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Parenting Knowledge of Urban Chinese Postpartum Women: The Role of Spousal Support and Women's Affective Well-Being

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Purpose: The purpose of this study was to examine parenting knowledge's perceived level, sources, and predictors among urban Chinese postpartum women, including sociodemographic and psychosocial factors.

Methods: Survey data was collected from 498 postpartum women who just gave birth within one year in Shanghai, China. Participants completed the Perceived Parenting Knowledge Questionnaire, the Postpartum Social Support Questionnaire (PSSQ), and the Positive and Negative Affect Scale (PANAS) and provided sociodemographic information. Descriptive analysis, independent samples *t*-test, one-way ANOVA, and causal steps approach were the main statistical analysis methods used in this study.

Results: The results showed that Chinese urban new mothers perceived having a medium–high level of parenting knowledge for caring for infants, especially for baby vaccination and breastfeeding. Mothers with longer years of marriage, better education, whose baby was not the firstborn, having a healthy baby, and owning Shanghai household registration reported higher perceived parenting knowledge scores. APPs, books, and social media usage (eg, WeChat) have become the most addressed sources of obtaining parenting knowledge besides family members. Mothers' negative affect is negatively related to parenting knowledge. Relationship between spousal support and mothers' parenting knowledge is mediated by positive affect.

Conclusion: This study highlights the importance of education and spousal support in enhancing parenting knowledge among urban Chinese postpartum women. Targeted interventions should focus on improving emotional well-being and leveraging diverse information sources to support new mothers effectively.

Keywords: parenting knowledge, urban Chinese postpartum women, spousal support, affective well-being, positive affect

Introduction

We are not all born knowing how to be parents of children. Being a mother or a father has to be learned. What, where, and how does a new mother know how to care for a new baby? As the most frequently investigated parental cognition, parenting knowledge remains a vital study issue for members of the research and clinical communities.[1] Parenting knowledge matters because it has been consistently empirically proved to be essential in shaping parenting practices, significantly related to parental self-conceptions and children's development.[2–8] Poor parental knowledge is likely associated with poor newborn care practices and dysfunctional parental or discipline behaviours[3,9] and is even essential for parents' self-conceptions (eg, parenting self-efficacy, confidence, and dissatisfaction).[1] For example, parents with more knowledge of infant care at one week were likelier to foster infants' cognitive and social-emotional growth at nine months.[4,10] Parenting knowledge has been shown to be positively associated with many early childhood outcomes (eg, infant sleep, obesogenic infant feeding, lower infant fear, child language, motor, cognitive, and social-emotional development).[2,5,6,11,12]

Mothers' age, education, and socioeconomic (SES) status are often reported to be strong predictors of parenting knowledge, while there have been inconsistent research findings in different regional samples. Most previous studies

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have shown that maternal education is highly predictive of mothers' parenting knowledge scores, with more educated mothers having higher levels of knowledge.[13–17] Education is usually associated with socioeconomic status. Research has shown that women of lower SES status report significantly more unmet learning needs in most infant care areas than women of higher SES status.[18] Parent knowledge mediates the relationship between parental education and child outcomes,[4,5] which suggests that focusing on parenting knowledge is a crucial way to address SES-related differences in early childhood development. Research on maternal age is inconsistent across different samples. For example, in the sample of European American mothers,[14] Nepalese mothers,[13] and in Argentina, Italy, and the United States but not in Belgium and South Korea,[1] maternal age was associated with mothers' parenting knowledge, with older mothers more knowledgeable than younger mothers. However, in a study of Sudanese women, neither age nor education was associated with knowledge and practice of essential newborn care.[9]

Reported sources of parenting knowledge most commonly include family members, friends, health professionals, books and written materials, parenting program,[19] and online information, with family members being the most preferred source of support.[20,21] The acquisition of parenting knowledge differs according to the role of the parents (father or mother), the parent's education, the cultural context, and the social network. Fathers may rely on their partners for information about parenting and show less parenting knowledge than mothers.[10] Parents with higher education may have higher formal knowledge about parenting through seeking advice from health professionals or may read more books that provide credible knowledge about parenting than parents with lower education, in line with the "knowledge gap hypothesis".[5,10] A study comparing two groups of Chinese immigrants in the Netherlands found that economic immigrants, who tend to be employed in the hospitality industry and have a secondary school education, seek practical guidance directly from professionals, while knowledge immigrants, who tend to be employed in white-collar jobs and are highly educated, engage in critical peer-based learning from remote and open networks.[22] In a cross-society comparison study, mothers' parenting knowledge levels vary among the five societies. For example, among Argentine mothers who belong to closer networks, parenting knowledge was significantly related to parenting support from the baby's father and others. In contrast, among US mothers, parenting knowledge was negatively correlated with family members (eg, the mother or father's mother and other relatives).[1]

Regarding the psychosocial predictors of parenting knowledge, social support and maternal affective well-being (eg, anxiety or depression) were significantly associated with parenting knowledge. Importantly, these variables are as malleable as parenting knowledge. Higher levels of parenting knowledge are associated with higher levels of social support[15,23] because it can lead to additional free time for mothers to seek information about their child's development.[24] Social support positively influences parents' health knowledge, which in turn affects children's health practices.[25] For Argentine and Italian mothers, perceived parenting support from the baby's father was associated with their parenting knowledge.[1] Among African Americans and Latino parents with more extensive kinship networks than White families, parents reported turning most often to each other, their mothers, and other relatives (eg, grandparents, aunts) for parenting tips.[5] Access to maternal support groups is changing how women seek social support and information as they transition to new motherhood.[26]

Furthermore, high levels of parenting knowledge are associated with lower levels of maternal anxiety.[23,27] Perceived lack of parenting knowledge and social support was associated with postnatal depression.[28] Social support helps to decrease the negative affect and increase the positive affect of postpartum women,[29,30] and spousal support has been consistently reported to have a positive association with women's positive affect after childbirth,[31,32] even in urban China.[33] Strong support networks and appropriate support in teaching parenting skills are crucial for mothers, especially those with learning disabilities or mental health difficulties. These supports can mitigate stress and improve mental health outcomes.[34] Many studies of the relationship between emotions and learning outcomes, using samples of students, have shown that emotions play an essential role throughout the learning process, affecting students' motivation and academic performance. One's mental health (especially positive affect) has the most significant impact on knowledge acquisition (eg, academic performance).[35–41] Co-parenting interventions, such as the Family Foundations program, have demonstrated that supportive co-parenting can reduce mental health difficulties and improve parenting warmth and reduce hostility.[42] Interventions that build parenting knowledge and skills can enhance self-efficacy and reduce stress.[43] This

study addresses how spousal support and women's affective well-being predict their parenting knowledge in line with previous studies. Moreover, we hypothesized that women's affective well-being would mediate the relationships between spousal support and perceived parenting knowledge.

China has the world's second-largest child population as a developing country.[44] Improving parenting knowledge of parents is of particular importance in this country. China is now in an era of rapid social and economic change. According to China's latest census data, the country's permanent urbanization rate will be 63.89% by the end of 2020, with the trend rising.[45] The rapid urbanization process is leading to an imbalance in the development of parenting knowledge, parenting practices, and even parental education programs' effects between rural and urban areas in China. The Chinese government has paid increasing attention to promoting parenting knowledge and skills, issuing many policies and guidelines on "family education" to guide parents' parenting skills as a form of family-based governance.[46] In particular, the Family Education Promotion Law launched in China in 2022 will bring together parents, community workers, social workers, and early childhood teachers to engage in scientific and evidence-based programs.[47] Recent research suggests that early childhood development (ECD) (eg, cognitive, language, motor, and social-emotional development) lags in economically disadvantaged areas of China due to poor parenting knowledge and practices. A study in an economically disadvantaged rural area of western China found that children's developmental outcomes were positively related to caregivers' parenting knowledge.[6] Based on a randomized controlled trial in underdeveloped rural areas of China, Li, Li, Tang, and Bai[48] found that caregivers' parenting practices can be changed shortly after a parenting training program lasting for nine months without changing the parenting knowledge. China has also initiated innovative parenting education programs to promote parenting knowledge and practices in urban areas. For example, Zheng et al[49] found the positive effect of an internet-based support program for primiparous women in Shenzhen, China, which could improve social support, satisfaction, and maternal self-efficacy and reduce postpartum depression symptoms. By conducting a caregiver education program in Z City, China, Chen, Tu, Huang, and Huang found that the program could increase carers' perceived levels of parenting knowledge, mainly through online developmental assessments and in-home sessions.[50] Although these empirical studies and intervention research have added to our knowledge of the development of parenting knowledge and possibly social services for parents in China, in order to implement more effective data-driven parenting education programs, it is essential to further understand the characteristics and the sources of parenting knowledge of urban Chinese parents in the context of China's rapid urbanization.

In summary, the current study addressed the research questions as follows:

1. What are the perceived levels and sociodemographic and psychosocial differences in parenting knowledge among urban Chinese postpartum women?
2. What are the sources of parenting knowledge for these new mothers?
3. Does women's affective well-being mediate the relationship between spousal support and perceived parenting knowledge?

Methods

Study Design

This study used a cross-sectional research design. Data collected included sociodemographic variables (including mothers' age, education, years of marriage, etc.), spousal support, affective well-being (including negative affect, NA and positive affect, PA), and perceived parenting knowledge among postpartum women in Shanghai, China's most modern supercity.

Participants and Power Analysis

The eligible participants for this study were postpartum women 18 years or older, who had given birth within the last year, and who agreed to participate in the survey. Data were collected for the survey between June and July 2019 at a prominent and leading children's hospital in Shanghai, China. Convenience sampling was used to approach the

hospital's children's healthcare department participants. In total, 498 eligible postpartum women participated in the survey and completed the questionnaires with paper and pencil.

Monte Carlo power analyses were selected to determine power and adequate sample size in mediation models.[51] With a power of 80%, an appropriate sample size to detect medium-sized indirect effects for paths a and b would be approximately 301. As a result, the sample size utilized in this study was sufficient.

Ethical Approval

Ethical approval was obtained from the IRB of the university. All the participants provided informed consent, and their anonymity was preserved. The study complies with the Declaration of Helsinki.

Measures

Spousal Support

The Partner Support sub-scale of the Postpartum Social Support Questionnaire (PSSQ)[52] in the Chinese version was used to assess spousal support. The sub-scale consists of eight items describing a new mother's instrumental and emotional postnatal support from her spouse (eg, frequency of taking care of and playing with the baby and soothing). It also includes an item that asks about the woman's general perception of the support she has received from her partner since giving birth. The participant's responses to the questions were coded from 1 to 5 on a 5-point Likert scale. Thus, the range for the measure was from 8 to 40, with higher scores indicating more significant support from the spouse. Cronbach's coefficient of the scale was 0.91.

Affective Well-Being (PA and NA)

The Positive and Negative Affect Scale (PANAS)[53] in the Chinese version was used to measure postpartum women's affective well-being.[54] The PANAS includes ten positive affect items (eg, passionate, interested, excited) and ten negative affect items (eg, sad, fearful, concerned). Respondents use a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to report their experience of each affect in the past two weeks. To obtain total scores for PA and NA, item scores for the two sub-scales were summed separately. Cronbach's coefficient of PA and NA were 0.88 and 0.89, respectively. The Cronbach's alpha index for the entire questionnaire has been calculated as 0.83, indicating a high level of internal consistency reliability.

Perceived Parenting Knowledge

A self-report Perceived Parenting Knowledge Questionnaire designed by the authors was used to measure parents' perceived level of knowledge about infant care (see Appendix I). The survey consists of 15 items describing the parenting knowledge needed in the first year of a baby's life (eg, how to vaccinate babies, how to breastfeed properly, and how to recognize and treat common childhood illnesses). The respondents were asked to rate the extent to which they thought they knew the knowledge elements of infant care. Participants' responses to the questions were coded on a 5-point Likert scale (from "totally agree" to "totally disagree"). In order to facilitate comparative analysis, the mean scores of 15 sub-items were used to calculate the total score for parenting knowledge. Thus, the range for the final measure was also from 1 to 55, with higher scores indicating a higher level of perceived parenting knowledge. The Cronbach's coefficient of the scale was 0.92.

Sociodemographic Variables

The sociodemographic variables collected in this study included age, educational level of both mothers and fathers, employment status, years of marriage, household income per month (RMB), place of household registration, and the baby's characteristics (eg, birth order, health status). The detailed sociodemographic characteristics of participants are presented in Table 1.

Table 1 Descriptive Statistics of the Research Variables and Parenting Knowledge

Variable	N (%)	The Score of Parenting Knowledge		
		M	*F*	*p*
Age (19–41 years)				
30 years old or lower	335(67.27)	3.87	0.14	0.71
31 years old or above	163(32.73)	3.89		
Years of marriage				
Six years or lower	396(79.52)	3.84	7.21	< 0.01**
Seven years or above	102(20.48)	4.02		
Household income (RMB/month)				
6,000 or lower	54(10.84)	3.79	1.35	0.23
6,001–9,000	100(20.08)	3.94		
9,001–12,000	99(19.88)	3.82		
12,001–16,000	69(13.86)	3.88		
16,001–20,000	55(11.04)	4.04		
20,001–30,000	61(12.25)	3.88		
30,001 or above	60(12.05)	3.80		
Mothers' educational level				
University/college or above	331(66.47)	3.92	3.26	0.04*
High school or equivalent	116(23.29)	3.82		
Junior high school or lower	51(10.24)	3.73		
Fathers' educational level				
University/college or above	347(69.68)	3.90	0.53	0.59
High school or equivalent	97(19.48)	3.86		
Junior high school or lower	54(10.84)	3.81		
Birth order				
First	298(59.96)	3.82	6.17	<0.05*
Second or above	199(40.04)	3.96		
Baby month				
Six months or lower	289(58.03)	3.84	3.29	0.07
More than six months	209(41.97)	3.94		
Baby Health				
Born healthy and rarely ill	347(69.68)	3.91	3.92	< 0.01**
Born healthy but occasionally ill	127(25.50)	3.85		
Congenital disease but cured	12(2.41)	3.91		
Congenital disease and being treated	12 (2.41)	3.33		
Place of household registration				
Shanghai	120 (24.14)	4.08	18.75	< 0.001***
Other	377 (75.86)	3.81		
Parental support for childcare				
With and live together	322(64.66)	3.84	1.75	0.17
With and do not live together	90(18.07)	3.96		
Without and do not live together	86(17.27)	3.93		

Notes: N = 498; ***p < 0.001, **p < 0.01, *p < 0.05.

Data Analysis

All analyses were performed using Stata 17.0. This study imputed missing data using multiple imputation (MI). The final number of valid samples obtained was 498. The analysis plan consists of four steps. First, this study described new mothers' perceived parenting knowledge, including mean scores, ranking, and sources of knowledge acquisition. Second, the socioeconomic-demographic variables of the sample will be analyzed descriptively. This analysis will examine whether there are differences in parenting knowledge scores among new mothers with varying sociodemographic characteristics. The independent samples *t*-test was used to compare two groups, and one-way ANOVA was used to

compare multiple groups. Third, the sample variables were examined using descriptive and bivariate correlation analysis to test whether the variables were correlated. Fourth, to test the causal relationship between spousal support and parenting knowledge and the indirect role of positive affect in this path, three multiple regression models with control variables would be run immediately, using the causal steps approach.[55]

Results

Common Method Bias Test

To ensure that the research results are not affected by data bias, this study also conducted a common method bias test.[56] In terms of procedural control, this study strictly adhered to the principles of anonymization and randomness during the investigation process. In the design of the questions, every effort was made to avoid neutral stances. In addition, this study also adopted Harman's single-factor test method to make improvements in statistical control. The statistical results show that the total variance extracted by the first factor is 48.36%, which is lower than the statistically recommended threshold of 50%. This indicates that the common method bias in the research data is not significant.[57,58]

The Level of Perceived Parenting Knowledge

On average, new mothers reported a medium high-level parenting knowledge score, including 15 items ($M = 3.88$, $SD = 0.59$). The 15 sub-items were ranked from highest to lowest according to the mean score. The item "I know how to vaccinate baby (M = 4.28, SD = 0.66)" had the highest mean score. However, the item with the lowest mean score was "I know how to give first aid to babies ($M = 3.21$, $SD = 1.08$)". In addition to the items with the lowest mean scores, three other items also scored below average: "I know the critical period and precautions for early intellectual development in infants ($M = 3.74$, $SD = 0.91$)"; "I know how to manage the baby's irregular night sleep correctly (M = 3.64, SD = 0.94)"; "I know how to train the baby to sleep (M = 3.51, SD = 0.96)".

Sources of Parenting Knowledge

In this study, new mothers were asked how they obtained parenting knowledge. As shown in Figure 1, parenting knowledge was obtained from a variety of sources, including APPs, family members, books, Internet forums/WeChat or QQ groups, official WeChat accounts, friends/neighbors, websites, health professionals, maternity matrons/baby sitters, and others. The Internet has become an essential source of parenting knowledge for new mothers in urban China, especially for mobile apps. Family members have become the second primary source of parenting knowledge for new mothers.

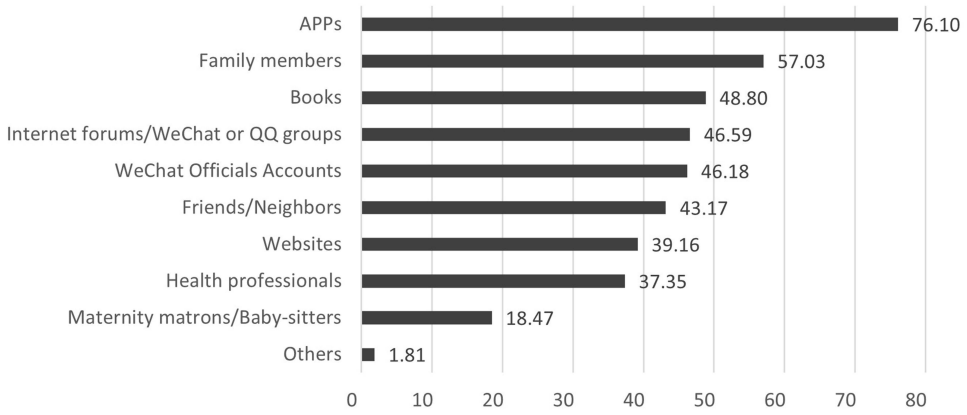

Figure 1 Sources of parenting knowledge (N=498, %).

Sociodemographic Characteristics of Parenting Knowledge

This analysis also tested whether new mothers' parenting knowledge varied according to the sociodemographic characteristics shown in Table 1. Parenting knowledge scores differed significantly by years of marriage, six years or less, and seven years or more. New mothers who had been married for more than seven years reported higher mean parenting knowledge scores. New mothers with a higher level of education reported higher parenting knowledge scores and showed statistical differences. Compared to new mothers whose children were first born, new mothers with previous childbirth experience had higher parenting knowledge scores. New mothers' parenting knowledge scores may also differ significantly according to their baby's health status and place of household registration. However, new mothers' parenting knowledge scores do not differ by mother's age, household income (RMB/month), father's education, baby's birth month, and parental support.

Preliminary Bivariate Correlation Analysis

This study conducted a preliminary descriptive and bivariate correlation analysis, which is given in Table 2, to investigate the association between spousal support, women's affective well-being, and parenting knowledge. Spousal support was significantly correlated with new mothers' parenting knowledge. According to the analysis, spousal support was positively related to positive affect but not significantly to negative affect. On the other hand, women's affective well-being was significantly associated with their acquired parenting knowledge. Specifically, positive affect showed a positive association with parenting knowledge. In contrast, a negative association between negative affect and parenting knowledge was observed.

The Indirect Role of Positive Affect in the Association Between Parental Knowledge and Spousal Support

Based on the previous analysis shows there was no conclusive relationship between spousal support and the mothers' negative effects on new mothers. Thus, negative affect is not considered a mediator. As illustrated in Table 3, this study conducted Structural Equation Models (abbreviated as SEM) to examine the role of positive affect in moderating the association between spousal support and parenting knowledge. The dependent variable in Models 1 was new mothers' positive affect, whereas the dependent variable in Model 2 was new mothers' parenting knowledge. All models controlled for sociodemographic variables, including age, years of marriage, household income (RMB/month), mothers' educational level, fathers' educational level, birth order, infant health status, place of household registration, and parental support.

The results of the mediation effects examined using SEM can be found in Table 3. Model 1 reports that new mothers with more spousal support had higher levels of positive affect. Including both spousal support and positive affect in Model 2, the results showed a positive predictive effect of these two variables on parenting knowledge. Therefore, in this study, the calculated direct effect is 0.11, the indirect effect is 0.038 (0.18 * 0.21), the total effect is 0.148, and the proportion of the mediation is 0.26 (0.038/0.148). The results of the SEM analysis, as indicated by coefficient tests, reveal a significant indirect effect.

To ensure the robustness of the results, this study also employed a bias-corrected non-parametric percentile Bootstrap test for indirect effect. The test involved 500 repetitions of sampling, generating 500 estimates of the indirect effect within a 95% confidence interval. The Bootstrap test results further confirmed the aforementioned conclusion ($\beta = 0.038$, $z = 2.93$, $p = 0.003$). Based on the analysis provided earlier, it can be inferred that spousal support has the potential to

Table 2 Correlations Statistics for Variables

Variable	M	SD	1	2	3	4
1. Spousal support	3.84	0.79	1			
2. Positive affect (PA)	3.10	0.65	0.22***	1		
3. Negative affect (NA)	2.44	0.75	−0.01	−0.05	1	
4. Parenting knowledge	3.88	0.59	0.23***	0.28***	−015***	1

Note: ***$p < 0.001$.

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Table 3 Examining the Indirect Effect of Mothers' Positive Affect

Variables	Positive affect	Parenting knowledge
	Model 1	Model 2
Predictor variable		
Spousal support	0.18*** (0.04)	0.11*** (0.03)
Indirect variable		
Positive affect (PA)		0.21*** (0.04)
Control variables		
Age	−0.07 (0.07)	−0.06 (0.06)
Years of marriage	0.05 (0.09)	0.03 (0.08)
Household income (RMB/month)	0.03* (0.02)	−0.04*(0.01)
Mothers' educational level	−0.03 (0.06)	0.14* (0.05)
Fathers' educational level	0.03 (0.06)	−0.04 (0.05)
Birth order	<0.01 (0.07)	−0.19**(0.06)
Baby Health	−0.06 (0.04)	−0.10* (0.04)
Baby month	0.01 (0.06)	0.11* (0.05)
Place of household registration	0.03 (0.07)	0.23*** (0.06)
Parental support	−0.04 (0.04)	0.08* (0.03)
Cons	2.43*** (0.21)	2.72*** (0.20)

Notes: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

positively influence parenting knowledge, specifically indirect by maternal positive affect. The positive affect exhibited by new mothers plays a significant role in moderating the relationship between spousal support and parenting knowledge.

Discussion

This study fills a knowledge gap in the literature by exploring the perceived levels, sources, and sociodemographic correlates of parenting knowledge among urban Chinese postpartum women and whether new mothers' affective well-being mediates the relationships between spousal support and parenting knowledge. There are three main findings. Overall, urban Chinese new mothers perceived themselves to have a medium–high level of parenting knowledge for infant care, especially for infant vaccination and breastfeeding. Mothers who had been married longer, were better educated, whose baby was the second or third, had a healthy baby, and had a Shanghai household registration reported higher levels of perceived parenting knowledge. Further, besides family members, APPs, books, and social media use (eg, WeChat) are the most used sources to obtain parenting knowledge. Significantly, mothers' positive affect indirect the relationship between spousal support and mothers' parenting knowledge, and their negative affect was negatively related to parenting knowledge.

Characteristics of Perceived Parenting Knowledge

The overall mean score of perceived parenting knowledge among urban Chinese new mothers was 3.88, well above the median (2.5). Previous studies found that mothers' education was reported to be positively related to their parenting knowledge.[1,13,14,16] Most participants (66.47%) and their spouses (69.68%) in this study reported being well-educated, with a university/college degree or higher, and parents with higher levels of education were found to have significantly higher levels of parenting knowledge. It is reasonable to confirm that mothers with higher educational attainment would acquire more knowledge about parenting which is consistent with the "knowledge gap hypothesis". Knowledge about infant vaccination was the highest rated, which may be related to the vaccination policy in urban China that every child should be uniformly vaccinated according to the schedule. Parental knowledge of infant intellectual development and sleep issues was perceived at the lowest level among participants in this study, suggesting the necessary content of future caregiver education for urban Chinese parents. Consistent with previous research showing that mothers' childbirth experiences influence their parenting knowledge,[15] the current study found that new mothers with their second or more

children had higher parenting knowledge scores than those with their first child. There has been inconsistent research on whether mothers' age is related to parenting knowledge. Some studies with a sample of European American mothers found that older mothers were more knowledgeable about child rearing than younger mothers,[1,14] while some studies conducted in Italy or Sudan did not,[8,9] which may reflect the cultural differences in each society. The current study found that mothers' year of marriage, but not the age, was uniquely related to their parenting knowledge. As most births in China occur within marriage,[59] it is reasonable to assume that Chinese women would not engage in learning about parenting until they were married, and then their parenting knowledge would be related to the year of marriage but not to their age. It was also found that mothers with household registration in Shanghai (the most modern city in China) reported higher levels of parenting knowledge than those without, which is somewhat in line with previous research suggesting that US-born mothers have higher parenting knowledge than mothers born outside the US[5] or from other comparable industrialized countries.[1]

Sources of Parenting Knowledge

Internet usages, such as APPs, WeChat, or official WeChat accounts, has been the most adopted way of seeking parenting knowledge by the participants in this study. In the context of traditional Chinese cultural norms and the rapid urbanization and socioeconomic development process in China, Chinese parents often have mixed ways of obtaining parenting knowledge and skills, eg, acquiring parenting knowledge using evidence-based information from websites or health professionals while influenced by parents' authority and family members.[47] By December 2022, China's internet users will reach 1.067 billion, and internet penetration will reach 75.6%. China will rank second worldwide after the United States in total internet users.[60] Meanwhile, in the current study, family members were rated as the second most used source of parenting knowledge. Given the shortage of childcare services in urban China today, grandparents' high level of involvement in childcare is widespread.[61] Therefore, the parenting opinions of family members, especially the parents of new mothers or fathers, are also crucial for new mothers. Notably, only 37.35% of participants said they would seek parenting advice directly from health professionals. There is great potential for health professionals to implement more popular and innovative caregiver education programs for new parents in urban China, combined with consideration of online sessions and in-home sessions, such as an internet-based support program for first-time mothers in Shenzhen, China and the mixed-use of online developmental assessments and in-home sessions for the caregiver education program in Z city, China.[50] According to CNNIC (2023),[62] China's online audio-visual users reached 1.04 billion by December 2022, becoming the most prominent internet application. Extensive video, online live broadcasting, and online audio are used more by highly educated young and middle-aged people in urban China. Accessing news and information and learning relevant knowledge have become fundamental reasons for users to watch short videos. Watching short videos may be the most popular and very promising way to learn parenting skills in the future.

Spousal Support and Women's Affective Well-Being as Psychosocial Predictors of Parenting Knowledge

In line with previous studies, the results showed a positive correlation between spousal support and mothers' knowledge of parenting. Instrumental support from family members was positively associated with adolescent mothers' knowledge accuracy.[63] The reasonable explanation is that new mothers in urban China may have more time and space to learn about infant care (eg, by reading written materials or online information) if the new father provides instrumental or emotional support to the mother in infant care. According to earlier research, mental health significantly impacts learning capacity.[38,39] This study found that mothers' positive affect was positively related to parenting knowledge, whereas negative affect was negatively related.

Furthermore, positive affect significantly indirect the relationship between spousal support and parenting knowledge after controlling for sociodemographic variables. Spousal support is a significant protective factor against negative affect on women after childbirth.[64] It may increase the positive affect of postpartum women[32] by promoting maternal role adjustment (particularly maternal self-efficacy).[33] Positive emotions have been shown to predict self-efficacy, and self-efficacy has been shown to be a predictor of higher levels of academic engagement and, ultimately, of better academic

performance.[37] In particular, a nationally representative study found a longitudinal association between sexual satisfaction and positive affect and subjective well-being in both men and women.[65] It is suggested that spousal support is uniquely positioned in the postpartum period. The mechanism of positive affect acting as a mediator between spousal support and mothers' parenting knowledge may be due to increased maternal self-efficacy or subjective well-being due to strong support from new fathers, leading to increased mothers' parenting learning engagement and performance.

Implications for Research and Practice

Theoretical contributions of this study include the identification of specific sociodemographic factors that enhance perceived parenting knowledge, thereby enriching existing literature on maternal education and support systems. Additionally, the mediating role of affective well-being provides a nuanced understanding of how emotional states can influence knowledge acquisition and application in parenting contexts.

Practically, these findings suggest that interventions aimed at increasing parenting knowledge should focus on enhancing spousal support and emotional well-being among new mothers. Educational programs should leverage popular platforms like social media and mobile applications to disseminate information effectively. Furthermore, addressing the emotional needs of mothers through community support initiatives can foster a more informed and confident parenting experience, ultimately benefiting both mothers and their infants.

Research Limitations and Future Research

This study has several limitations that should be acknowledged. First, our sample was drawn from a hospital in a Chinese metropolis, which limits the generalizability of the findings to other cultural contexts and settings. Second, the measure of parenting knowledge relied on participants' subjective perceptions of their abilities to care for infants. While this perceived measure has been utilized in the previous research,[66] incorporating objective assessments of parenting knowledge in future studies could provide a more comprehensive understanding of this construct. Additionally, the cross-sectional design of this study restricts our ability to draw causal inferences, even though it offers valuable insights into the relationships between spousal support, women's positive affect, and parenting knowledge. Moreover, it is important to note that no intervention program was implemented in this study, which limits our ability to evaluate the effectiveness of specific strategies aimed at enhancing parenting knowledge and emotional well-being among new mothers.

Future research should focus on longitudinal studies to assess the causal effects of spousal support on new mothers' positive affect and parenting knowledge over time. Additionally, experimental designs that incorporate intervention programs could be developed to evaluate the impact of targeted educational initiatives on parenting knowledge and emotional support. Such studies could explore the effectiveness of various delivery methods, including digital platforms and in-person workshops, to engage both mothers and fathers in the learning process. By addressing these gaps, future research can contribute to a more nuanced understanding of how to best support new parents in their parenting journey.

Conclusion

This study enriches the growing body of literature on the characteristics, sources, and psychosocial predictors of parenting knowledge among urban Chinese postpartum women. The findings reveal that contemporary urban mothers increasingly turn to online resources, such as mobile applications and short videos, alongside familial support, to acquire essential parenting knowledge. This digital learning trend is particularly significant, as it provides postpartum women—who may face limited social interactions due to infant care—with quick and accessible avenues to enhance their parenting skills.

Moreover, the research highlights the critical role of spousal support in fostering positive affect and enhancing parenting knowledge. Given that spousal support can also mitigate postpartum depression,[67,68] a key implication of these findings is that interventions aimed at improving parenting knowledge should actively involve both mothers and fathers. By integrating information technology with strategies that promote emotional well-being, educational programs can create a more supportive environment for new parents, ultimately leading to better outcomes for both parents and their children.

Highlights

- Exploring Urban Chinese Postpartum Women's Parenting Knowledge: Investigate the perceived level and key predictors, revealing factors like education, marriage duration, and infant health.
- Information Sources and Social Support in a Cross-Sectional Study: this study, employing a cross-sectional research design, reveals that urban Chinese postpartum women rely on Apps, books, and social media for parenting knowledge, with spousal support influencing indirectly through positive affect.
- Role of ICT and Emotional Well-being: Uncover the vital role of Information and Communication Technology (ICT), spousal support, and positive affect in shaping parenting knowledge for urban Chinese postpartum women.

Data Sharing Statement

The data sets analyzed during the current study are not publicly available due to ethical restrictions but are available from the corresponding author on reasonable request.

Ethics Approval Statement

Ethical approval was obtained from the University Committee on Human Research Protection of East China Normal University (authorization code No. HR204-2019). The study complies with the Declaration of Helsinki.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare no conflicts of interest.

References

1. Bornstein MH, Yu J, Putnick DL. Mothers' parenting knowledge and its sources in five societies: specificity in and across Argentina, Belgium, Italy, South Korea, and the United States. *Int J Behav Dev*. 2020;44(2):135–145. doi:10.1177/0165025419861440
2. Yin HS, Sanders LM, Rothman RL, et al. Parent health literacy and "obesogenic" feeding and physical activity-related infant care behaviors. *J Pediatr*. 2014;164(3):577–584. doi:10.1016/j.jpeds.2013.11.014
3. Morawska A, Winter L, Sanders MR. Parenting knowledge and its role in the prediction of dysfunctional parenting and disruptive child behavior. *Child Care Health Dev*. 2009;35(2):217–226. doi:10.1111/j.1365-2214.2008.00929.x
4. Leung CYY, Suskind DL. What parents know matters: parental knowledge at birth predicts caregiving behaviors at months. *J Pediatr*. 2020;221:72–80. doi:10.1016/j.jpeds.2019.12.0219
5. Rowe ML, Denmark N, Harden BJ, Stapleton LM. The role of parent education and parenting knowledge in children's language and literacy skills among white, black, and Latino families. *Infant Child Dev*. 2016;25(2):198–220. doi:10.1002/icd.124
6. Zhong JD, He Y, Gao JJ, Wang TY, Luo RF. Parenting knowledge, parental investments, and early childhood development in rural households in western China. *Int J Environ Res Public Health*. 2020;17(8):2792. doi:10.3390/ijerph17082792
7. Tasew H, Teshale T, Bahrey D, Mariye T, Teklay G. Immediate newborn care of knowledge, practice, and associated factors among health care providers in Northwestern Zonal health facilities Tigray, Ethiopia, 2018. *BMC Res Notes*. 2019;12:427. doi:10.1186/s13104-019-4465-z
8. Scarzello D, Arace A, Prino LE. Parental practices of Italian mothers and fathers during early infancy: the role of knowledge about parenting and child development. *Infant Behav Dev*. 2016;44:133–143. doi:10.1016/j.infbeh.2016.06.006

9. Al-Nafeesah A, Ahmed MAA, Elhory O, et al. Knowledge, practice, and associated factors of essential newborn care among Sudanese women in eastern Sudan. *Children*. 2022;9(6):873. doi:10.3390/children9060873.
10. Vally Z, El Hichami F. Knowledge about parenting as a predictor of behavioral discipline practices between mothers and fathers. *Psychol Stud*. 2020;65(1):40–50. doi:10.1007/s12646-019-00497-z
11. Bathory E, Tomopoulos S, Rothman R, et al. Infant sleep and parent health literacy. *Acad Pediatr*. 2016;16(6):550–557. doi:10.1016/j.acap.2016.03.004
12. Hamzallari O, Rosinski L, Petrenko A, Bridgett DJ. Mothers' emotion regulation and negative affect in infants: the role of self-efficacy and knowledge of parenting practices. *Children*. 2023;10(1):85. doi:10.3390/children10010085
13. Singh DR, Harvey CM, Bohara P, et al. Factors associated with newborn care knowledge and practices in the upper Himalayas. *PLoS One*. 2019;14(9):e0222582. doi:10.1371/journal.pone.0222582
14. Bornstein MH, Cote LR, Haynes OM, Hahn CS, Park Y. Parenting knowledge experiential and sociodemographic factors in European American mothers of young children. *Dev Psychol*. 2010;46(6):1677–1693. doi:10.1037/a0020677
15. Reich S. What do mothers know? Maternal knowledge of child development. *Infant Ment Health J*. 2005;26(2):143–156. doi:10.1002/imhj.20038
16. Leta M. Level of knowledge toward essential newborn care practices among postnatal mothers in governmental hospitals of Harar Town, Eastern Ethiopia. *SAGE Open Med*. 2022;10:20503121221076364. doi:10.1177/20503121221076364
17. Baysal ŞG, Doğan DG, Kortay S, Arslan FN, Öztürk YD, Yağın FH. Parenting knowledge of child development in Turkish mothers and fathers. *Trends Pediatr*. 2023;4(2):109–119. doi:10.59213/TP.2023.51523
18. Sword W, watt S. Learning needs of postpartum women: does socioeconomic status matter? *Birth*. 2005;32(2):86–92. doi:10.1111/j.0730-7659.2005.00350.x
19. Piña G, Torres A, Griffith I. Promoting research-based parenting strategies through U.S. local television news: an experimental evaluation of the positive parenting newsfeed project. *J Child Media*. 2023;17(2):228–245. doi:10.1080/17482798.2023.2187426
20. Tsai SY, Hu WY, Lee YL, Wu CY. Infant sleep problems: a qualitative analysis of first-time mothers' coping experience. *Midwifery*. 2014;30(6):750–755. doi:10.1016/j.midw.2013.08.005
21. McCatharn JM, Herbert KK, Wei R, Rowe ML. Circles of support: exploring the 'where' and 'why' of parents' of infants information seeking behaviors. *J Child Fam Stud*. 2022;31(11):2915–2928. doi:10.1007/s10826-021-02124-w
22. Zheng LJ, de Haan M, Koops W. Learning to be a mother: comparing two groups of Chinese immigrants in the Netherlands. *Asian Pac Migr J*. 2019;28(2):220–241. doi:10.1177/0117196819844380
23. Tallon MM, Kendall GE, Snider PD. Development of a measure for maternal confidence in knowledge and understanding and examination of psychosocial influences at the time of a child's heart surgery. *J Spec Pediatr Nurs*. 2015;20(1):36–48. doi:10.1111/jspn.12096
24. Aston ML. Learning to be a normal mother: empowerment and pedagogy in postpartum classes. *Public Health Nurs*. 2002;19(4):284–293. doi:10.1046/j.1525-1446.2002.19408.x
25. Straughan PT, Xu C. How does parents' social support impact children's health practice? Examining a mediating role of health knowledge. *Glob Health Res Policy*. 2023;8(1):8. doi:10.1186/s41256-023-00291-5
26. Johnson SA. 'Intimate mothering publics': comparing face-to-face support groups and Internet use for women seeking information and advice in the transition to first-time motherhood. *Cult Health Sex*. 2015;17(2):237–251. doi:10.1080/13691058.2014.968807
27. Shrestha S, Adachi K, Petrini MA, Shuda A, Shrestha S. Nepalese primiparous mothers' knowledge of newborn care. *Nurs Health Sci*. 2015;17(3):347–353. doi:10.1111/nhs.12193
28. Mohammad KI, Gamble J, Creedy DK. Prevalence and factors associated with the development of antenatal and postnatal depression among Jordanian women. *Midwifery*. 2011;27(6):e238–e245. doi:10.1016/j.midw.2010.10.008
29. Miller ML, Kroska EB, Grekin R. Immediate postpartum mood assessment and postpartum depressive symptoms. *J Affect Disord*. 2017;207:69–75. doi:10.1016/j.jad.2016.09.023
30. Bos SC, Macedo A, Marques M, et al. Is positive affect in pregnancy protective of postpartum depression? *Rev Bras Psiquiatr*. 2013;35(1):5–12. doi:10.1016/j.rbp.2011.11.002
31. Yamada A, Isumi A, Fujiwara T. Association between lack of social support from partner or others and postpartum depression among Japanese mothers: a population-based cross-sectional study. *Int J Environ Res Public Health*. 2020;17(12):4270. doi:10.3390/ijerph17124270
32. Uludag E, Ozturk S. The effect of partner support on self-efficacy in breastfeeding in the early postpartum period. *Am J Fam Ther*. 2020;48(2):211–219. doi:10.1080/01926187.2019.1697973
33. He SS, Yang F, Zhang HM, Zhang SM. Affective well-being of Chinese urban postpartum women: predictive effect of spousal support and maternal role adaptation. *Arch Womens Ment Health*. 2022;25(4):781–788. doi:10.1007/s00737-022-01240-w
34. Henton S, Swanson V. A mixed-methods analysis of the role of online social support to promote psychological wellbeing in new mothers. *Digit Health*. 2023;9. doi:10.1177/20552076221147433
35. Lyons MD, Huebner ES. Academic characteristics of early adolescents with higher levels of life satisfaction. *Appl Res Qual Life*. 2016;11(3):757–771. doi:10.1007/s11482-015-9394-y
36. Wu XJ, Gai XS, Wang W. Subjective well-being and academic performance among middle schoolers: a two-wave longitudinal study. *J Adolesc*. 2020;84:11–22. doi:10.1016/j.adolescence.2020.07.011
37. Oriol-Granado X, Mendoza-Lira M, Covarrubias-Apablaza CG, Molina-Lopez VM. Positive emotions, autonomy support and academic performance of university students: the mediating role of academic engagement and self-efficacy. *Rev Psicodidact*. 2017;22(1):45–53. doi:10.1387/RevPsicodidact.14280
38. Cobo-Rendon R, Perez-Villalobos MV, Paez-Rovira D, Gracia-Leiva M. A longitudinal study: affective wellbeing, psychological wellbeing, self-efficacy and academic performance among first-year undergraduate students. *Scand J Psychol*. 2020;61(4):518–526. doi:10.1111/sjop.12618
39. Sanchez-Garcia MD, Lucas-Molina B, Fonseca-Pedrero E, Perez-Albeniz A, Paino M. Emotional and behavioral difficulties in adolescence: relationship with emotional well-being affect, and academic performance. *An Psicol*. 2018;34(3):482–489. doi:10.6018/analesps.34.3.296631
40. Nickerson C, Diener E, Schwarz N. Positive affect and college success. *J Happiness Stud*. 2011;12(4):717–746. doi:10.1007/s10902-010-9224-8
41. Rogaten J, Moneta GB. Positive and negative structures and processes underlying academic performance: a chained mediation model. *J Happiness Stud*. 2017;18(4):1095–1119. doi:10.1007/s10902-016-9765-6

42. Schulz ML, Wood CE, Giallo R. Co-parenting and parenting behaviour: the role of parent mental health for mothers and fathers in the postnatal period. *Child Fam Soc Work*. 2023;28(4):1203–1213. doi:10.1111/cfs.13042
43. Angeline J, Rathnasabapathy M. Understanding women's suffering and psychological well-being: exploring biopsychosocial factors in mothers of children with ADHD - a case study. *Front Public Health*. 2023;11:1279499. doi:10.3389/fpubh.2023
44. Nwccw UNICEF. *Children in China: An atlas of social indicators*. Available from: https://www.unicef.cn/en/atlas-2018-en. Accessed April 1, 2023.
45. Council TSNCLGot S. *China Population Census Yearbook 2020*. Available from: http://www.stats.gov.cn/sj/pcsj/rkpc/7rp/indexch.htm. Accessed April 1, 2023.
46. Ying YJ, Usher S, Préval J. Governing the family through parental responsibilisation and professionalisation: an analysis of the state 'family education' discourses in contemporary China. *Soc Policy Society*. 2022;42:64–89. doi:10.1017/S1474746422000148
47. Lu JJ, Huang Y, Chen J. Parental knowledge, preference and needs of child-rearing family programmes: a case in Chinese Inner Mongolia minority region. *Int J Environ Res Public Health*. 2023;20(1):434. doi:10.3390/ijerph20010434
48. Li Y, Li SS, Tang L, Bai Y. The effect of ECD program on the caregiver's parenting knowledge, attitudes, and practices: based on a cluster-randomized controlled trial in economically vulnerable areas of China. *BMC Public Health*. 2022;22(1):1958. doi:10.1186/s12889-022-14268-5
49. Zheng XJ, Huang LL, Fang QY, et al. Internet-based support program on parenting outcomes for Chinese primiparous women: study protocol for a randomized controlled trial. *J Adv Nurs*. 2020;76(11):3155–3163. doi:10.1111/jan.14517
50. Chen YF, Tu B, Huang CC, Huang C. Improving parenting knowledge through caregiver education in China. *Child Care Health Dev*. 2021;47(2):261–268. doi:10.1111/cch.12837
51. Schoemann AM, Boulton AJ, Short SD. Determining power and sample size for simple and complex mediation models. *Soc Psychol Personal Sci*. 2017;8(4):379–386. doi:10.1177/1948550617715068
52. Hopkins J, Campbell SB. Development and validation of a scale to assess social support in the postpartum period. *Arch Womens Ment Health*. 2008;11(1):57–65. doi:10.1007/s00737-008-0212-5
53. Watson D, Clark LA, Tellegen A. Development and validation of brief measures of positive and negative affect: the PANAS scales. *J Pers Soc Psychol*. 1988;54(6):1063–1070. doi:10.1037/0022-3514.54.6.1063
54. Huang L, Yang T, Li Z. Applicability of the positive and negative affect scale in Chinese. *Chin Ment Health J 2003*. 17:54–56.
55. Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *J Pers Soc Psychol*. 1986;51(6):1173–1182. doi:10.1037/0022-3514.51.6.1173
56. Damanik J, Widodo W. Unlocking teacher professional performance: exploring teaching creativity in transmitting digital literacy, grit, and instructional quality. *Educ Sci*. 2024;14(4):384. doi:10.3390/educsci14040384
57. Podsakoff PM, Podsakoff NP, Williams LJ, Huang C, Yang J. Common method bias: it's bad, it's complex, it's widespread, and it's not easy to fix. *Annu Rev Organ Psychol Organ Behav*. 2024;11(1):17–61. doi:10.1146/annurev-orgpsych-110721-040030
58. Miller BK, Simmering MJ. Attitude toward the color blue: an ideal marker variable. *Organ Res Methods*. 2023;26(3):409–440.
59. Li W. New trends in marriage and pregnancy among women born since 1957 –Analysis centered on unmarried pregnancy (in Chinese). *Population Journal*. 2020;42(6):5–18. doi:10.16405/j.cnki.1004-129X.2020.06.001
60. CNNIC. *The 51st internet development in China statistical report*. Available from: https://cnnic.cn/n4/2023/0302/c199-10755html. Accessed March 8, 2025.
61. Chen W. Reconstruction of youth vulnerability and social support under the two-child policy (in Chinese). *China Youth Study*. 2017;10. doi:10.19633/j.cnki.11-2579/d.2017.0005
62. CNNIC. *China Internet Audio-Visual Development Research Report (2023)*. Available from: https://mp.weixin.qq.com/s/a2uhYTrCVPDfqxff9H0D2Q. Accessed March 8, 2025.
63. Jahromi LB, Guimond AB, Umana-Taylor AJ, Updegraff KA, Toomey RB. Family context, Mexican-origin adolescent mothers' parenting knowledge, and children's subsequent developmental outcomes. *Child Dev*. 2014;85(2):593–609. doi:10.1111/cdev.12160
64. Arnold M, Kalibatseva Z. Are "superwomen" without social support at risk for postpartum depression and anxiety? *Women Health*. 2021;61(2):148–159. doi:10.1080/03630242.2020.1844360
65. Buczak-Stec E, König HH, Hajek A. The link between sexual satisfaction and subjective well-being: a longitudinal perspective based on the German ageing survey. *Qual Life Res*. 2019;28(11):3025–3035. doi:10.1007/s11136-019-02235-4
66. Svensson J, Barclay L, Cooke M. Randomised-controlled trial of two antenatal education programmes. *Midwifery*. 2009;25(2):114–125. doi:10.1016/j.midw.2006.12.012
67. Tuncer SK, Binici DK. The correlation between spousal support and postpartum depression in fathers. *Perspect Psychiatr Care*. 2022;58(4):2407–2413. doi:10.1111/ppc.13075
68. Eslahi Z, Bahrami N, Allen KA, Alimoradi Z. Spouse's social support in the postpartum period, predictors and its relationship with postpartum depression in a sample of Iranian primiparous women. *Int J Gynaecol Obstet*. 2021;154(1):24–30. doi:10.1002/ijgo.13488