The Relationship between Childcare Services Participation and Parental Subjective Well-Being under China’s Three-Child Policy—Based on the Mediation Effect of Parenting Stress

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Abstract: This study examined the relationship between children’s participation in childcare services from birth to 3 years of age and their parents’ subjective well-being, as well as the mediating role of parenting stress. In total, 990 parents of children aged 0–3 years from Beijing were surveyed. First, independent samples t-tests after propensity score matching revealed that parents who participated in childcare services may have significantly higher overall subjective well-being and life satisfaction than those who did not participate. Second, a descriptive analysis and an analysis of variance results indicated that remote location, low quality, and high price may be the major reasons for parents’ dissatisfaction with childcare services, and a regression analysis of childcare dissatisfaction showed that high-priced childcare services had a significant negative relationship with parent’s subjective well-being. Third, the results of a mediation analysis of parenting stress revealed that childcare services have significant direct effects on parents’ subjective well-being, and a small mediating effect of parenting stress on parent’s childcare service participation and parental subjective well-being. The findings demonstrate the importance of childcare services, especially for the provision of affordable childcare to improve parents’ subjective well-being and relieving pressure on parents.

Keywords: childcare services; subjective well-being; parenting stress; propensity score matching

1. Introduction

With the increasing number of mothers with young children participating in the labor market, coupled with the social impact of industrialization and urbanization, social childcare services for children under the age of 3 years has become a widespread need [1]. Especially since the enactment of the two-child policy and the newly enacted three-child policy in mainland China, the traditional mother-dominated childcare model cannot be sustained, and the problem of caring for children under 3 years of age needs to be solved urgently. In recent years, as an important strategy to promote family well-being and support fertility, the Chinese government attached great importance to childcare services for children under the age of 3 years since 2019 [2,3], as well as instituted and vigorously developed childcare services. However, as childcare services in China are in their initial stage, how to improve the childcare services based on the background of the new fertility policy remains to be explored.

In promoting the development of childcare services, parents’ satisfaction should be considered as an important measure and test standard. Satisfaction with parenting is a specific component of an individual’s life and perspective, and the addition of subjective satisfaction can provide a broader understanding. As a kind of social support that parents can access directly in the process of parenting, childcare services may improve the subjective well-being of the parents [4]. According to Diener, subjective well-being includes two
dimensions: life satisfaction and emotional experience [5], which, respectively, correspond to cognitive and emotional components. Although a large body of literature has explored the influence of factors such as socioeconomic status, family relationship, and mental health on parental subjective well-being, there is still little evidence that after controlling for family size, reproductive structure, etc., the relationship between childcare services and parental subjective well-being [6–8].

At the same time, parenting stress may be a key factor in this relationship. In the fast pace of modern society, parents are often overworked, and family life is part of a constant chain of action and reaction. The topic of parenting stress has been studied extensively in relation to various aspects of family life, including grandparents raising grandchildren [9], divorce adjustment [10], and international family stress [11]. To date, however, few studies on family stress have focused on the challenges faced by parents with young children regarding childcare settings. As a potential source of broad support, childcare programs may help to increase family satisfaction by reducing levels of parenting stress and providing childcare [12]. This is an important area of research as many working parents rely on professional childcare services to help care for and educate their young children [13]. However, in the Chinese context, the relationship between childcare services and parental subjective well-being is unclear. In order to fill this gap, the current study sought to investigate the relationship between children’s participation in childcare services from birth to 3 years of age and their parents’ subjective well-being, as well as the mediating role of parenting stress. On the basis of this notion, and considering potential sources of childcare selection bias or endogeneity, we used propensity score matching to investigate the relationship between childcare participation and Chinese parents’ subjective well-being, and to examine the mediating role of parenting stress in this relationship.

2. Literature Review

2.1. Childcare Services and Parental Subjective Well-Being

Childcare services aim to provide in childcare institutions for children under age of 3 years. In China, childcare services are more often seen as complementary services. When the family cannot provide adequate care for the child for some reason, the child must leave the family and parents at certain times of the day, and other people or institutions take care of the child instead of the parents [14]. The provision of formal childcare has become a major concern for the general public. Policymakers in several countries have implemented reforms to expand access to affordable, quality, public childcare [15]. The main goal of such reforms is to promote the reconciliation of work and family life, thereby increasing mothers’ labor supply choices, reducing gender inequality, and improving the well-being of children and parents [16]. Generally, childcare services can be divided into government-led, market-led, and mixed types [17]. However, since childcare services in China are still in the initial stages of development, they mainly belong to the market-led private type. Therefore, this study will not divide the types of childcare, but only focus on two functions of childcare services, namely the alternative function of family care and the educational function of childcare, and focus on whether basic care or education are provided by childcare services. Childcare institutions that only provide basic care mainly provide parents with child care services, and do not have professional early education activities, while educational services provide parents with basic care services as well as early education activities. However, previous research has shown that some childcare policies can have unintended negative side effects, causing mothers to feel more stressed, more depressed, and less satisfied with their lives [18–20]. Therefore, the subjective dimension of parental well-being should be used as an important tool to evaluate the effect of childcare policy implementation. Ignoring subjective parental well-being could lead to the neglect of an important aspect of childcare and family policy debate [21–23].

Subjective well-being is a comprehensive psychological indicator that measures the quality of life of an individual. Dinner [24] pointed out that subjective well-being refers to an individual’s overall assessment of their quality of life based on self-defined criteria,
including factors such as life satisfaction and emotional experience. Based on the subjective well-being goal theory proposed by Brunstein, subjective well-being arises from the satisfaction of needs and the realization of goals [25]. Shin and Johuson (1978) believe that subjective well-being is the evaluator’s overall subjective evaluation of life quality based on his own value judgment criteria [26]. In summary, subjective well-being includes the following two characteristics: (1) subjectivity: evaluators make internal standard evaluations instead of relying on external ones; (2) integrity: subjective well-being is a comprehensive evaluation of life quality, including at least two dimensions of life satisfaction and emotional experience. In China, on the basis of traditional family roles and division of labor, professional women are under multiple pressures from society, work, and family [27]. This means that it is also faced with multiple goals from society, work, and family. Therefore, balancing multiple pressures and promoting the satisfaction of multiple family needs and goals is also closely related to the improvement of parental subjective well-being. Childcare services are a form of social support that can be directly accessed in the process of parenting. Childcare services are an alternative type of social service, promoting family care needs and goals, which may be closely related to the subjective well-being of parents.

With the increasing emphasis on family well-being, there is a small but growing literature on the impact of childcare on parents’ subjective well-being. Yamauchi [28] reported that increased availability of local childcare in Australia was associated with parental subjective well-being increases and lower perceived search costs, particularly in neighborhoods where fewer childcare services were initially available. Previous studies by Schober and Stahl [4] and Schober and Schmitt [29] indicated a moderately positive association between childcare for children under 3 years old in Germany and mothers’ well-being. Once mothers are eligible for childcare, they are more likely to shift their time from non-market activities to formal work, resulting in a substantial increase in labor force participation and income. Schober also found that increased childcare services were positively associated with increased maternal life satisfaction [30]. Participating in childcare can help parents balance stress, achieve goals, and meet needs. Some previous studies have highlighted the critical role of childcare for parents as an important social support measure in explaining parental subjective well-being across countries [31,32]. At the same time, some studies reported that participation in high-quality, affordable, and accessible full-time childcare services can promote parents’ subjective well-being [33–36].

2.2. Parenting Stress and Parental Subjective Well-Being

According to Abidin [37], parenting stress refers to the pressure that parents feel in the process of fulfilling their parental roles and parent–child interactions, which is influenced by their personal personality traits, the parent–child relationship, child traits, and family environment factors. In subsequent studies, some studies have defined parenting stress as the feeling of pressure parents feel in the process of raising their children [38], or as a negative self-evaluation of parents when the available social support resources cannot meet their parenting needs [39]. In short, parenting stress refers to a series of pressures caused by unmet parenting needs and a lack of parenting support during the parenting process.

Parenting stress is accompanied by family parenting, and parents have different parenting goals and different resource needs at each stage of children’s growth. Under the three-child policy, Chinese parents need to deal with the weakening of family size and structural diversification, which has weakened the function of raising children and supporting older people [40]. On the other hand, they also face the dilemma of choosing between family life and career development [41]. If these parenting needs and parenting pressures cannot be met and relieved in time, they may lead to the emergence of parental role pressure and role conflict. According to the theory of role conflict in organizational behavior, when an individual cannot meet the requirements of the role they play, there will be role conflict and role tension, which will cause mental stress to the individual [42]. At the same time, according to the theory of work–family conflict, role stress and role conflict arise when parents lack flexibility in the boundaries of work and home. This can lead to
increased parenting stress and lower marital satisfaction in fathers [43], lower maternal well-being and job performance, and higher female unemployment [44], which negatively impact parental subjective well-being [45,46].

Therefore, parenting stress, as a type of parental negative emotional experience, has a close relationship with the subjective well-being of the family. In addition, related studies have reported that parenting stress can affect parents’ subjective well-being, leading to negative experiences such as job-related negative emotional experience [47], reduced family happiness, and reduced life satisfaction [48].

2.3. The Mediating Role of Parenting Stress

According to stress reaction models [49], the effects of stressors accumulate over time as a function of the sum of current and past exposures, which creates strain. Previous studies have found that parents in dual-earner families are often stressed due to work–family conflicts and a lack of parenting support, and that a dual-earning parental status is negatively correlated with parental subjective well-being [34,50–52]. As an important measure for the reform of social welfare policies and the development of effective childcare systems on an international scale, childcare services provide direct access to social childcare support and represent an important resource for dual-earner families [53]. The provision of high-quality childcare services has a wide range of beneficial effects in alleviating work–family conflicts and parenting stress, and in promoting parental well-being [4,48,54].

With the changes and adjustments to China’s population fertility policy, an increasing proportion of Chinese parents are having a second or third child [2]. However, according to the main dataset from the seventh national census released by the National Bureau of Statistics of China, China’s fertility rate has declined further, falling to an extremely low level of fertility as classified by the international academic community [55,56]. Thus, there is an inconsistency between greater fertility willingness and actual fertility behavior. The reasons behind this phenomenon are closely related to the unsupervised children of dual-earner families and the greater parental stress, which has a negative impact on the subjective well-being of the parents and families [57]. At the same time, the resource conservation theory and the role theory further demonstrate that when a family lacks basic parenting support resources [40,58], the parents’ work roles and family roles will conflict and put pressure on individuals, which will in turn have a negative impact on their subjective well-being. Some relevant research indicates that parents who report experiencing a high level of parenting stress experience both the pressure of responsibility for childcare, and the educational pressure of providing high-quality early developmental environments for their children [59]. In practice, the parenting pressure of unattended children is sometimes also due to the fact that parents do not want their grandparents to be involved in the childcare process.

Therefore, we sought to extend the current findings to evaluate a mediation model wherein we hypothesized that parenting stress would mediate the relationship between parental childcare participation and parents’ subjective well-being.

2.4. The Context of This Study

Since 2019, the Chinese government has begun to rapidly develop childcare services for children from birth to 3 years of age, seeking to address parents’ childcare needs and promote the improvement of parental subjective well-being. In this context, the question of whether childcare services can provide for the subjective well-being of families, and the role played by parenting stress remain to be studied. Therefore, the current study sought to fill this research gap and provide both theoretical and empirical evidence to clarify this issue. The following research questions guided the current study:

1. Maybe there are differences in subjective well-being among parents with different childcare service participation experiences?
2. What might be the relationship between parenting stress and parental subjective well-being?
3. Could parenting stress mediate the relationship between parental childcare service participation and parental subjective well-being?

Drawing on a literature review and the research questions described above, the current study focused on the relationship between childcare participation and parental subjective well-being. Propensity score matching is a quasi-experimental design with nonequivalent groups [60]. For causal effects studies aiming to identify research objectives and outcomes, and in particular for data collected in situations where the researchers cannot operate independently, it is necessary to use matching methods without random assignment of experimental and control groups. Under the framework of the “counterfactual inference model” of propensity value matching, the current study attempts to avoid selection bias by controlling for propensity value, and to more accurately judge the impact of childcare services on parental subjective well-being and the mediating effect of parenting stress. We propose the following research hypotheses:

**Hypothesis 1 (H1).** Parental participation in childcare services for children from birth to 3 years of age may positively predict parental subjective well-being.

**Hypothesis 2 (H2).** Parenting stress may negatively predict parental subjective well-being.

**Hypothesis 3 (H3).** Parenting stress may mediate the relationship between participation in childcare services and parental subjective well-being.

### 3. Materials and Methods

#### 3.1. Participants

Based on the population structure of Beijing and the collection data of childcare institutions in various administrative districts [61], the sample was adequately representative of households participating in childcare services for children from birth to 3 years of age in Beijing. Participants were 990 parents with 0-to-3-year-old children from Beijing, which covers six functional areas. Among them, 632 (63.83%) were mothers and 358 (36.17%) were fathers. The mean age of the parents was 32.56 years ($SD = 3.76$). Among the children, 5.50% were 0 to 6 months old, 3.70% were 7 to 12 months old, 6.70% were 13 to 18 months old, 35.8% were 19 to 24 months old, 2.80% were 25 to 30 months old, 4.40% were 31 to 36 months old, 41.1% were 36 months and above, and 52.0% were girls. Regarding region, 573 (57.90%) parents came from cities, and 417 (42.10%) came from rural areas. In terms of participation, 671 (67.80%) parents sent their children to childcare services, while other raised children independently. In terms of the number of children, 550 (55.56%) were one-child parents, and 440 (44.44%) were two-or-more children parents.

#### 3.2. Measurement

**3.2.1. Family Childcare Service Experience Questionnaire**

This part of the survey mainly collected childcare service experience information from the participating parents, as well as demographic information. In the first section, we collected the following demographic information about participants: family socioeconomic status, household registration, grandchild-caring, number of children, child’s age, parental age, mother’s employment status, single-child parenting, and educational expectations. Family socioeconomic status included items pertaining to family income (estimated gross monthly income), parental education, and occupation (for mother and father). Monthly family income was measured on a four-point scale: 1 = under CNY 2000, 2 = CNY 2001–CNY 5000, 3 = CNY 5001–CNY 10,000, 4 = over CNY 10,001. Education attainment was measured on a five-point scale: 1 = less than junior high school, 2 = senior high school (including technical secondary school), 3 = junior college, 4 = 4 or more years of university study, 5 = master’s degree and above. According to Lu [62], the occupational level in China can be categorized into nine groups. Parental occupation ratings were assigned a code number from 1 to 9, with larger numbers indicating a higher level
of occupational prestige. Family income, maternal and paternal education, and paternal and maternal occupations were standardized (Z-score), and SES was then identified as an observed construct using five standard scores. Information about household registration was measured on a two-point scale: 0 = rural, 1 = city. Grandchild-caring was measured on a two-point scale: 0 = grandparents not involved in childcare, 1 = grandparents involved in childcare. Number of children was measured on a two-point scale: 1 = only one child, 2 = two children and above (including pregnancy). Age of children and age of parents were divided into different groups according to the date of birth. Mother’s employment status was measured on a two-point scale: 0 = permanent job, 1 = no permanent job. Similarly, single-child parenting was measured on a two-point scale: 0 = father or mother from one-child families, 1 = both father and mother from one-child families. Additionally, information about educational expectations for children was measured on a two-point scale: 0 = up to 3 years of college study, 1 = bachelor’s degree or above.

In the second section, we developed four multiple choice questions about the characteristics of parents’ participation in childcare services, including whether they participated in childcare services, the type of childcare service participation, satisfaction with childcare services, and the reasons for dissatisfaction. Specifically, information about whether the parent participated in childcare services (yes or no), type of childcare service participation (services that provided basic care only, services that provided early childhood education), childcare service participation evaluation uses a five-point Likert scale ranging from (1) strongly dissatisfied to (5) strongly satisfied. At the same time, the reasons for the family’s dissatisfaction with childcare services were also collected. This is a multiple choice question, including location factor, quality factor, and price factor.

3.2.2. Parental Subjective Well-Being

This study collected information on parental subjective well-being by measuring life satisfaction and emotional experience. According to Diener’s view on subjective well-being, they believe that the underlying assumption is that well-being can be defined by people’s conscious experiences—in terms of emotional experience or cognitive satisfactions [5]. To understand the individuals’ experiential quality of well-being, it is appropriate to directly examine how a person feels about life in the context of his or her own standards. Based on this, parental life satisfaction was assessed using the Satisfaction with Life Scale (SWLS) [63], that is “life satisfaction”; individual emotional experience of happiness was assessed using the Subjective Happiness Scale (SHS) [64], that is “emotional experience”. The SWLS has been previously validated in a Chinese sample [65] and has been found to have good psychometric properties. The SWLS consists of five items, and parents responded to the items on a seven-point Likert scale ranging from (1) strongly disagree to (7) strongly agree. The SHS has also been previously revised and used in China with good reliability and validity [66]. The SHS contains four items, each rated on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree), which describe the extent of parents’ subjective happiness in life. In the current sample, Cronbach’s α values of the subscales for SWLS and SHS were 0.911 and 0.673, respectively.

3.2.3. Parenting Stress

Parenting stress was assessed using the Japanese Mother Parenting Stress Scale [67]. The Japanese Mother Parenting Stress Scale has been revised and previously validated in a Chinese sample [68], and it demonstrated good psychometric properties. The Japanese Mother Parenting Stress Scale consists of 16 items and the following three dimensions: childcare distress (e.g., “I can’t do anything else because of the need to take care of children,” six items), childcare anxiety (e.g., “I am very concerned about my child’s intelligence and ability,” six items), and parenting alone (e.g., “My husband doesn’t understand how hard it is to take care of children,” four items). Parents responded to the items on a four-point Likert scale ranging from (1) strongly disagree to (4) strongly agree. In the current study
sample, Cronbach’s $\alpha$ values for the subscales for childcare distress, childcare anxiety, and parenting alone were 0.890, 0.839, and 0.921, respectively.

3.2.4. Covariates

Previous studies have reported that the family’s choice of childcare services is affected by factors such as parents’ educational level and educational expectations, family economic status, work–family conflict, urban–rural development differences, and grandparents’ care [69–73]. If the endogeneity problems caused by these “parenting selection biases” are ignored, the resulting “parenting experience effects” (whether significant or not) will also be biased. Thus, this study summarized the confounding variables that may influence family childcare service choice into two categories: family background and personal characteristics, which parents were required to report. Family background included family SES, household registration, grandchild-caring, number of children, and child’s age. Parental individual characteristics included mother’s employment status, parental age, single-children’s parents, and educational expectations. Among these variables, family SES and age of children were continuous variables, whereas the others were restricted to binary variables. For example, households in cities or towns were represented by a dummy variable equal to 1, whereas those in rural areas were represented by a dummy variable equal to 0. Likewise, educational expectation was represented by a dummy variable equal to 1 if parents expected that their children would undertake undergraduate study and above in future, and 0 otherwise. These variables were included as covariates due to their associations with key study variables in prior studies.

3.3. Procedure

Ethical procedures were followed throughout the research process. This is a pilot project in Beijing supported by the National Health Commission of China. To ensure the representativeness of the sample, we selected six representative core administrative districts which covered four functional areas in Beijing based on Beijing’s population structure and administrative functional areas. Then, we chose 5 communities from each of the above districts for a total of 30 communities. The district Health Commission coordinated the distribution of questionnaires to the community, and qualified parents with children under the age of three volunteered to fill in the questionnaires. we selected parents on the basis of the following criteria: (1) children without special needs; (2) children aged 0 to 36 months. Parents were advised that informed consent would be assumed if they completed the questionnaire, and that data would be completely confidential and only available to the research team. Parents were also told that their participation was entirely voluntary, and they were free to withdraw from this study at any time without any consequences. We sent parents an electronic questionnaire with instructions via “Wenjuanxing”. Before completing the formal questionnaire, parents were informed of the expected length of time (15 min) to complete the questionnaire and given some basic instructions. For example, if there were two or more children in the household, parents were instructed to answer the questionnaire in relation to their youngest and oldest children. Notably, each mobile phone or computer automatically produced an identification number, and each identification number could only be submitted once. Overall, 1010 participants completed the questionnaire. A total of 20 questionnaires were excluded for the following reasons: (1) participants completed the questionnaire in less than 5 min, or (2) over 90% of the responses to scaled questions were identical. A total of 990 valid questionnaires were included in the final dataset (a 98.02% response rate). All procedures performed in this study were in accordance with the ethical standards of and approved by the institutional review committee at the study’s home institution. The data collection process was completely anonymous, and parents’ responses were fully confidential.
3.4. Data Analysis

All of the survey data were collected and analyzed primarily using STATA 15.1 and IBM SPSS 25.0 software. The research process of this study was as follows: (1) Propensity score generation and matching; (2) Evaluation of matching datasets; (3) Difference analysis and mediation effect testing of matching datasets.

First, propensity score generation and matching. This process uses a total sample number of 990. This process is mainly performed by STATA 15.1 for data analysis. Multiple imputation method and the STATA MI ANALYZE function were used in STATA 15.1 for initial data cleaning [74]. Then, we use the logistic regression command to generate propensity scores and adopt the 1: n nearest neighbor matching method. As a rule of thumb, we used a caliper of 0.02. Second, evaluation of matching datasets. In STATA15.1, the validity of propensity value matching was ensured by comparing the propensity score kernel density distribution plots and covariate balance checks before and after matching. Finally, difference analysis and mediation effect testing of matching datasets. This and subsequent analyses used matched samples with a sample size of 636. In this process, using IBM SPSS 25.0 software and analysis of variance to explore the differences in the subjective well-being of parents who participate and do not participate in the childcare services. Meanwhile, mediation analysis was performed using The Hayes PROCESS (version 3.5) plug-in in IBM SPSS 25.0. Using The Hayes PROCESS (version 3.5), the mediating role of parenting stress between childcare service participation and parental subjective well-being was examined, and the main influencing factors of parental subjective well-being were analyzed.

4. Results

4.1. Propensity Score Matching and Balance Testing

The ultimate goal of propensity score matching is to generate an analytical sample in which the experimental group (referred to in this study as “participated in childcare services”) and the control group (in this study, as “not participated in childcare services”) are balanced (or similar) in terms of covariates. Covariates in the matching process in this study refer to family background and personal characteristics. The first step in the matching process was to generate a propensity score by modeling treatment—in this case, whether the parents are involved in childcare services as a function of the parents’ background characteristics. In a logistic regression model, the predictor variables are all the covariates we want to control for, and the outcome variable is the probability (i.e., propensity score) of the parents’ participation in childcare services. The calculated propensity scores were used to match participating and non-participating parents with similar propensity scores (similar family background and individual parental characteristics) into a group.

In a sense, propensity score matching attempts to mimic random assignment. Therefore, a balance check must be passed to ensure the validity of matching. To determine the covariate balance, a two-step evaluation of the matching process was performed. First, the distribution of propensity score kernel density for experimental and control parents before and after matching was summarized (see Figures 1 and 2). Compared with before matching, the nuclear density curves of the parents’ propensity score of the experimental group and the control group after matching were relatively close, indicating that the matching effect was good. Second, covariate balance was verified according to Rubin’s criterion [75]: (1) the standardized difference in the mean propensity scores of the two groups was close to zero; (2) the ratio of the propensity scores of the two groups was close to 1; and (3) the ratio of the variances of the (continuous) covariate residuals after adjusting for the propensity scores was close to 1.
control parents before and after matching was summarized (see Figures 1 and 2). Compared with before matching, the nuclear density curves of the parents' propensity score of the experimental group and the control group after matching were relatively close, indicating that the matching effect was good. Second, covariate balance was verified according to Rubin’s criterion [75]: (1) the standardized difference in the mean propensity scores of the two groups was close to zero; (2) the ratio of the propensity scores of the two groups was close to 1; and (3) the ratio of the variances of the (continuous) covariate residuals after adjusting for the propensity scores was close to 1.

In this matched sample, the variance ratios were between 0.87 and 0.88, the bias statistics were between 0.07 and 0.08, and the absolute value of the bias was less than 20%. In addition, the \( t \)-test results also show that the variables after matching were not significant. According to Rubin’s criteria, the results indicate a successful balance after propensity score matching (see Table 1). Thus, according to the matching result, 354 observations were entirely deleted from the experimental group and the control group, and a total of 318 groups of observations were matched.

**Figure 1.** Distribution of propensity scores between treatment and control groups before matching.

**Figure 2.** Distribution of propensity scores between treatment and control groups after matching.
Table 1. Balance checks were performed before and after propensity matching for the participating and non-participating samples.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Matching</th>
<th>After Matching</th>
<th>t-Test</th>
<th>% Reduction in Bias</th>
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<td></td>
<td>SMD</td>
<td>p-Value</td>
<td>SMD</td>
<td>p-Value</td>
</tr>
<tr>
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<td>0.017</td>
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<td>0.016</td>
<td>−0.024</td>
<td>0.662</td>
</tr>
<tr>
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<td>−0.032</td>
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<td>0.005</td>
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<td>0.806</td>
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</table>

SMD: Standardized mean difference.

4.2. The Relationship between Parental Subjective Well-Being and Childcare Experience

4.2.1. Differences in Subjective Well-Being with or without Childcare Participation

An independent samples t-test with propensity-matched samples indicated that the subjective well-being scores of parents who participated in childcare services could be significantly higher than those of parents who did not participate in childcare services, \( t (618, 632) = 11.231, p < 0.01, 95\% \text{ CI} (0.206, 3.327), d = 0.210 \). The effect size was significant, as small, moderate, and large effect sizes were classified as 0.20, 0.50, and 0.80, respectively [76]. At the same time, in the sub-dimension of life satisfaction, the life satisfaction scores of parents who participated in childcare services could be significantly higher than that of parents who did not participate in childcare services, \( t (625, 632) = 2.613, p < 0.01, 95\% \text{ CI} (0.016, 2.123), d = 0.236 \), and the effect was significant. In addition, there was no significant difference in emotional experience, \( t (625, 632) = 0.874, p = 0.382, 95\% \text{ CI} (-0.035, 1.429), d = 0.166 \), and the effect was not significant.

4.2.2. Differences in Subjective Well-Being among Parents with Different Experiences of Childcare Service Participation

The specific situation and subjective well-being of parents participating in childcare services were further analyzed. First, in terms of the type of childcare service participation, 30.2% of parents participated in services that only provided care, and 69.8% of parents participated in both care and education services. An independent samples t-test revealed that the type of childcare service participation could have significantly different results on the subjective well-being of parents, and that the use of childcare institutions that provided early education services could have significantly higher results than the use of those that only provided basic care services, \( t (216, 313) = 3.085, p < 0.01, 95\% \text{ CI} (1.292, 5.843), d = 0.392 \), and the effect was significant.

In terms of parents’ satisfaction with childcare services, about 35.9% of the parents are satisfied with the childcare service, and 64.1% of the parents are dissatisfied. A total of 11.7% of parents are very satisfied, and 29.3% of parents are very dissatisfied. In the “Reason for your dissatisfaction with childcare services” survey, convenient location (38.9%), low quality (34.0%), and high price (20.6%) are the three main reasons for parents’ dissatisfaction with childcare services. Then, this study analyzed the relationship on parents’ subjective well-being from three factors of dissatisfaction reasons with childcare services: location factor, quality factor, and price factor. The results indicate that only the price factor could be significantly associated with subjective well-being (\( \beta = -0.182, p < 0.001 \)), life satisfaction (\( \beta = -0.154, p < 0.001 \)), and emotional experience (\( \beta = -0.167, p < 0.001 \)). The results reveal that childcare services with a low price may lead to a higher subjective well-being perception for parents.
4.3. Mediating Effect of Subjective Well-Being through Parenting Stress

The Hayes PROCESS (version 3.5) macro (Model 4) in the IBM SPSS Statistics 25.0 software package was used to estimate direct and indirect effects of childcare services on parents’ subjective well-being, with parenting stress as the mediating variable.

The first step of the analysis examined factors associated with parental subjective well-being (see Table 2). After the difference test and correlation analysis, only household registration factors, family SES, and parenting stress were found to be significantly associated with parental subjective well-being ($p < 0.001$). Therefore, regional factors and family SES were used as control variables, and parenting stress was used as mediator variables for analysis. In addition, we verified the common method bias using the Harman single-factor test [77].

Table 2. Correlations and descriptive statistics for the main study variables ($N = 636$).

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Subjective well-being</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Childcare services</td>
<td>0.930***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Parenting stress</td>
<td>$-0.333$***</td>
<td>$-0.089$***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4. Family SES</td>
<td>$0.221$***</td>
<td>0.048**</td>
<td>$-0.255$*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Household registration</td>
<td>$0.094$***</td>
<td>0.076*</td>
<td>$-0.060$***</td>
<td>0.310***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. Grandchild-caring</td>
<td>$0.032$***</td>
<td>$-0.077$***</td>
<td>$-0.059$***</td>
<td>0.241***</td>
<td>0.040*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Number of children</td>
<td>$0.026$***</td>
<td>$-0.058$***</td>
<td>0.107**</td>
<td>$-0.124$***</td>
<td>$-0.022$***</td>
<td>$-0.013$***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Child’s age</td>
<td>$0.025$***</td>
<td>0.071*</td>
<td>$-0.036$***</td>
<td>0.100**</td>
<td>0.123**</td>
<td>$-0.041$***</td>
<td>0.146**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Mother’s employment status</td>
<td>$0.036$***</td>
<td>$-0.062$***</td>
<td>0.132**</td>
<td>$0.259$***</td>
<td>0.045*</td>
<td>0.319**</td>
<td>$-0.177$***</td>
<td>$-0.043$***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Parental age</td>
<td>$0.029$***</td>
<td>0.048*</td>
<td>0.094***</td>
<td>$-0.029$***</td>
<td>0.026**</td>
<td>$-0.022$***</td>
<td>0.104**</td>
<td>0.564**</td>
<td>$-0.055$***</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Single-children’s parents</td>
<td>$0.040$***</td>
<td>0.022**</td>
<td>$-0.065$***</td>
<td>0.254**</td>
<td>0.088**</td>
<td>0.181**</td>
<td>$-0.088$***</td>
<td>0.047**</td>
<td>0.127**</td>
<td>$-0.119$***</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>12. Educational expectations</td>
<td>$0.060$***</td>
<td>0.090**</td>
<td>$-0.084$***</td>
<td>0.292**</td>
<td>0.103**</td>
<td>0.039**</td>
<td>$-0.086$***</td>
<td>0.008**</td>
<td>0.094**</td>
<td>$-0.057$***</td>
<td>0.055**</td>
<td>-</td>
</tr>
<tr>
<td>Mean</td>
<td>43.69</td>
<td>0.68</td>
<td>41.45</td>
<td>0.000</td>
<td>0.850</td>
<td>0.540</td>
<td>1.440</td>
<td>2.040</td>
<td>0.760</td>
<td>0.082</td>
<td>0.510</td>
<td>0.710</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>10.117</td>
<td>0.468</td>
<td>8.066</td>
<td>3.000</td>
<td>0.362</td>
<td>0.497</td>
<td>0.497</td>
<td>0.554</td>
<td>0.429</td>
<td>0.274</td>
<td>0.500</td>
<td>0.456</td>
</tr>
</tbody>
</table>

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

Next, we examined the relationship between childcare and subjective well-being, and the mediating role of parenting stress on subjective well-being (see Figure 3). At the same time, we used an estimation based on 5000 bootstrapped samples to access the mediating variable (see Table 3). Participation and non-participation in childcare services was the predictor variable, parenting pressure was the mediating variable, and parental subjective well-being was the outcome variable. First, we examined the relationship between childcare service participation and parenting stress, path “a”. The results show that childcare services had a significant negative predictive effect on parenting stress ($\beta = -0.05$, $t = -2.27$, $p < 0.05$, $SE_{boot} = 0.53$, 95% CI$_{boot} = [-2.62, -0.53]$). Second, we examined the relationship between parenting stress and parents’ subjective well-being, path “b”. The results show that parenting stress had a significant negative predictive effect on parental subjective well-being ($\beta = -0.37$, $t = -8.76$, $p < 0.001$, $SE_{boot} = 0.04$, 95% CI$_{boot} = [-0.45, -0.30]$). Finally, we examined the relationship between childcare services and parents’ subjective well-being, as well as the mediating effect of parenting stress, path “c”. The results show that the path coefficient of whether to participate in childcare service has a significant effect on improving parents’ subjective well-being ($\beta = 0.23$, $t = 2.89$, $p < 0.01$). After adding the mediating variable of parenting pressure, childcare service participation had a significant effect.
effect on parents' subjective well-being. The path coefficients remained significant ($\beta = 0.18$, $t = 2.36$, $p < 0.05$, $SE_{\text{boot}} = 0.67$, 95% CI$_{\text{boot}} = [0.66, 3.30]$).

In 5000 bootstrapped sample mediation estimates, the results show a 95% confidence interval (CI) of [0.01–0.09] for the mediation effect of parenting stress. The CI does not include 0, indicating a significant mediating effect [78]. The total effect was 0.23. In addition, the direct effect (0.18) and the mediation effect (0.05) in this model accounted for 78.88% and 21.12% of the total effect, respectively. It can be seen that participating in childcare services could directly and significantly improve the subjective well-being of parents and could also reduce the negative impact of parenting stress on subjective well-being by reducing parenting stress, but the mediating effect is small.

5. Discussion

On the basis of a quantitative research design, this study revealed possible differences between participation in childcare services and parental subjective well-being in China, supporting Hypothesis 1. To fully understand the influencing factors of parental subjective well-being, the parents completed a survey on parenting stress, which revealed the possible impact of parenting stress on parental subjective well-being, supporting Hypothesis 2. Furthermore, this study shows that parenting stress has a small mediating effect on childcare service participation and parental subjective well-being, partially validating Hypothesis 3. This section discusses these findings and the possible relationship between childcare service participation, family parenting stress, and subjective well-being in China.

5.1. Childcare Service Participation and Parental Subjective Well-Being

Regarding the relationship between childcare service experience and parental subjective well-being, the results reveal that after propensity score matching, whether the parents participated in childcare services could positively predict parental subjective well-being. Specifically, in the sub-dimension of life satisfaction, families who participated in childcare services was significantly higher than that of parents who did not participate in childcare services. This finding is in accord with previous research [13,79,80].
At the same time, the current findings also suggest that childcare services could improve parents’ life satisfaction and emotional experience. The economic theory of fertility emphasizes that parents’ demand for the high-quality development of their children is greater than the demand for the number of children [81]. As a form of social support in the process of parenting, childcare services can not only meet the basic nursing needs of parents but can also support parents’ deeper educational needs for their children. Additionally, with the implementation of the three-child policy, the number of parents raising children may increase. This could be supported by the finding that parents who participated in childcare services, including early education, showed higher levels of subjective well-being. This means that providing necessary fertility support measures to the parents of Chinese children aged 0–3 years is not only to meet and respond to the parenting needs of the parents, but also to solve the actual parenting problems of the parents; at the same time, it may also play an important role in improving the quality of life and happiness of the parents themselves.

In addition, the study found that the parents’ evaluation of childcare service satisfaction was significantly correlated with family emotional experience, further supporting the possible positive significance of providing inclusive childcare services to parents’ subjective well-being. This is consistent with the trend of China’s vigorous and active development of an inclusive infant care education service system, and it also inspires us to actively promote the expansion of the scale of childcare services in China, and at the same time, we must also focus on solving real problems such as “high cost of parenting” for parents [82].

5.2. Parenting Stress and Subjective Well-Being

Consistent with previous studies [83,84], parenting stress was found to have a possible relationship with parental subjective well-being. The current results reveal that, in terms of parenting stress perception, the more parenting pressure parents perceived, the lower their subjective well-being scores may be. Moreover, parenting stress has a negative relationship with parental subjective well-being.

First, as a negative emotion perceived by parents in the process of caring for children, parenting stress may directly reduce parental subjective well-being. Second, in the current study, the average age of parents was 32.56 years old (SD = 3.76), and 55.56% of the parents were from one-child families, indicating a younger family structure. As young parents, they may have a relatively low level of experience in parenting and caring for children, and they may also face more difficulties and challenges in the parenting process. Especially after the implementation of the three-child policy, parents may plan to have more children. These difficulties and challenges may be superimposed on the pressures experienced by parents, such as rising housing prices, increasingly fierce competition in the labor market, and the upcoming support needs of their parents, which could in turn lead to parenting anxiety, affecting their physical and mental health, and reducing family life satisfaction.

5.3. The Mediating Role of Parenting Stress

The current findings extend the current understanding of the complex relationship between childcare services and parental subjective well-being. It is worth noting that parental participation in childcare services could directly improve the subjective well-being of the parents, and it may also improve the subjective well-being of the parents by relieving the pressure of parenting. However, the mediating effect size of parenting stress on parental subjective well-being is relatively small, which is partially inconsistent with the results of previous studies exploring the parenting stress in the relationship between family and children [34,52].

This finding provides new clues for demonstrating the supporting role of childcare services on families of children aged 0–3 years and improving the subjective well-being of parents. In China, childcare services are an important part of fertility support under the three-child policy. Childcare services are not only committed to solving the education and parenting problems of Chinese parents and children, and realizing family “bearing
and rearing better children”; but also, actively support parents to balance “work-family conflict” and build a fertility-friendly society. The mediating variables cannot be limited to the parenting pressures that exist in parents and children only [85–88]. Therefore, there may be more complex relationships and mechanisms among childcare services, parenting stress, and parental subjective well-being. More possible mediating variables should be considered from the perspective of the integration of fertility, parenting, and education in China.

6. Conclusions, Limitations, and Implications

The current study sought to elucidate the relationship between childcare and parental subjective well-being regarding children from birth to 3 years of age, and to clarify the mediating role of parenting stress. The analysis yielded three main findings. First, the independent samples t-test after propensity score matching revealed possible differences in parental subjective well-being satisfaction with different types of childcare service participation and different childcare services. Second, there could be a significant difference between the reasons for parents’ dissatisfaction with childcare services and their subjective well-being. Third, the results of the mediation analysis of parenting stress show that parenting stress played a small mediating role between parents’ participation in childcare services and parental subjective well-being.

However, this study involved several limitations that should be considered. First, because propensity score matching is only a “quasi-experimental” design and does not exhaust all possible confounding variables, longitudinal tracking studies can be used to further investigate the differences in the subjective well-being of parents participating in childcare services in the future. Second, parenting stress mediates the small effect of childcare service participation and parental subjective well-being. Inspired by our follow-up research, we should start from the perspective of population fertility, parenting, education integration, and perfect fertility supporting policies, and consider as many potential mediating variables as possible. In addition, because we only sampled some administrative districts of Beijing, the sampling approach and sample size may have limited the generalizability of the findings. Cross-regional/national/cultural studies will be valuable in the future because parental subjective well-being is affected by a wide range of contextual events, as well as other social, cultural, economic, and individual factors.

Nevertheless, the results have implications for policy and research. In terms of policy improvement, childcare services are a quasi-public service with the characteristics of publicness, marketization, and specialization. These characteristics indicate that childcare services are not only a supplementary social service to parental roles, but also a useful supplement to family support policies. Participating in childcare services can effectively relieve the pressure of parenting and promote the improvement of parental subjective well-being, as well as supporting dual-career families, especially balancing the mother’s work–family relationship. In turn, this may provide support for family fertility, and promote the implementation and development of China’s three-child policy. In practice, many young families in China are currently faced with a choice between having a baby with no one to take care of it after childbirth, or giving up work and limiting their career development. New policy reform should seek to optimize public social support measures from the perspective of family well-being. At the same time, the findings of the current study provide new insights to inform the future research. On the one hand, the relationship between the opportunities, types, and quality of childcare participation and parental subjective well-being should be explored extensively to provide satisfactory and appropriate childcare services for parents. On the other hand, how to improve childcare service from the perspective of promoting fertility support and reducing parenting pressure needs further research, so as to provide more evidence and support for providing a fertility-friendly sustainable environment, promoting the healthy growth of infants and toddlers, and ensuring parents well-being. Finally, in practice, childcare services can not only relieve parents’ parenting pressure, but also improve the subjective well-being of parents. Factors such as whether childcare
services are “convenient and accessible”, “good quality”, and “inclusive price” are also closely related to parents’ subjective well-being. This suggests that at this stage, providing positive parenting support to parents of children aged 0–3 years in China may be helpful to parents, which is worthy of further research and exploration.

**Author Contributions:** Conceptualization, methodology, and discussion—review and editing, X.H.; Methodology, data analysis, results, and writing—original draft preparation, J.W.; Literature, results, and writing—original draft preparation, W.Z. All authors have read and agreed to the published version of the manuscript.

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**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of Beijing Normal University (BNU20211100035 and date of approval 12 December 2021).

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data presented in this study are available upon request from the corresponding author. The data are not publicly available due to ethical requirements.

**Conflicts of Interest:** The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

**References**


