal during young children's interactions with their parents.

Throughout the available literature review, studies have noted that parenting self-efficacy is a significant predictor of father-child relationships, in addition, it shows that mothers' sense of parenting self-efficacy is strongly related to positive parent-child relationships, but they focus only on a single dimension of parent-child relationships and lack an integrated perspective that explores, for example, the different dimensions of parent-child relationships. Moreover, most of the available studies have estimated the level of parenting self-efficacy using the overall mean rather than the different dimensions of psychological traits. Understanding the different dimensions and heterogeneity of parenting self-efficacy can contribute to distinguish and identify different groups of parents with different levels of parenting self-efficacy, which can gain understanding to develop more targeted parenting self-efficacy trainings to promote parent-child relationship development.

Statement of the current study

As discussed, A large body of previous literature suggests that parenting self-efficacy constructs a strong foundation for understanding parent-child relationships and the well-being of parents and their children (Albanese et al., 2019). However, there remains little mapping of how different configurations of mothers' and fathers' parenting self-efficacy in the family related to parents' and their children's intra- and extra familial relationships. To fill this research gap, we ask the three research questions as follow:

RQ1: what kind of parenting self-efficacy of parents with children aged 3-6 can be identified?

The study by Du and Zuo (2021) identified low, moderate, and strong PSE status of parents of young children aged 3-6 years. We explored whether it is possible to profile inconsistent family parenting self-efficacy

(i.e., families with different levels of parenting self-efficacy for mothers and fathers). In addition, because parenting self-efficacy is a subjective experience of parents, we hypothesized that there may also be differences in mothers' and fathers' parenting self-efficacy levels on different dimensions of parenting self-efficacy.

RQ2: parenting self-efficacy of parents with children aged 3-6 showed significant differences on demographic variables.

Previous studies on parenting self-efficacy in relation to parental knowledge, education level and family structure provide a basis for general expectations, and for this reason we hypothesize that different dimensions of parenting self-efficacy are also related to family environment and some demographic variables, for example, they may be related to education level, number of children raised.

RQ3: parenting self-efficacy of parents with children aged 3-6 significantly predict parent-child relationships.

The association between parent-child relationship and parenting self-efficacy has been identified by existing studies, and this study further explores their causal relationship to expand their functions based on ecosystem theory.

By addressing the above questions, we aim to make a novel contribution to the study of the potential comprehensive link between family circumstances and parent-child relationships in the parenting self-efficacy of parents with young children aged 3-6 years. The aim of this study was to explore the effects on different dimensions of parenting self-efficacy as independent variables on different dimensions of parent-child relationships.

Theoretical framework

This study constructs a theoretical framework based on ecosystem theory (Bronfenbrenner, 2000) (see Figure 1). Bronfenbrenner's theory emphasizes how multiple layers of interacting environments, with children at their core, interact to influence their growth and development. Bronfenbrenner notes that parents and home environments, neighbors and peers, and schools and societies and cultures all influence each other in interactive, mutually reinforcing ways, from the child's home ecology to the school ecology to the macroecology that includes society and culture. Within this hierarchical system, Bronfenbrenner divides it into temporal, macro, external, meso, and micro systems. Parenting self-efficacy and parent-child relationships in this study belong to the elements of the microsystem, which clarifies that parents as direct objects of interaction with their young children interact with their children's individual development and relationships to varying degrees. The microsystem setting emphasizes that we are not only receivers of the environment, but we are also constructors of the environment. This theory provides a general basis for our study, in which we hypothesize that parenting self-efficacy is not only influenced by the environment (e.g., demographic variables), but is also able to create different parent-child relationships and environments through interactions with young children and the environment.

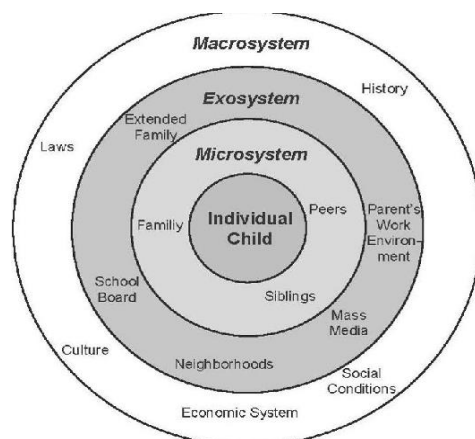


Figure 1. Ecological System Theory (Bronfenbrenner, 2000)

Research design

In this study, we aim to clarify how the parenting self-efficacy is related to the different dimensions of parent-child relationships. Therefore, it can be said that this study has a predictive correlation function. In the predictive correlation study, this study attempts to formulate new hypotheses that change the relationship between the independent and dependent variables in existing studies, specifically by examining the relationship between the different dimensions of the variables and attempting to predict one of the variables based on the other.

Participants

A random sample was taken for the collection of the sample data. Between February 2023 and March 2023, 1500 parents of young children aged 3-6 years from Shandong Province, China, were included in the study. We first randomly selected three cities as the source of the sample and distributed questionnaires in the form of paper and pencil to parents of children aged 3-6 years after obtaining the consent of the relevant educational departments, administrative leaders, and directors. All parents participated in the survey anonymously, and they were clearly informed of the purpose of the survey and their consent was obtained before the survey was conducted. The sample was determined following Krejcie and Morgan's (1970) method, and 1435 questionnaires were returned, with a valid return rate of 95.66%.

Instruments

Personal Information Form

We used a self-developed personal information form to collect demographic data from all participants. The details on the personal information form included the parental role of this participant (whether father or mother), the specific age of the child, the nature of kindergarten (whether the kindergarten is public or private), the education level of the participant, the annual household income, and the total number of children raised in the household.

Research tools

1. Parenting self- Efficacy Scale

We adopted the version of Harty (2009) to investigate the current state of parenting efficacy. The 43-item scale is designed to measure the parenting efficacy of parents of young children in specific domains. We conducted a pre-test of the scale before using it, and 100 parents of children aged 3-6 years were selected to complete the questionnaire. The scale includes six dimensions, they are: showing affection and empathy, engaging in play, facilitating routines, establishing discipline strategies, providing appropriate activities for learning and development and promoting communication interaction. Showing affection and empathy refers to responding to and expressing the child's emotions, e.g., "I can show my child love and be affectionate' as well as any other parent can." etc. There are 7 items. Establishing discipline strategies refers primarily to setting rules for children and enforcing them, e.g., "I can discipline my child, no matter how I am feeling." etc. There were 7 items. Engaging in play refers to close interaction with children, e.g. "I can spend time playing with my child," etc. There are 7 items. Promoting communication interaction mainly refers to formal/informal cognitive or social education, e.g. "I can make time in my I can make time in my schedule to teach my child new things s/he needs to know," etc..Facilitating routines mainly refers to establishing necessary daily routines for children, such as "I can use daily routines to teach my child responsibilities." The scale is based on a 6-point Likert scale, ranging from 1 to 6 on a scale of "never" to "always". The higher the score, the higher the level of parenting self-efficacy. The overall internal consistency alpha coefficient of the scale was 0.979, and the reliability was good to apply the analysis.

2. Parent-child relationship scale

Parent-Child Relationship Scale developed by Pianta (1992, 1996) was adopted for this study to measure the quality of parent-child relationships. The scale contains 7 questions on parent-child closeness (e.g., "I share an affectionate' warm relationship with my child.") and parent-child conflict (e.g. "When my child is in a bad mood' I know we're in for a long and difficult day." etc., with 8 items), with 15 items. The scale is based on a five-point Likert scale, ranging from 1 to 5 on a scale of "definitely does not apply" to "definitely applies". The higher the score, the higher the level of intimacy/conflict in the parent-child relationship. The overall internal consistency alpha coefficient of the scale was 0.802, and the reliability was good.

Data processing

In this study, the relationship between the parenting self-efficacy of parents with children aged 3-6 and parent-child relationship was analyzed using IBM SPSS 27 software.

First, we clarified the scores of each dimension of parenting self-efficacy through descriptive statistics analysis; second, we determined the differences of parenting self-efficacy on demographic variables through ANOVA test analysis. Finally, we clarified the relations between parenting self-efficacy and parent-child relationship through correlation analysis and linear regression analysis.

Results and Findings

In total, 1500 parents with young children aged 3-6 years were surveyed by random sampling method in this study (See Table 1), and 1435 questionnaires were validly returned, with a return rate of 95.66%. Of the total number of respondents, 275 fathers (19.2%) and 1160 mothers (80.8%) responded to the questionnaire. The total number of children surveyed was 360 (25.1%) aged 3-4 years, 578 (40.3%) aged 4-5 years, and 497 (34.6%) aged 5-6 years. Their gender composition was 705 boys (49.1%) and 730 girls (50.9%). The vast majority of these surveyed toddlers came from public kindergartens (89.5%), families with one child (27.1%), families with 2-3 children (71.1%), and 1.7% of families with 4 or more children. They were 941 from nuclear families, or 65.6%, and the other 494 from non-nuclear families, or 34.4%. 29.5% of the parents had a college education and 30.9% of them had a bachelor or higher. In terms of annual family income level, 54.1% of the families were at the middle income level.

Table 1 Description Statistics (N = 1435)

Item	Sample group	N	%
Role	Father	275	19.2%
	Mother	1160	80.8%
Gender	Boy	705	49.1%
	Girl	730	50.9%
Age of the child	3-4 years old	360	25.1%
	4-5 years old	578	40.3%
	5-6 years old	497	34.6%
Nature of the child's kindergarten	Private	151	10.5%
	Public	1284	89.5%
How many children have you raised	1	389	27.1%
	2-3	1021	71.1%
	≥4	25	1.7%
Education Level	Compulsory education (junior high school or below)	211	14.7%
	Secondary education (vocational high school)	358	24.9%
	College education	423	29.5%
	Undergraduate education or above	443	30.9%
Annual household income	0-200,000 CNY	625	43.6%
	200,000-500,000 CNY	777	54.1%
	500,000 CNY or above	33	2.3%
Family Structure	Nuclear Family	941	65.6%
	Non-nuclear family	494	34.4%

Hypothesis test 1: what kind of parenting self-efficacy of parents with children aged 3-6 can be identified?

The descriptive statistics of parenting self-efficacy (see Table 2) revealed that showing affection showed the highest mean on the dimension (M = 34.61), The lowest mean on the engaging play dimension (M = 31.33) and the largest standard deviation on the establishing discipline dimension (SD = 6.67), which indicate that parents of 3-6 year olds show large internal disparity in the level of establishing discipline.

Table 2 Differential Test of Demographic Variables and Parenting Self-Efficacy (N = 1435)

Items		Showing affection	Engaging play	Facilitating routines	Establishing discipline	Providing activities	Promoting communication
	M±SD	34.61±6.48	31.33±6.4	32.42±6.51	30.23±6.67	32.67±6.65	33.02±6.57
The role of the participant	Father	33.74±7.49	31.44±6.74	32.4±6.98	31.23±6.83	32.72±7.03	32.54±7.14
	Mother	34.77±6.28	31.26±6.31	32.41±6.38	29.95±6.58	32.62±6.57	33.09±6.43
	F	3.69**	2.55	1.026	6.944***	1.48	1.56
Number of children	1	35.72±5.92	32.26±6.17	33.03±6.23	31.05±6.63	33.47±6.47	33.97±6.15
	2-3	34.2±6.66	30.96±6.45	32.18±6.59	29.93±6.65	32.35±6.7	32.64±6.7
	≥4	34.61±6.48	32.28±6.41	32.96±6.56	29.84±6.98	33.36±6.98	33.72±5.83

	F	7.883***	6.127**	2.53**	4.01**	4.13**	6.005**
Education level	Compulsory	34.23±6.57	30.8±6.75	31.62±6.8	29.37±7.0	32.11±6.76	32.4±6.86
	Secondary	34.18±6.84	30.76±6.68	32.18±6.9	29.55±7.01	32.77±6.98	32.68±7.0
	College	34.6±6.36	31.3±6.35	32.24±6.4	29.98±6.57	32.47±6.62	33.04±6.38
	Undergraduate or above	35.17±6.23	32.09±5.98	33.17±6.07	31.43±6.13	33.45±6.31	33.57±6.21
	F	1.886	3.519*	3.323*	7.499***	3.069*	1.999

Note. ***P<0.001, **P<0.01, *P<0.05

Hypothesis test 2: parenting self-efficacy of parents with children aged 3-6 showed significant differences on demographic variables.

This study found that the different roles of parents showed significant differences in the dimensions of showing affection ($F = 3.69, p < 0.01$) and establishing discipline ($F = 6.944, p < 0.001$). Also, the number of children raised by parents showed significant differences on all dimensions of parenting self-efficacy. On the showing affection dimension and the establishing discipline dimension, parents with one child had significantly higher parenting self-efficacy than those with two or three children or more. Parenting self-efficacy was highest for families with one child on the facilitating routines dimension, providing activities dimension and promoting communication interaction dimension. In addition, parents' educational level showed significant internal differences on the dimensions of engaging play ($F = 3.519, p < 0.05$), facilitating routines ($F = 3.323, p < 0.05$), establishing discipline ($F = 7.499, p < 0.001$) and providing activities ($F = 3.069, p < 0.05$). The findings of this study accepted hypothesis 2, which confirmed that parenting self-efficacy of parents with children aged 3-6 years showed significant differences in the roles of fathers and mothers, the number of children raised, and the level of parental education.

Hypothesis test 3: parenting self-efficacy of parents with children aged 3-6 significantly predict parent-child relationships.

We confirmed that parenting self-efficacy of parents with children aged 3-6 years significantly predicted parent-child relationships using correlation analysis (see Table 3) and linear regression analysis (see Table 4). Specifically, on the conflict dimension of the parent-child relationship, showing affection ($\beta = -.446, P < .001$) and promoting communication ($\beta = -.169, P < .05$) negatively predicted parent-child conflict, engaging play ($\beta = .370, P < .001$) and establishing discipline ($\beta = .257, P < .001$) positively predicted parent-child conflict. On the closeness dimension, showing affection ($\beta = .211, P < .001$), facilitating routines ($\beta = .233, P < .001$) and promoting communication ($\beta = .270, P < .001$) positively predicted parent-child closeness. In addition, our study found that parental education level ($\beta = -.099, P < .001$) and the total number of children raised in the household ($\beta = -.053, P < .05$) negatively predicted parent-child conflict. Parental education has been shown to be significantly associated with parenting knowledge and children's language and pre-literacy skills (Rowe et al.,2016), more educated parents tend to have more knowledge and understanding of the processes associated with child development (Huang et al.,2005; Bornstein et al.,2010). Educational background is also significantly associated with positive parenting strategies (Morawska et al.,2009). Parents who are equipped with knowledge of child development interact more with their children, and it stands to reason that they have less conflict and are able to have a more harmonious relationship with their children (Bornstein & Bradley, 2014; Goodnow, 1988). parents' knowledge about how to understand the needs, emotions, nutrition and safety of young children makes a decisive difference in parenting practices and also bears a significant outcome for children's optional development (Breiner et al.,2016; Regalado and Halfon, 2001). Although comforting a crying baby can be an overwhelming challenge for new mothers who are first-time parents, they are even more likely to have more conflicts with their children (Lester & Boukydis, 1985). However, it is possible that as the number of children raised increases, parenting experience and practices become more comprehensive and they become more aware of how to sense their child's hunger and respond emotionally and immediately, which can gradually reduce parent-child conflict. Thus, the number of children raised predicts lower levels of parent-child conflict.

Table 3 Summary of Variable Correlation Analysis (N = 1435)

	1	2	3	4	5	6	7	8	9	10	11
1. Showing affection	1	.866**	.854**	.681**	.872**	.892**	-.192**	.576**	-.099**	.058**	.064*
2. Engaging play	.866**	1	.880**	.755**	.915**	.900**	-.071**	.547**	-.077**	.080**	.038
3. Facilitating routines	.854**	.880**	1	.769**	.893**	.890**	-.114**	.576**	-.051	.078**	.033
4. Establishing	.681**	.755**	.769**	1	.768**	.719**	.024	.456**	-.072**	.114**	.010

	discipline											
5.	Providing activities	.872**	.915**	.893**	.768**	1	.917**	-.108**	.555**	-.065*	.072**	.032
6.	Promoting communication	.892**	.900**	.890**	.719**	.917**	1	-.145**	.586**	-.079**	.064*	.048
7.	Conflicts	-.192**	-.071**	-.114**	.024	-.108**	-.145**	1	-.094**	-.007	-.081**	-.074**
8.	Closeness	.576**	.547**	.576**	.456**	.555**	.586**	-.094**	1	-.090**	.077**	.063**
9.	Number of children	-.099**	-.077**	-.051	-.072**	-.065*	-.079**	-.007	-.090**	1	-.249**	-.179**
10.	Education level	.058**	.080**	.078**	.114**	.072**	.064*	-.081**	.077**	-.249**	1	.283**
11.	Household income	.064*	.038	.033	.010	.032	.048	-.074**	.063**	-.179**	.283**	1

Note.**P significant at .0.01 level,*P significant at 0.05 level

Table 4 Summary of Regression Analysis of the Effect of Parenting Self-efficacy on Parent-child Relationship (N= 1435)

Dependent variables	Independent variable	B	β	R	R2	▲R	F	D-W
Conflicts		28.168		.335	.112	.107	20.065***	1.978
	Showing Affection		-.446***					
	Engaging Play		.370***					
	Facilitating Routines		-.072					
	Establishing Discipline		.257***					
	Providing Activities		-.031					
	Promoting Communication		-.169**					
	Number Of Children		-.053**					
	Education Level		-.099***					
	Household Income		-.032					
Closeness		18.369		.607	.369	.365	92.484***	2.040
	Showing Affection		.211***					
	Engaging Play		-.052					
	Facilitating Routines		.233***					
	Establishing Discipline		.011					
	Providing Activities		-.050					
	Promoting Communication		.270***					
	Number Of Children		-.033					
	Education Level		.022					
	Household Income		.020					

Note. ***P<.001, **P<0.05

Discussion and Implication

(i) Types of parenting self-efficacy of parents with children aged 3-6

This study confirms that parents with children aged 3-6 have relatively high levels of self-efficacy in general. Parents had a sense of competence in their parenting roles, with the following dimensions scored in descending order: showing affection, promoting communication, providing activities, facilitating routines, engaging play and establishing disciplines. The ANOVA test of variance found significant differences in parenting self-efficacy in terms of the number of children, with parents in families with one child scoring significantly higher on each dimension than those with more children. As early childhood development is typically individual and heterogeneous, different young children are likely to require completely different parenting knowledge and skills from their parents, previous studies have showed that parenting styles at children's early years significantly influence children's social competence (Ren & Pope Edwards, 2015), and that parental knowledge, parenting styles have a significant significance (September et al., 2016). However, as the number of children increases, parents are likely to lack the ability to make judgments about parenting and supporting their every child's development which in turn may also affect their parenting behaviors. The interaction between parenting competence and the environment is an interdependent and complex process that is consistent with the connotations of ecosystem theory. Improving parenting competence brings positive influence towards home environment, which in turn can improve their belief and perceptions of parenting (Teti et al., 1996). Parenting self-efficacy has been found to not only significantly affect parenting ability (including participation in various parenting practices), but also affect child functioning (Jones & Prinz, 2005). As to facilitate the functioning of each child in the family with two or more children, the government, communities, kindergartens, and families should work together to improve the parenting self-efficacy of parents of two or more children.

(ii) Differences in parenting self-efficacy between fathers and mothers with children aged 3-6

Parenting efficacy reflects parents' perceived competence in their parenting role and has a significant positive effect on family support and family nurturing. Parents with high parenting self-efficacy are more confident in their parenting abilities, show more positive emotions and support when facing parenting challenges, and generate less parenting stress than parents with low parenting efficacy (Mathew et al., 2017).

This study found that mothers scored significantly higher than fathers on the showing affection dimension, but significantly lower than fathers on the establishing discipline dimension. Bandura's theory of self-efficacy notes that individuals' own experiences of success or failure in activities and behaviors influence strong beliefs about individual efficacy. Successful experiences increase efficacy and repeated failures decrease self-efficacy (Bandura & Wessels,1994). Thus, recognition and attribution of successful experiences play an important role in the development of self-efficacy. Current parenting practices in the Chinese context are mainly done through mothers, especially for young children aged 3-6 years, who are the primary caregivers and need to respond to their children's various emotions and needs, research has shown that contingent responsive parenting has a positive impact on young children's attachment independence and curiosity (Hong & Park, 2012). Mothers' positive experiences in expressing emotions to their children can enhance mothers' parenting self-efficacy so that they can better enhance their parenting practices. In addition, in our study we found that fathers scored significantly higher than mothers on the establishing discipline dimension of parenting self-efficacy, while did not score significantly on other dimensions and had relatively lower levels of self-efficacy than mothers. The roles of both fathers and mothers are critical to early childhood development, each assuming important roles, such as family involvement in school and parental educational expectations significantly and positively predicting young children's reading and math achievement (Galindo & Sheldon, 2012), as well as parents setting appropriate dietary and health rules within the family during early childhood development is beneficial in preventing adolescent obesity (Lindsay et al., 2006). It deserves to be advocated that relevant authorities and policy makers should be given a role in supporting different types of parenting self-efficacy. More targeted educational support to parents in their regions according to their parenting self-efficacy levels and parenting roles should be implemented. For example, fathers can be provided with parenting training on showing affections and parent-child communication, and also parents with high levels of self-efficacy can be invited to share their experiences, thus helping parents of all types to receive more targeted and professional parenting support.

(iii) Prediction of parenting self-efficacy of parents with children aged 3-6 on parent-child relationship

The results of this study showed that the parenting self-efficacy dimensions of showing affection, promoting communication negatively predicted parent-child conflict, and engaging play and establishing discipline positively predicted parent-child conflict for parents aged 3-6 years. In contrast, showing affection, facilitating routines and promoting communication positively predicted parent-child intimacy. A large body of research has confirmed that various factors in the family environment influence parent-child relationships (Popov & Ilesanmi, 2015). For example, negative parental emotions (e.g., depression and hostility) can affect parent-child relationships by decreasing communication and interaction with young children (Barnard & McKeganey, 2004); and young children's own different personalities can respond significantly differently to specific parenting styles (Brody (1998). The quality of the marital relationship influences the quality of the parent-child relationship Fincham (1998), and parenting styles influence parent-child interactions (Ngai & Cheung ,2009).

It has been dressed that the improvement of parent-child relationship quality contributes to the improvement of mothers' self-parenting efficacy (Zhang et al., 2016). The present study further extends the link between parenting self-efficacy and parent-child relationships from an ecosystem theory perspective. Given the six dimensions of parenting self-efficacy, they contribute to a positive parent-child relationships in both parenting and education. This study confirms that parent-child relationship enhancement needs to be infused not only in demonstrating emotional and affective support and respecting children's autonomous experiences, understanding and responding appropriately to children's physical and psychological needs through observation and active communication and listening, but also in parent-child play, basic behavioral norms, and formal/informal cognitive or verbal educational processes. In exploring the factors that influence parent-child relationships can we gain a better understanding to further enhance parents' parenting self-efficacy and build harmonious parent-child relationships.

Strength, Limitation and Future Direction

In this study, a random survey was conducted among 1435 parents with children aged 3-6 years in Shandong Province, China. The results of the survey showed that the participating parents had the highest mean

on the showing affection dimension ($M = 34.61$) and the lowest mean on the engaging play dimension ($M = 31.33$). The roles of fathers and mothers, the number of children raised and the level of education showed significant differences in different dimensions of parenting self-efficacy. Moreover, showing affection dimension, facilitating routines dimension, engaging play and promoting communication dimension of parenting self-efficacy significantly predicted parent-child conflict and parent-child intimacy. In addition, we found that parental education level and number of children raised negatively predicted parent-child conflict. This study based on the ecosystem theory support on the one hand, changed the role of parenting self-efficacy as a mediating and dependent variable in existing studies, and clarifies its significant predictive effect on parent-child relationships as an independent variable, which further enriched the ecosystem theory on the interaction between family function and family environment. On the other hand, it is different from the existing studies that have studied parent-child relationships from an individual-centered perspective (e.g., father-child relationship, mother-child relationship), but rather from a variable-centered perspective to clarify the effects of parenting self-efficacy on parent-child conflict and parent-child closeness. Despite these existing strengths, there are still two limitations of this study that need to be further dressed in future research. The first is that the sample size should be pursued for further expansion. Considering the complexity of geographical differences in China, a larger sample should be available in the future to compare the demographic variables of parenting self-efficacy in different provinces and regions of China, including rural and rural areas, and their effects on various aspects of children's development. Moreover, parenting self-efficacy is dynamic in nature, and the cross-section of this study only investigated it from a microscopic perspective. Longitudinal studies are necessary to consistently investigate the changing parenting self-efficacy of Chinese parents with children aged 3-6 in order to construct a comprehensive support system for families to enhance family functioning and promote the development of young children.

Reference

1. Albanese, A. M., Russo, G. R., & Geller, P. A. (2019). The role of parental self-efficacy in parent and child well-being: A systematic review of associated outcomes. *Child: Care, Health and Development*, 45(3), 333–363. <https://doi.org/10.1111/cch.12661>.
2. Ardel, M., & Eccles, J. S. (2001). Effects of mothers' parental efficacy beliefs and promotive parenting strategies on inner-city youth. *Journal of Family Issues*, 22(8), 944–972. <https://doi.org/10.1177/019251301022008001>.
3. Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research*, 1(4), 287–310.
4. Bandura, A., & Wessels, S. (1994). *Self-efficacy* (Vol. 4, pp. 71-81).
5. Barnard, M., & McKeganey, N. (2004). The impact of parental problem drug use on children: what is the problem and what can be done to help?. *Addiction*, 99(5), 552-559.
6. Bornstein, M. H., & Bradley, R. H. (2014). *Socioeconomic status, parenting, and child development*. Routledge.
7. Bornstein, M. H., Cote, L. R., Haynes, O. M., Hahn, C. S., & Park, Y. (2010). Parenting knowledge: experiential and sociodemographic factors in European American mothers of young children. *Developmental psychology*, 46(6), 1677.
8. Boutelle, K., Eisenberg, M. E., Gregory, M. L., & Neumark-Sztainer, D. (2009). The reciprocal relationship between parent-child connectedness and adolescent emotional functioning over 5 years. *Journal of Psychosomatic Research*, 66(4), 309-316.
9. Boutelle, K., Eisenberg, M. E., Gregory, M. L., & Neumark-Sztainer, D. (2009). The reciprocal relationship between parent-child connectedness and adolescent emotional functioning over 5 years. *Journal of Psychosomatic Research*, 66(4), 309-316.
10. Breiner, H., Ford, M., Gadsden, V. L., & National Academies of Sciences, Engineering, and Medicine. (2016). Parenting knowledge, attitudes, and practices. In *Parenting Matters: Supporting Parents of Children Ages 0-8*. National Academies Press (US).
11. Brody, G. H. (1998). Sibling relationship quality: Its causes and consequences. *Annual review of psychology*, 49(1), 1-24.
12. Bronfenbrenner, U. (2000). Ecological systems theory. In A. E. Kazdin (Ed.), *Encyclopedia of Psychology* (Vol. 3, pp. 129–133). Oxford University Press.
13. Cantor, P., Osher, D., Berg, J., Steyer, L., & Rose, T. (2019). Malleability, plasticity, and individuality: How children learn and develop in context. *Applied Developmental Science*, 23(4), 307–337. <https://doi.org/10.1080/10888691.2017.1398649>.
14. Coleman, P. K., & Karraker, K. H. (2000). Parenting Self-Efficacy among Mothers of School-Age Children: Conceptualization, Measurement, and Correlates. *Family Relations*, 49(1), 13–24.

- <http://www.jstor.org/stable/585698>
15. Coleman, P. K., & Karraker, K. H. (2000). Parenting self-efficacy among mothers of school-age children: Conceptualization, measurement, and correlates. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 49(1), 13–24. <https://doi.org/10.1111/j.1741-3729.2000.00013.x>.
 16. de Montigny, F., & Lacharité, C. (2005). Perceived parental efficacy: Concept analysis. *Journal of advanced nursing*, 49(4), 387–396.
 17. Du, Y., & Zuo, Z. (2021). Parenting efficacy categories and associations with parent-child relationships among parents of 3- to 6-year-olds--a potential profile analysis based on parents of one child and parents of two children. *Early Childhood Education (Z3)*, 65-70.
 18. Field, A. P., Ball, J.E., Kawycz, N.J., and Harriett, M. (2007). Parent-Child Relationships and the Verbal Information Pathway to Fear in Children: Two Preliminary Experiments. *Behavioural and Cognitive Psychotherapy*, 35, 473–486.
 19. Fincham, F. D. (1998). Child development and marital relations. *Child development*, 69(2), 543-574.
 20. Galindo, C., & Sheldon, S. B. (2012). School and home connections and children's kindergarten achievement gains: The mediating role of family involvement. *Early Childhood Research Quarterly*, 27(1), 90-103.
 21. Goodnow, J. J. (1988). Parents' ideas, actions, and feelings: Models and methods from developmental and social psychology. *Child development*, 286-320.
 22. Harty, M. (2009). *The validation of a task-specific measure of parenting self-efficacy for use with mothers of young children (Doctoral dissertation, University of Pretoria)*.
 23. Hong, Y. R., & Park, J. S. (2012). Impact of attachment, temperament and parenting on human development. *Korean journal of pediatrics*, 55(12), 449–454. <https://doi.org/10.3345/kjp.2012.55.12.449>
 24. Huang, K. Y., Caughy, M. O. B., Genevro, J. L., & Miller, T. L. (2005). Maternal knowledge of child development and quality of parenting among White, African-American and Hispanic mothers. *Journal of Applied Developmental Psychology*, 26(2), 149-170.
 25. Jones, T. L., & Prinz, R. J. (2005). Potential roles of parental self-efficacy in parent and child adjustment: a review. *Clinical psychology review*, 25(3), 341–363. <https://doi.org/10.1016/j.cpr.2004.12.004>
 26. Jones, T. L., & Prinz, R. J. (2005). Potential roles of parental self-efficacy in parent and child adjustment: a review. *Clinical psychology review*, 25(3), 341–363. <https://doi.org/10.1016/j.cpr.2004.12.004>
 27. Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
 28. Lanjekar, P. D., Joshi, S. H., Lanjekar, P. D., & Wagh, V. (2022). The Effect of Parenting and the Parent-Child Relationship on a Child's Cognitive Development: A Literature Review. *Cureus*, 14(10), e30574. <https://doi.org/10.7759/cureus.30574>
 29. Lester, B. M., & Boukydis, C. Z. (Eds.). (1985). *Infant crying: Theoretical and research perspectives (Vol. 375)*. New York: Plenum Press.
 30. Lindsay, A. C., Sussner, K. M., Kim, J., & Gortmaker, S. (2006). The role of parents in preventing childhood obesity. *The Future of children*, 169-186.
 31. Mathew, S., Zhai, F., & Gao, Q. (2017). Social support and parental nurturance among Asian Indian families in the US: Mediating role of parenting self-efficacy. *Journal of Family and Economic Issues*, 38, 354-369.
 32. Morawska, A., Winter, L., & Sanders, M. R. (2009). Parenting knowledge and its role in the prediction of dysfunctional parenting and disruptive child behaviour. *Child: care, health and development*, 35(2), 217–226. <https://doi.org/10.1111/j.1365-2214.2008.00929.x>
 33. Ngai, S. S. Y., Cheung, C. K., To, S. M., Liu, Y., & Song, H. Y. (2013). Parent-child relationships, friendship networks, and developmental outcomes of economically disadvantaged youth in Hong Kong. *Children and Youth Services Review*, 35(1), 91-101.
 34. Organisation for Economic Co-operation and Development. (2017). *Early Learning Matters*. Paris: OECD Publishing. Available at: <https://www.oecd.org/education/school/Early-Learning-Matters-Project-Brochure.pdf>. (accessed 3 March 2023).
 35. Osher, D., Cantor, P., Berg, J., Steyer, L., & Rose, T. (2020). Drivers of human development: How relationships and context shape learning and development. *Applied Developmental Science*, 24(1), 6–36. <https://doi.org/10.1080/10888691.2017.1398650>.
 36. Pianta, R. C., & Harbers, K. L. (1996). Observing mother and child behavior in a problem-solving situation at school entry: Relations with academic achievement. *Journal of school psychology*, 34(3), 307-322.
 37. Pianta, R.C. (1992). Child-parent relationship scale. *Unpublished measure, University of Virginia*.
 38. Popov, L. M., & Ilesanmi, R. A. (2015). Parent-child relationship: Peculiarities and outcome. *Rev. Eur. Stud.*, 7, 253.
 39. Regalado, M., & Halfon, N. (2001). Primary care services promoting optimal child development from birth to age 3 years: review of the literature. *Archives of pediatrics & adolescent medicine*, 155(12), 1311-1322.
 40. Ren, L., & Pope Edwards, C. (2015). Pathways of influence: Chinese parents' expectations, parenting styles,

- and child social competence. *Early Child Development and Care*, 185(4), 614-630.
41. Rowe, M. L., Denmark, N., Harden, B. J., & Stapleton, L. M. (2016). The role of parent education and parenting knowledge in children's language and literacy skills among White, Black, and Latino families. *Infant and Child Development*, 25(2), 198-220.
 42. Salo, A. E., Junttila, N., & Vauras, M. (2022). Parental self-efficacy and intra-and extra-familial relationships. *Journal of Child and Family Studies*, 31(10), 2714-2729.
 43. SALTALI, N. D. (2020). The mediating role of parenting efficacy in the association between preschool father-child relationship and parental stress. *Participatory Educational Research*, 7(2), 230-240.
 44. Seetharaman, M., Benjamin, A., McGrath, J., & Vance, A. J. (2022). A Review of Parenting Self-Efficacy Instruments for Parents of Infants and Toddlers. *International Journal of Nursing Studies Advances*, 100082.
 45. September, S. J., Rich, E. G., & Roman, N. V. (2016). The role of parenting styles and socio-economic status in parents' knowledge of child development. *Early Child Development and Care*, 186(7), 1060-1078.
 46. Teti, D. M., O'Connell, M. A., & Reiner, C. D. (1996). Parenting sensitivity, parental depression and child health: The mediational role of parental self-efficacy. *Early Development and Parenting: An International Journal of Research and Practice*, 5(4), 237-250.
 47. Trecca, F., Bleses, D., Højen, A., & Laursen, B. (2022). Direct and indirect effects from parenting self-efficacy and parenting practices to social-emotional adjustment in 3- to 5-year-old children. *Acta psychologica*, 229, 103673. <https://doi.org/10.1016/j.actpsy.2022.103673>
 48. Waldfogel, J., & Washbrook, E. (2011). Early Years Policy. *Child development research*, 2011.
 49. Zhang, Y., Wang, Q., & Liang, A. (2016). Analysis of the effect of parent-child relationship promotion model on mothers' parenting self-efficacy. *China Maternal and Child Health*, 31(11), 2366-2368.